Energistyrelsen

Summary – Responses – Espoo procedure

Kontor/afdeling
Center for undergrund og beredskab

Dato
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/HEEK

Indhold

Responses - Sweden

No.	Respons/statement	Answer from Energinet DK/GazSystem	Comments from the Danish Energy Agency
Swedish Board of Agriculture			
1	The Swedish Board of Agriculture has not received, despite previous comments, an assessment regarding the question of liability in the event of accidental and damage.	We acknowledge the statement by the Swedish Board of Agriculture. In chapter 7.4.2 in the Danish Espoo report the impact on Danish commercial fisheries has been evaluated. However, the impact on the Swedish commercial fisheries has been assessed to be similar. We acknowledge the statement by the Swedish Board of Agriculture. In the HAZID study conducted during the detailed design phase for the Baltic Pipe project, the risk of trawl gear hooking/damaging the pipeline was assessed (Ramboll, Baltic Pipe Offshore Pipeline - Permitting and Design, HAZID report, Doc. No. PL1-RAM-00-Y00-RA-00002-EN, Rev. A, July 2018). The risk of vessel sinking was considered to be low, trawlers will normally disconnect equipment before any danger to crew. The pipeline is designed to withstand trawling gear. Additionally, an emergency response (ER) setup will be developed by GAZ-SYSTEM before construction and operation, respectively, takes place. More about this can be read in chapter 5.9 (Emergency response (ER)) in the Swedish IA. With regards to potential impacts on fishing activities the developer is currently drafting a fishery strategy, which analysis the legal foundation for compensation based upon a coherent analysis of the fishery activities in the project area and an assessment of eventual economic losses. We acknowledge the statement by the Swedish Board of Agriculture. In chapter 7.4.2 in the Danish Espoo report the impact on Danish commercial fisheries has been evaluated. However, the impact on the Swedish commercial fisheries has been assessed to be similar. Gaz- System is aiming to ensure that the pipeline does not negatively affect fishing interests. More details will be provided during the 3rd quarter 2019 in a continued dialogue with fishing communities. In cooperation with the contractor and the Maritime Authority in each country, the developer will announce the planned periods of construction activities according to the maritime regulation. The restricted zones likely to be established along the pipeline by a competent authority, may cover a range of restrictions relating to shipping, navigation, extraction, and also certain fishing activities. However, GAZ-SYSTEM assumes that the pipeline will be trawlable, and thus no fishing restrictions will be required. Regarding fishing gear damage, the developer is currently drafting a fishery strategy, which analysis the legal foundation for compensation based upon a coherent analysis of the fishery activities in the project area and an assessment of eventual economic losses. The Espoo Report evaluates the potential impacts on fisheries as low or negligible, the intensity as minor and the scale as local/regional. No impact is assessed as significant. The imposition of	The permit will most likely contain conditions regarding that the developer must undertake an assessment of the pipeline after construction, including a post-lay survey. For all phases of the project, the developer must have established an emergency service to deal with the consequences of spills of hydrocarbons or other unintentional events. The plan for the established emergency preparedness must be submitted annually to the Danish Energy Agency. The developer must prepare a monitoring program for the operating phase. The monitoring program must include the environmental conditions and shall be approved by the Danish Energy Agency, before the pipeline goes into operation. The developer must further publish the results of the monitoring during the design and operation phase of the environmental conditions when they are available. It will be a condition for the permit that the developer shall take out insurance for compensation of damage caused by the activities exercised in accordance with the permit, even if the damage is incidental.

		the safety zones and the physical disturbance due to the work of construction vessels has a very short time span (see Section 7.4.2.).	
2	The Swedish Board of Agriculture also commented unfavorably on aspects that were unclear with regard to commercial fishermen from other countries, including with regard to compensation for these fishermen. Nor had it received an impact analysis of fishing which needs to cease in connection with the pipeline and information regarding the durability of the pipeline.	Please see answer in statement no. 1.	The Danish Energy Agency has noted the comment and has no further comments on this topic in case a dialogue and process are in progress.
3	The consultation referral applies to any possible transboundary environmental impact of the Baltic Pipe gas pipeline project in those areas where the pipeline passes through Danish territory in the Baltic Sea. As fishing is rarely conducted in one place, but often takes place where the fish happen to be located, the construction and operation of the pipeline in Danish waters also has some impact on Swedish commercial fishermen if they are fishing in the relevant areas.	The comment has been noted.	The Danish Energy Agency has no further comments on this topic.
4	The Swedish Board of Agriculture has previously expressed its opinion regarding two referrals concerning the Baltic Pipe gas pipeline project. One of the referrals concerned the procurement of consultation comments prior to the work with the environmental risk analysis (our file number 3.7.17-00995/2018). In the aforementioned referral, the Swedish Board of Agriculture conveyed amongst other things the importance of taking into account all fishing in a future environmental impact analysis and that any changes to fishing and trawl patterns should also be taken into account. The Board therefore considered it positive that the current consultation referrals are taking both these comments into account.	The comment has been noted.	The Danish Energy Agency has noted the comments on this topic.
5	The Board also stated that a future environmental impact analysis should include an assessment of the issue of liability in the event of accidents/damage to fishing vessels or to the pipeline. However, this has still not been included in the consultation referral and is something that the Swedish Board of Agriculture wishes to raise once again.	-	Please see comments No. 1.
6	Section 7.4.2 states that the contractor, in order to minimise loss of income and other economic losses as a result of the construction of the pipeline, will collaborate with the Danish authorities to compensate commercial fishermen who fish in the areas affected by the safety zones. However, it is unclear whether commercial fishermen affiliated with other countries are covered by this compensation scheme when they are fishing within Danish waters and how the	-	Please see comments No. 1 and 2.

	commercial fishermen are to be informed of this possibility. The Swedish Board of Agriculture would therefore like this to be clarified.		
7	As the referral states several times, the question of what impact the construction and operation of the pipeline will have on commercial fishing is a transboundary one. Despite this, only the impact on Danish commercial fishing is mentioned in section 7.4.2. The account of the status of fishing in the Danish parts of the pipeline stretch also shows that Swedish fishing has relatively high catch volumes in these parts. If fishing carried out by other countries is also affected to a greater extent, it would be desirable to also clarify the transboundary impact.	-	Please see comments No. 1 and 2.
8	The Swedish Board of Agriculture considers it a positive thing that the Baltic Pipe Project will compensate commercial fishermen and that its communication regarding the work's different phases will be clear and understandable. However, it is unclear whether the compensation only applies to Danish commercial fishermen or whether the compensation scheme also covers commercial fishermen from different countries who fish in the same waters. Commercial fishermen from Sweden also fish in some of the areas covered, which is why they may also be affected in the same way as the Danish commercial fishermen. The Swedish Board of Agriculture would therefore like the environmental action plan to be clarified in this respect.	Gaz-System as an investor is currently drafting a strategy of dialogue with fishing organizations and fishermen. This dialogue will be established in the 3rd quarter of 2019.	Please see additional comments in No. 1 and 2.
9	It is also important that the intended communication concerning the different phases of the work is also conveyed to commercial fishermen in different countries.	With respect to each country's best practise and indicated authorities, the investor will announce the planned periods of construction activities.	The Danish Energy Agency has no further comments on this topic.
10	Fishing is carried out according to where the shoals move and there is an obvious risk that the shoals may move across the restriction zones. In other words, trawling can be commenced on one side of the restriction zone but, as the Swedish Board of Agriculture understands it, fishing must stop if the shoal moves across the zone. The consequences of this are not touched upon in the analysis but it is something that should be discussed.	The comment has been noted.	The Danish Energy Agency has no further comments on this topic.
11	Commercial fishing that is carried out in the aforementioned area is encouraged in the referral to avoid dragging trawls over the pipelines (including the safety zones) and it is assessed that the impact will be extremely small as the total area affected is less than 1% of the total fishable area. However, the referral neglects the fact that the fish that the commercial fishing vessels trawl for could potentially drift	The restricted zones likely to be established along the pipeline by a competent authority, may cover a range of restrictions relating to shipping, navigation, extraction, and also certain fishing activities. However, GAZ-SYSTEM assumes that the pipeline will be trawlable, and thus no fishing restrictions will be required.	The Danish Energy Agency has no further comments on this topic.

	over both the safety zone and the pipeline, with a loss of catch and economic losses for commercial fishing as a result.		
12	There is also the question regarding liability in the event of accidents or damage, to both pelagic and demersal fishing. There is a risk that damage will be caused to both fishing equipment and the pipeline. The risk analysis does not contain in this part a report regarding liability in the event of damage and accidents.	-	Please see additional comments in No. 1.
Swedish Agency for Marine and Water Management			
13	The Swedish Agency for Marine and Water Management believes that the greatest transboundary impact of the project is the risk of a negative impact on fish and mammals as a result of the construction work and underwater noise.	In principal it is correct that any additional ship in the Baltic Sea does contribute to the overall cumulative background noise. However, since the construction phase of the Baltic Pipe project is rather short and the construction noise is not exceeding other vessels it has been concluded in the Espoo report in chapter 7.3.2 that the impact on marine mammals is minimal and moreover that transboundary impact from Denmark to Sweden can be ruled out. We would like to stress that the effect of one additional source of underwater noise must not be overestimated. Harbour porpoises can hear the sound of the vessels from far distance and can easily navigate around the area as soon as the noise becomes too intense. This does not necessarily mean that the animals are losing energy. Harbour porpoises do not migrate following long distance linear lines. Their movements are characterized by steady changes of direction in search of food. Avoiding the construction area therefore does not reduce the probability of finding food significantly. Additional mitigation measures during construction phase would have no effect.	The Danish Energy Agency has no further comments on this topic.
14	The Western Route will – heading west towards Swedish waters – cross the Swedish Natura 2000 area “Sydvästskånes Utsjövatten” that is used by Baltic Sea population as well as Belt Sea population of porpoises. Based on the material, HaV estimates that due to the proximity there is a risk that underwater noise from detonating weapons may affect marine mammals inside and outside the Natura 2000 area. Hence, the risk must be minimized.	'In principal it is correct that any additional ship in the Baltic Sea does contribute to the overall cumulative background noise. However, since the construction phase of the Baltic Pipe project is rather short and the construction noise is not exceeding other vessels it has been concluded in the Espoo report in chapter 7.3.2 that the impact on marine mammals is minimal and moreover that transboundary impact from Denmark to Sweden can be ruled out. We would like to stress that the effect of one additional source of underwater noise must not be overestimated. Harbour porpoises can hear the sound of the vessels from far distance and can easily navigate around the area as soon as the noise becomes too intense. This does not necessarily mean that the animals are losing energy. Harbour porpoises do not migrate following long distance linear lines. Their movements are characterized by steady changes of direction in search of food. Avoiding the construction area therefore does not reduce the probability of finding food significantly. Additional mitigation measures during construction phase would have no effect. GAZ-SYSTEM S.A. has conducted detailed route survey to identify potential UXO existence along the pipeline and is in process of final interpretation. If the pipeline cannot be rerouted around the UXO, the clearance of the UXO needs to be done at site. GAZ-SYSTEM S.A. will use a combination of protective measures in order to mitigate high impulsive noise emissions.	The Danish Energy Agency has no further comments on this topic.
15	The company specifies that the construction will not cause underwater noise separate from the background levels caused by high frequency vessel traffic, and that it is highly unlikely that marine mammals will be affected negatively.	'In principal it is correct that any additional ship in the Baltic Sea does contribute to the overall cumulative background noise. However, since the construction phase of the Baltic Pipe project is rather short and the construction noise is not exceeding other vessels it has been concluded in the Espoo report in chapter 7.3.2 that the impact on marine mammals is minimal and moreover	The Danish Energy Agency has no further comments on this topic.

	However, HaV would like to emphasize that all extra underwater noise contributes to an increased cumulative effect, and hence contributes to an increased risk of negative impact on marine mammals. As underwater noise from the construction is not included in the model and as it is not clear at what time of the year the construction is planned to take place, HaV cannot assess the risk of negative impact on the Natura 2000 area's protection values and potential need for protective actions for the construction. Because it is the operation's impact on the Natura 2000 area's protection values that should be assessed, there may be causes for protective actions, e.g. time restrictions for what time of the year the construction work may take place, even if the operations take place outside the Natura 2000 area.	that transboundary impact from Denmark to Sweden can be ruled out. We would like to stress that the effect of one additional source of underwater noise must not be overestimated. Harbour porpoises can hear the sound of the vessels from far distance and can easily navigate around the area as soon as the noise becomes too intense. This does not necessarily mean that the animals are losing energy. Harbour porpoises do not migrate following long distance linear lines. Their movements are characterized by steady changes of direction in search of food. Avoiding the construction area therefore does not reduce the probability of finding food significantly. Additional mitigation measures during construction phase would have no effect.	
16	It is evident from the application that the pipeline route in Danish waters on the eastern side of the Arkona Basin will go through the spawning area of the cod. Therefore, HaV finds that there are reasons for time restrictions on the construction work in this area.	It is correct that the planned Baltic Pipe route crosses a cod spawning area in the Arkona Basin. However, since cod spawning occurs in the water column above the halocline, and the construction related SSC increase primarily takes place in the bottom water, there will be no impact on cod eggs or fry. Turbulent mixing is suppressed by the halocline, meaning that sediment does not diffuse across the layer (Lee & Lam, 2004). Furthermore, the exceedance of threshold concentrations (5 mg/l) from trenching in hours is generally not located in cod spawning areas such as the Arkona Basin. Thus, the extent of potential impact on cod does not justify time restrictions for the construction.	It is a condition in the permit that during planning of the construction work, the company must try to avoid pipe laying in what is known as the Arkona basin during the period July to august, due to the cod spawning period. No seabed intervention work may be performed during this period.
17	There are two populations of the Baltic cod in the Arkona Basin that both are below secure biological numbers. This applies to the western cod population that spawns in June – August and the eastern cod population that spawns in June – August. Based on the vulnerability of the population, HaV recommends that construction work during the spawning period should be avoided.	Please see previous comment No. 16.	It isl be a condition in the permit that during planning of the construction work, the company must try to avoid pipe laying in what is known as the Arkona basin during the period July to august, due to the cod spawning period. No seabed intervention work may be performed during this period.
18	In addition, HaV would like to point out that in terms of fishery (ch. 7.4.2) there are important cod trawl areas in the Danish territory 39G4 that will be impacted by Baltic Pipe as it will not be possible to fish over and close to the gas pipe.	The views expressed by fishermen are important for the developer and are carefully analyzed. Gaz- System is aiming to ensure that the pipeline does not negatively affect fishing interests. More details will be provided during the 3rd quarter 2019 in a continued dialogue with fishing communities.	The Danish Energy Agency has no further comments on this topic.
Swedish Maritime Administration			
19	The Swedish Maritime Administration took a positive view of the fact that the applicant had compiled a risk analysis and had proposed measures to reduce the risk from maritime traffic, but wanted to call attention to the importance of collaboration between Danish and Swedish maritime authorities. As the Swedish Maritime Administration had not studied the application for a permit within the Swedish economic zone, the administration reserves the right to adopt a different position or submit different comments during the consultation process prior to the start of construction work in the Swedish zone.	Comment has been noted.	It will is a condition in the permit that the permit will expire if the developer does not obtain the necessary permits to realize the pipeline project, or if the company abandons the project fully or partially or cannot realize the project for other reasons. Permission must also be granted for the Baltic Pipe pipeline (incl. PLEM) for the rest of the project on both land the sea in Denmark and for Swedish and Polish waters respectively, for the total project to be realized.

Geological Survey of Sweden (SGU)			
20	The Geological Survey of Sweden (SGU) raised issues regarding the risk of the spread of sediment across administrative boundaries and the risk of an impact on natural sediment transportation and natural fractionation of bottom sediment.	It is correct that resuspension of sediment can release and mobilize contaminants. The amount of contaminants that can be mobilized depends on the concentration in the suspended sediment, the solubility of the substance and the amount of sediment which is suspended. For the alignment of the Baltic Pipe sediment samples have been analyzed for contaminants on 27 geochemical survey stations (see map in Annex I). The results of these analyses show that the level of contaminants and nutrients is highest in the deeper parts, where fine-grained sediments with a high organic content prevail. The concentrations of contaminants or nutrients were not higher than expected in any area, i.e. no contaminant “hot spots” were identified in the Danish part of the Baltic Sea. Therefore, the release of contaminants and nutrients per ton of seabed sediments spilled to the water column from the seabed interventions works is expected to be comparable to the release caused by natural re-suspension in rough weather, trawling, etc. In addition, the amount of suspended sediment released by the construction activities is rather low. Currently, a technical optimization is being prepared, and a reduced total length of seabed interventions is expected leading to further risk reduction. It is therefore concluded, that significant transboundary impacts by contaminated sediment transported from Denmark to Sweden can be excluded. Besides the transboundary impact from contaminated sediments, which is the focus of the Espoo report, the Swedish EIA report is dealing with the subject in relation to the Swedish section of the project. The pipeline will be trenched in different types of areas; in areas where sand is missing, and glacial clay or boulder clay is exposed on the bottom surface, in areas with layer of sand on top the glacial clay or the boulder clay, or in areas with a sand thickness so great that the trenching will be in sand. After trenching of the pipeline into boulder clay or glacial clay the sand will in the most areas drift in and cover the surface. But in some areas the sand will not drift in, just as it today is a natural lack of sand. When trenching in areas with thick layer of sand, as in the west part of the area, the pipeline will be buried and covered in sand. The result is that trenching of the pipeline will not notable change the bottom surface character and that sand, in different thickness, will in a few years once again cover the trace from the trenching.	The Danish Energy Agency has no further comments on this topic.
21	Therefore, SGU would like to point out that the work related to the construction and placement of the pipeline, including the clearance of weapons using explosives, could lead to sediment in these basins be suspended and spread across administrative boundaries. The suspended material, which could contain metals and organic environmental poisons that are captured in the sediment, could be re-mobilized and transported away as well as being accumulated in other areas, including sea beds in territories of other nations. Hence, it is of utmost importance to exhibit the highest level of caution and to adopt potential actions that can prevent the spread of polluted sediment. It is the opinion of SGU that these environmentally influencing factors should be limited in scope and time.	The comments have been noted.	The Danish Energy Agency has no further comments on this topic.

22	West of the border of the Swedish economic zone along the route, moraine, moraine clay, glacial clay, and sand and gravel are the dominating parts of the upper one meter of the sea bed. On top of moraine clay and glacial clay a thinner residual or mobile layer of sand/gravel/rocks may occur. Overall, the sea bed here is hard with a high level of bearing capacity, and the sediment and the substrate is generally coarse-grained. Boulders may occur, and there is a relative strong bottom-dynamic environment with erosion and sediment transportation. When placing the pipeline in these areas it should be placed in such a way that it does not block the natural transportation of sediment, which could lead to shortage of sand in certain areas including the Swedish economic zone. Furthermore, it should be ensured that the fraction of bottom sediment (the substrate) will not be changed significantly along the route as that may cause erosion and transportation damaging the construction, cloudiness, and worsening of the substrate for vegetation and animals.	The pipeline will be trenched in different types of areas; in areas where sand is missing, and glacial clay or boulder clay is exposed on the bottom surface, in areas with layer of sand on top the glacial clay or the boulder clay, or in areas with a sand thickness so great that the trenching will be in sand. After trenching of the pipeline into boulder clay or glacial clay the sand will in the most areas drift in and cover the surface. But in some areas the sand will not drift in, just as it today is a natural lack of sand. When trenching in areas with thick layer of sand, as in the west part of the area, the pipeline will be buried and covered in sand. The result is that trenching of the pipeline will not notable change the bottom surface character and that sand, in different thickness, will in a few years once again cover the trace from the trenching.	The Danish Energy Agency has no further comments on this topic.
Swedish Geotechnical Institute (SGI)			
23	The Swedish Geotechnical Institute (SGI) stated that it was important to weigh up the impact from the Danish side with the impact that stems from the Swedish area, likewise other cumulative effects.	It is correct that resuspension of sediment can release and mobilize contaminants. The amount of contaminants that can be mobilized depends on the concentration in the suspended sediment, the solubility of the substance and the amount of sediment which is suspended. For the alignment of the Baltic Pipe sediment samples have been analyzed for contaminants on 27 geochemical survey stations (see map in Annex I). The results of these analyses show that the level of contaminants and nutrients is highest in the deeper parts, where fine-grained sediments with a high organic content prevail. The concentrations of contaminants or nutrients were not higher than expected in any area, i.e. no contaminant “hot spots” were identified in the Danish part of the Baltic Sea. Therefore, the release of contaminants and nutrients per ton of seabed sediments spilled to the water column from the seabed interventions works is expected to be comparable to the release caused by natural re-suspension in rough weather, trawling, etc. In addition, the amount of suspended sediment released by the construction activities is rather low. Currently, a technical optimization is being prepared, and a reduced total length of seabed interventions is expected leading to further risk reduction. It is therefore concluded, that significant transboundary impacts by contaminated sediment transported from Denmark to Sweden can be excluded. Besides the transboundary impact from contaminated sediments, which is the focus of the Espoo report, the Swedish EIA report is dealing with the subject in relation to the Swedish section of the project.	The Danish Energy Agency has no further comments on this topic.
24	Swedish Geotechnical Institute (SGI) does not believe that any specific risks arising from contaminated sediment being dredged or that any risks connected with the handling of the contaminated dredged substances have been described beyond turbidity effects and sedimentation. Contamination from paint on the bottom of vessels for example needs to be looked at carefully in connection with dredging and the handling of substance.	As part of the base-line monitoring, seabed samples were taken at in total 14 positions along the pipeline route in Danish waters. These were analyzed for grain size distribution, organic contents, and the concentration of nutrients, heavy metals and organic contaminants (including TBT from ship antifouling paint). The heavy metal concentrations were lower than the HELCOM Environmental Quality Standards (EQS), the National Environmental Quality Standards (NEQS) and the Effect Range Low (ERL), with the exception of one station (GCH51; see the Danish EIA), where the concentrations of Pb and Cu were slightly above (20% above for both substances). Also for organic contaminants, the concentrations were in general below the	The Danish Energy Agency has no further comments on this topic.

		relevant quality criteria, with the highest values also at GCH51 (see the Danish EIA). For TBT, the national criterion concentration is exceeded 50% at two stations, which is to be expected due to the heavy traffic in the area. The sediments at station GCH51 consist of 100% silt/clay and a content of Total Organic Carbon (TOC) of 14%. The higher concentrations of contaminants at this station is therefore as expected, as heavy metals and organic contaminants primarily is associated with fine-grained sediments and particulate organic matter (due to the large cation-exchange capacity, CEC). The reported contaminants concentrations are from the surface sediments. The majority of dredging will take place in clean geological materials from before the industrial ages, i.e. they will have lower concentrations of contaminants than the surface sediments. The above supports that the concentration level of the sediments which will be mobilized is low, and that the potential release of contaminants is comparable with the release during single events of natural resuspension in rough weather and as a result of bottom trawling.	
25	The Swedish Geotechnical Institute (SGI) also stated that underwater landslides can have causes other than seismic activity and that long-term investment in fossil-free energy use in Europe is to be preferred over further investment in natural gas.	The Baltic Sea is situated on the Eurasian continental plate, providing relatively stable geological conditions. The area is nearly devoid of earthquake activity in global terms (Mäntyniemi, 2004). However, seismic activity in the form of small-scale earthquakes occurs occasionally. This activity is mainly the result of stress release in the lithosphere caused by the uplift following the deglaciation at the end of the latest ice age. Seismic activity is defined as the types, frequency and size of earthquakes that happen over a period of time in a certain area. The southern Baltic Sea and the adjacent areas of Germany, Poland, the Baltic states and the Kaliningrad enclave are characterized by very low seismicity. Three earthquakes, in Germany and in Kaliningrad, measured to be in the range 3.1-4.7 Mw (moment magnitude scale – corresponds to the Richter scale for medium-sized earthquakes), are the largest measured in the region in historical times (Grünthal et al., 2008). This is in line with the conclusion that the largest earthquakes in the Eastern European Platform do not exceed Mw = 5.0-5.5, and that the East Baltic region is classified a territory of low or very low seismic activity (Pačėsa & Šliaupa, 2011). This is in line with measurements of seismic activity in Denmark, which has similar magnitudes as in the Fennoscandian Shield and the East European Platform. Earthquakes in the region are generally not associated with fault zones like e.g. the deep fault zone called the Tornquist zone, which is a 30-50 km wide zone of extensive faulting developed in late Cretaceous/early Tertiary time extending from Poland through Bornholm and further towards west-northwest. There are no signs of geologically recent faulting or recent crustal deformation in the area – this corroborates that Denmark and its neighbouring areas are characterized by a small earthquake potential (Voss et al., 2017). The above is in line with investigations carried out for the Nord Stream pipelines. During the planning of the Nord Stream pipelines, a probabilistic seismic hazard analysis was prepared for the entire route and region. It was concluded that seismicity in the region, and hence along the route, is very low to low, also compared with other regions in Europe. The same was concluded for the risks of seismic hazard Submarine landslides have not been reported in the Baltic Sea in recent geological time (Rambøll / Nord Stream 2 AG, 2017).	The Danish Energy Agency has no further comments to this issue.

		Earthquakes might be a hazard to submarine pipelines due to 1) direct impact on the pipeline from the seismic activity (this is in particular the case where the pipeline is buried and crosses an active fault zone), and 2) impact from e.g. submarine landslides triggered by the seismic activity (this is in particular the case at the slopes of continental shelves). With respect to the direct impact, methods and criteria to be used for ensuring that pipelines are designed to withstand the foreseeable seismic activity are outlined in NORSOK, 2007, and in ISO 19901-2, 2017. The Baltic Sea area is, however, an area where the level of seismic activity is so low that no special precautions need to be taken for ensuring the integrity of the pipeline. This is due to the tectonic stability of the region and to the fact that the pipeline does not cross any active faults. The foreseeable magnitudes of earthquakes will not pose a direct risk to the pipeline system. With respect to possible indirect impacts, earthquakes can trigger landslides e.g. at the continental slopes. Such conditions do not exist along the pipeline route in the Baltic Sea, and no submarine landslides have been reported from the area in the present geological setting. Therefore, in the Baltic Sea it is not considered necessary to carry out specific analysis related to possible earthquakes in relation to submarine pipelines.	
26	It is clear from the MKB (see e.g. fig. 3-15 in the document) that there will be digging along long stretches that go through Swedish EEZ as well as on the Danish side in connection with territorial waters at water depths from 0-20 meters. The total estimated volume of dredging is presented in table 3-7. During work, dredged sediment will be placed temporarily on the bottom of the sea but it is also clear that some material will stay.	In case of dredging the excavated material will be left on the seabed immediately adjacent to the trench and will be excavated back into the trench after pipeline installation. There will be no dispersion of hazardous substances besides what originate from elevated suspended sediments, which is evaluated to be very small.	The Danish Energy Agency has no further comments on this topic.
27	The overall conclusion of the description of the environmental consequences is a potential cross-border impact including sediment dispersion and underwater noise but modelling shows that a significant impact from dispersion of sediment is unlikely given the short duration and limited scope of the project. The MKB has also taken spawning periods of fish species into account and the likelihood of clouding and over-sedimentation (table 7-14 and 7-15). It is also concluded that the Swedish Natura 2000 area will not be affected by activities on the Danish side. For example, table 7-33 shows that the protected area is more than 2 km from the Danish construction site.	The comment has been noted.	This is a statement that does need a response.
28	SGI has not studied the above-mentioned modelling but would like to point out that not only activities on the Danish side are of interest for the assessment but also the activities that are planned for the Swedish side, i.e. inside the EEZ. A separate MKB is being prepared prior to examination in Sweden. We would like to point out that it is important that the effect from the Danish side will be considered with the Swedish side and other affecting activities in the upcoming MKB, i.e. cumulative effects must be described and assessed.	-	Please see comment in No. 27.

29	We cannot detect that specific risks as a result of the polluted excavated sediment and risks related to handling of the polluted dredged spoils have been described apart from cloudiness effects and sedimentation, etc. Vessel traffic is frequent in the area, and sediments along sea lanes could be heavily polluted by e.g. paint on the bottom of boats containing TBT. This needs to be addressed separately in combination with dredging and handling of dug-up materials to minimize additional dispersion of not readily degradable substances.	-	The Danish Energy Agency has no further comments on this topic.
30	The documents point out that seismic activity is low and hence, there is no need for separate analyses of direct or indirect risks as a result of earthquakes. Underwater slides are mentioned as an indirect risk as a result of seismic activity, but it is concluded that such slides have not been reported. However, underwater slides may occur as a result of other issues than seismic activity. It is SGI's opinion that there is a need for an assessment of the prerequisites for underwater slides in the area for the construction phase as well as for the operational phase, and the risk of disasters from these.	-	Please see comment in No. 29.
31	CO2 emissions are substantially transnational. Climate is expected to lead to increased risk of natural disasters, i.e. mudslides, landslides, coastal erosions and flooding. One of SGI's commissions is to adapt society to that kind of results of climate change. The main objective of the pipeline is to substitute Russian natural gas, which means that according to the MKB additional CO2 emissions are not expected (see p. 141 of the MKB). However, there is a need for decreasing CO2 emissions. As mentioned in the MKB, the pipeline may also be used for transportation of biogas and natural gas as back up for e.g. wind power and hence, support the transition to alternative energy sources. Finally, we would like to support the opinion that was communicated in 2018 by SMHI among others in their statement that a long-term effort to transition to fossil free energy is preferable to additional focus on natural gas.	-	Not relevant in relation to the transboundary impact on Sweden that could be caused by a proposed activity taking place in the Danish EEZ.
Swedish Meteorological and Hydrological Institute (SMHI)			
32	The Swedish Meteorological and Hydrological Institute (SMHI) points out that the option selected entails a greater risk of impact than if a more southerly alternative had been chosen.	Please see chapter 5 (Alternatives) in the Danish Espoo report and chapter 6 and 8.1.1 (Alternatives and Bathymetry, respectively) in the Swedish Impact Assessment. The water transport (inflow and outflow) from the North Sea has been taken into account when considering the different route alternatives.	The Danish Energy Agency has no further comments on this topic.

33	SMHI acknowledges that during the consultations it is proposed that the gas pipeline is placed according to the so-called Swedish alternative route (SEA), which is the northernmost alternative. With this route the risk of the above-mentioned impact is higher than if a more southerly alternative was chosen. Otherwise, the SMHI has no further comments.	The comment has been noted.	The comment has been noted.
34	Oceanic assessment: The Baltic Sea is an enclosed inland sea with limited water exchange with surrounding seas where the bottom environment is strongly affected by the lack of oxygen under the salt thermocline. New oxygen to the deep waters of the Baltic Sea is mainly supplied by episodic saltwater flows through Öresund and the Belts. Based on this, SMHI advocates for the southernmost alternative for the pipeline route through German EEZ (Fig. 1-2 in the Esbo notification) but that the westernmost part will be placed further south than described currently to impact the inflowing bottom waters as little as possible.	-	-
35	Geophysical and geotechnical measurement: SMHI has no objections to carrying out the investigations as described in the application.	The comment has been noted.	The comment has been noted.
36	Data collection: SMHI is the national data host for marine physical, chemical, and biological data and hence, would like the results from the investigations to be made public and to be hosted by SMHI.	Please specify what sorts of data from surveys are interesting for SMHI.	It is a condition in the permit that the developer shall publish the environmental monitoring results for the construction and operation phases as they become available.
37	Climate assessment: It is the opinion of SMHI that a long-term focus on fossil free energy consumption in Europe is preferable to additional investments in natural gas.	-	Not relevant in relation to the transboundary impact on Sweden that could be caused by a proposed activity taking place in the Danish EEZ.
Swedish Transport Administration			
38	The Swedish Transport Administration stated that the reporting on the impact on accessibility and the risk of accidents in the major shipwrecks has been adequate, and that it is positive that the selection of the pipeline stretch took into account alternatives that have minimum impact on shipping.	Comment is noted.	Comment is noted.
Swedish Transport Agency			
39	The Swedish Transport Agency noted the anticipated environmental impact and supports the proposed protection measures that have been described and the measured described to reduce risks.	Comment is noted.	The comment has been noted..

40	The Swedish Transport Agency is taking note of the expected environmental consequences that the project has identified and supports the proposed protective actions described in the documents for the issue.	The comment has been noted.	The comment has been noted.
41	Furthermore, we support the proposed risk reducing actions for shipping related to the construction phase as described in the Espoo Report Denmark.	The comment has been noted.	The comment has been noted.
County Administrative Board in Skåne			
42	The County Administrative Board in Skåne believes, based on the documentation submitted and the Natura 2000 area, that it is not obvious why military interests should have priority over environmental interests.	Natura 2000: The Espoo report is dealing with transboundary impacts from Denmark to Sweden. Potential impacts on the Swedish Natura 2000 area "Sydvästskånes utsjövatten" are in detail assessed in the Swedish EIA report in chapter 8.2.8 a. Moreover, it needs to be pointed out that an extensive list of environmental criteria was taken into account while optimizing the route of the Baltic Pipe, including total length of crossings within Natura 2000 sites within Baltic Sea basin.	The Danish Energy Agency has no further comments on this topic.
43	Nor it is clear whether the company had performed any analysis on bottom sediment with respect to contamination. Based on other analysis work, there are suspicions that the sediment could contain raised levels of environmental toxins and that these could be released if the sediment were disturbed.	Suspension of contaminated Sediment: Seabed sediments along the pipeline route have been analyzed for their concentrations of contaminants and nutrients. The results of these analyses show that the level of contaminants and nutrients is highest in the deeper parts, where fine-grained sediments with a high organic content prevail. The concentrations of contaminants or nutrients were not higher than expected in any area, i.e. no contaminant “hot spots” were identified in the Danish part of the Baltic Sea. Therefore, the release of contaminants and nutrients per ton of seabed sediments spilled to the water column from the seabed interventions works is expected to be comparable to the release caused by natural re-suspension in rough weather, trawling, etc. and significant transboundary impacts by sediment transported from Denmark to Sweden can be excluded. For information purposes the map with positions of the sample stations and the geological map are given as annex map 1, taken from the Danish EIA report, where the baseline description is more detailed in comparison to what is expected in the Espoo report. Besides the transboundary impact from contaminated sediments, which is the focus of the Espoo report, the Swedish EIA report is dealing with the subject in relation to the Swedish section of the project.	The Danish Energy Agency has no further comments on this topic.
44	Nor does the documentation contain a detailed marine geological survey.	Please see comments in answer no. 43. above	The Danish Energy Agency has no further comments on this topic.
45	The County Administrative Board also stated that other projects that have only recently been implemented should be included in the report for cumulative effects.	Cumulative Impacts: It is acknowledged that the mentioned projects shall be included in the assessment. However, with regards to assessment of cumulative effects within the Espoo transboundary context, focus is on Danish offshore projects that potentially can enhance the transboundary effects from the Baltic Pipe project. Chapter 7.5 of the Espoo report lists the relevant project, herein also the offshore wind park Krieger's Flak and Nord Stream 2 gas pipeline. The crossing with the planned Hansa Power Bridge transmission cable is dealt with in the Swedish EIA (Chapter 8.3.4). The offshore wind park Skåne havsvindpark is, however not included into the assessment, since the planning process is not yet sufficiently legally consolidated.	The Danish Energy Agency has no further comments on this topic.

46	The County Administrative Board maintains that the planned gas pipeline may affect the Natura 2000 area “Sydvästskånes utsjövatten”, commercial fishery as well as the cultural environment.	Natura 2000: The Espoo report is dealing with transboundary impacts from Denmark to Sweden. Potential impacts on the Swedish Natura 2000 area "Sydvästskånes utsjövatten” are in detail assessed in the Swedish EIA report in chapter 8.2.8 a. Moreover, it needs to be pointed out that an extensive list of environmental criteria was taken into account while optimising the route of the Baltic Pipe, including total length of crossings within Natura 2000 sites within Baltic Sea basin. Suspension of contaminated Sediment: Seabed sediments along the pipeline route have been analysed for their concentrations of contaminants and nutrients. The results of these analyses show that the level of contaminants and nutrients is highest in the deeper parts, where fine-grained sediments with a high organic content prevail. The concentrations of contaminants or nutrients were not higher than expected in any area, i.e. no contaminant “hot spots” were identified in the Danish part of the Baltic Sea. Therefore, the release of contaminants and nutrients per tonne of seabed sediments spilled to the water column from the seabed interventions works is expected to be comparable to the release caused by natural re-suspension in rough weather, trawling, etc. and significant transboundary impacts by sediment transported from Denmark to Sweden can be excluded. For information purposes the map with positions of the sample stations and the geological map are given as annex map 1, taken from the Danish EIA report, where the baseline description is more detailed in comparison to what is expected in the Espoo report. Besides the transboundary impact from contaminated sediments, which is the focus of the Espoo report, the Swedish EIA report is dealing with the subject in relation to the Swedish section of the project. Cumulative Impacts: It is acknowledged that the mentioned projects shall be included in the assessment. However, with regards to assessment of cumulative effects within the Espoo transboundary context, focus is on Danish offshore projects that potentially can enhance the transboundary effects from the Baltic Pipe project. Chapter 7.5 of the Espoo report lists the relevant project, herein also the offshore windpark Krieger's Flak and Nord Stream 2 gas pipeline. The crossing with the planned Hansa Power Bridge transmission cable is dealt with in the Swedish EIA (Chapter 8.3.4). The offshore windpark Skåne havsvindpark is, however not included into the assessment, since the planning process is not yet sufficiently legally consolidated.	The Danish Energy Agency has no further comments on this topic.
47	The County Administrative Board has previously stated that the field investigations should be sufficiently accurate to enable assessment of what route will cause the least damage to the natural values, and that a report about the consequences of choosing another route should be included. In the new documents, the company just detailed that they did not proceed with a route through German waters because of international military interests. The County Administrative Board once more would like to point out that Natura 2000 is a network of protected areas in all of Europe, and that it is not obvious why military interests should supersede nature interests.	-	Please see comment in No. 46.

48	Dissipation of sediment has been mentioned as a potential impact factor that will take place during the construction phase, e.g. during digging of the pipeline trench. However, it is not evident that the company has conducted any analyses of the bottom sediment with regard to pollution. In the investigative work for the electricity connection Hansa PowerBridge very high contents of PAH were found in the Swedish Natura 2000 area “Sydvästskånes utsjövatten”. That means that the important issue is about clay-like sediment at depths higher than 40 meters. This was also confirmed by the sampling from the national sediment location SE-12 close to the Arkona Basin. In other words, it is suspected that the sediment may contain elevated contents of environmental poisons and that these may be released if disturbed, leading to cloudiness not only being a matter of mechanical damage. Even if the biggest impact happens locally, the consequence may be that environmental poisons could become available to bigger fauna that is more mobile and then to e.g. the already highly affected cod and the porpoise.	-	Please see comment in No. 46.
49	The documents also do not contain a detailed marine biological chart. As is, one has to guess, e.g. from figure 3-15 “Overview of expected sea bed work”, what type of sea bed this might be in the area.	-	Please see comment in No. 46.
50	The company mentions the wind farms at Krieger’s Flak as well as Nordstream 2 as ongoing projects in the area. Other projects that are currently being carried out are the electricity connection Hansa PowerBridge and the wind farm Skånes havvindpark, and those should also be included in the report about cumulative impact.	-	The Danish Energy Agency has noted the comment on this topic.
51	Finally, the County Administrative Board would like to point out that the term “dikning” (trenching) is used throughout for digging in the sea bed. The Swedish term for trenching (dikning) is intimately related to field drainage, i.e. that excess water is led away from a field, which is a completely different activity than what is planned in this application.	Dikning: we apologize for the translation error	The Danish Energy Agency has no further comments on this topic

Sveriges Fiskares Producentorganisation (SFPO)			
52	Sveriges Fiskares Producentorganisation (SFPO) stated that adequate measures must be implemented to ensure that the negative impact that could result from all aspects of the project are kept to a minimum and that it is the SFPO's stated opinion that fishing carried out in the area in question shall not be affected and that the project communicates clearly and demonstrably its intention to compensate fishermen who are negatively affected. The SFPO assumes that the pipeline shall be located in such a way that fishing that is carried out is not prevented in any way.	The comment does not as such refer to potential transboundary effects from Denmark to Sweden. The views expressed by fishermen are important for the developer and are carefully analyzed. GazSystem is aiming to ensure that the pipeline does not negatively affect fishing interests. More details will be provided during the 3rd quarter 2019 in a continued dialogue with fishing communities.	The Danish Energy Agency has no further comments on this topic.
53	The realization of the project means that there will be sediment dispersion and underwater noise, etc. both of which will impact commercial fishing. Sufficient actions must be taken to secure that the negative impact of the project will be minimized in all stages. Fishing with demersal trawl will experience the most negative impact of the project.	-	Please see comment in No. 52.
54	Hence, it is the definite opinion of SFPO that it is imperative to indemnify fishing that takes place in the actual areas, i.e. to the extent that the project leads to restrictions or other negative effects for the fishery, compensation must be provided that corresponds with the negative impact. It is important that the project in a clear and visible way states its intention to compensate fishermen that are impacted negatively (p. 36).	-	Please see comment in No. 52.
55	It is our opinion that all actions that can minimize the negative effect on demersal trawl must be taken.	-	Please see comment in No. 52.
56	With respect to placement, SFPO expects that it will be done in such a way that fishery will not be impacted (buried). The restrictions on fishery during the construction phase must be compensated so fishermen do not experience any financial impact.	-	Please see comment in No. 52.
Sydkustens Vattenvårdsförbund			
57	Sydkustens Vattenvårdsförbund stated that it is important that it is investigated how grey seals, harbour seals and common porpoises will be affected by the different phases of the project.	The impact on the three mentioned marine mammals and the Swedish Natura 2000-site “Sydvästskånes utsjövatten” (SE0430187)" is assessed within the Swedish EIA in chapters 8.2.3 and 8.2.8 respectively. The task of the Espoo report is to analyze, if project activities on the Danish side could cause environmental impact on the Swedish side. With regards to the marine mammals and the Natura 2000 site the Espoo report concludes that there is no significant impact across the border from Denmark to Sweden (see Espoo report chapters 7.3.2 and 7.3.4).	The Danish Energy Agency has no further comments on this topic.

58	Baltic Pipe will pass in or adjacent to the protected area according to the Species and Habitats Directive, Southwestern utsjövatten. It is important that it is investigated how grey seal, tuber seal and porpoise will be affected by Baltic Pipe project, both during the construction phase and during the operating phase.	Please see comments in no. 57.	The Danish Energy Agency has no further comments on this topic.
Sjöfartsverket			
59	The Maritime Administration has taken part in consultations about cross-border impact for the Danish zone and must assess the issue from the point of view of shipping safety. Hence, in the Maritime Administration's statement there is no assessment of aspects or actions that impact, e.g. nature and the environment, or the construction methods in terms of the technical details.	We acknowledge the statement by the Swedish Maritime Administration and reassure that risk mitigation measures for ship traffic will be coordinated with the responsible authorities in each country.	It is a condition in the permit that Gaz-System S.A. must comply with the requirements set by the Danish Maritime Authority in connection with construction, operation and decommissioning of the project.
60	The pipeline will pass through several traffic lanes with extensive sea traffic. These areas are of importance to Sweden and to the sea transportation system of the Baltic Sea. Thus, it is important that the construction work is planned and will be carried out with the least possible impact on the accessibility and safety of sea traffic. Hence, the Maritime Administration is positive about the application applying a risk analysis and suggesting actions to reduce the risk for sea traffic.	Comment has been noted.	The comment has been noted.
61	We want to remind about the importance of cooperation between Danish and Swedish maritime authorities about, e.g. navigation warnings and other information for sea traffic to be able to handle everything the best possible way.	The comment regarding cooperation has been noted.	The comment has been noted.
62	The Maritime Administration or other Swedish authorities have not yet been part of the application for permission for construction work in Swedish economic zone according to the law (1996:314) about the continental shelf, and hence, the statement regarding consultation about cross-border impact has reservations for that. The Maritime Administration reserves the right to another position or other consideration during the consultation process for the construction work in Swedish territory.	The comment has been noted.	Please see comment No. 19.

Swedish Defence Research Agency (FOI)			
63	Based on the provided consultation documents, FOI recommends that the alternative route for the gas pipeline southwest of Bornholm should be avoided because a dumping ground for chemical weapons is located within that area. This could lead to a risk of cross-border environmental impact. In addition, the project contractor should be notified that chemical weapons may be found even at the outskirts of these known dumping grounds as well as at places that are not documented in mapping documentation.	The comment has been noted.	It is a condition in the permit that Gaz-System S.A. must comply with the requirements set by the Danish Defence Command in connection with construction, operation and decommissioning of the project.
Swedish Environmental Protection Agency			
64	In previous stages of the Baltic Pipe project a number of different routes have been considered for the marine part between Poland and Denmark. In previous responses SMHI has advocated for the southernmost alternative, based on the impact a pipeline might have on the inflow of oxygen-rich water to the actual area, in particular the route along the bottom of the large inflows to the Baltic Sea through the Arkona Basin. Previous response is attached.	Please see chapter 5 (Alternatives) in the Danish Espoo report and chapter 6 and 8.1.1 (Alternatives and Bathymetry, respectively) in the Swedish Impact Assessment. The water transport (inflow and outflow) from the North Sea has been taken into account when considering the different route alternatives.	The Danish Energy Agency has no further comments on this topic.
Totalforsvärets forskningsinstitut			
65	Totalförsvarets forskningsinstitut (FOI) has no further comments besides previous released response 2018-03-15 (NV-08904-17).	-	The comment has been noted.
Transport Department			
66	The impact on accessibility and risk of accidents in the important shipping lanes have been accounted for at an appropriate level.	-	The comment has been noted.
67	It is positive that in choosing the route it was taken into account which alternative has the least impact on shipping.	-	The comment has been noted.
National Maritime and Transportation Historical Museum			
68	As for potential cross-border environmental impact, The National Maritime and Transportation Historical Museums (SMTM) have nothing to add about the cultural environment. However, SMTM suggest that future geophysical charts should be designed in such a way that they can be used as documents for testing the impact on the cultural environment in the actual pipeline route, and that marine archaeological expertise should be consulted for studying the result.	We acknowledge the statement of the SMTM. Geophysical surveys are a crucial part of the project implementation and will be (and have been) conducted as technically required. The developer can confirm that the competent authorities/experts will be consulted in each country as soon as cultural objects are detected by the various surveys. This is already an ongoing process as can be seen from the latest example, where UXO surveys (magnetic surveys) detected a wreck in the Danish part of the alignment and further actions are coordinated with the Danish authorities.	The Danish Energy Agency has no further comments on this topic.

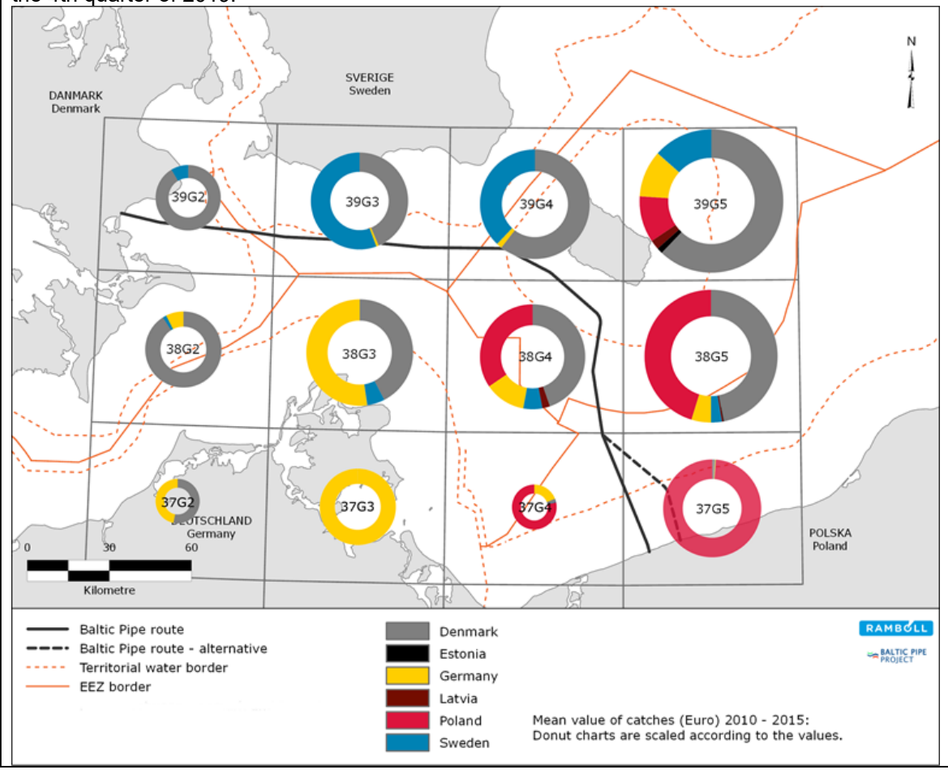
69	As for cross-border environmental impact, SMTM have nothing to add about the cultural environment. Impact on cultural relics in the Swedish economic zone should not be expected. No matter where the gas pipeline is planned in the Baltic Sea, SMTM suggest that geophysical investigations should be designed in such a way that they can be used as documents for testing the impact on the cultural environment in the actual pipeline route, and that marine archaeological expertise should be consulted for studying the result.	Please see previous comments in no. 68.	The Danish Energy Agency has no further comments on this topic.

Additional responses – Sweden

No.	Respons/statement	Answer from Energinet DK/GazSystem	Comments from the Danish Energy Agency
Swedish Agency for Marine and Water Management			
1	<u>Cod and underwater activities</u> As the pipeline route is going through an area in the Arkona basin, where the cod is living, HaV has presented comments on precautionary measures in the form of time restrictions for the construction work. The company does not believe that there is a need for time restrictions as it is unlikely that cod eggs or fry will be affected. In the response, the company presents figures showing that parts of the play area in the Arkona Basin can be assumed to be a "disturbance area" based on the diked stretch along and areas with elevated noise levels. Regarding the length of the diked section within the play area, it is estimated at 6 km2, which is 0.2% of the entire play area. When it comes to noise, the noise area is estimated to be 35 km2. It may appear to be a small part of the entire potential play area, but potential impact must be weighed against the critical status of the cod stock. HaV continues to believe that it cannot be ruled out that cod eggs or cod can be adversely affected as a result of an increased amount of slurry sediment during the ditching work on the seabed, water turbulence and underwater noise. HaV has previously referred to a couple of scientific studies that show how cod are affected by commercial fishing during the game period in a negative way. It is true, as the company advocates, that commercial trawling is conducted in a different way from the plumbing work. However, HaV believes that it is not entirely improbable that cod during their spawning can also exhibit stress behavior as a result of other underwater activities, in	GAZ-SYSTEM S.A shares SwAM's view that a potential impact from the construction work must be weighed against the critical status of the eastern cod stock. However, the following clearly shows that the construction work will not have a significant impact on the cod size in the Arkona Basin or on the status: 1. The Arkona Basin does not constitute a significant spawning area for cod, neither for the eastern or western stocks. The eastern stock's main spawning area consists of the Bornholm Basin, while the western stock mainly spawns in the Kiel Bay, the Mecklenburg Bay and the Great Belt between Denmark and Germany. This means that any disturbance to the limited spawning that takes place in the Arkona Basin has very little effect on the survival and stock development of both stocks (see Sub-Appendix 3. expert opinion by J. Hjelm). 2. Regarding the eastern population, the common view within the International Council for the Exploration of the Sea (ICES) is that the spawning that takes place in the Arkona Basin is very limited in relation to the reproduction that takes place in the Bornholm Basin. This means that a disturbance to cod spawn in the Arkona Basin can only have a marginal effect on the total biomass of the eastern stock and thus its stock development (see Sub-Appendix 3. expert opinion by J. Hjelm). 3. As stated in the previous response, a possible disturbance of spawning cod during the construction work from noise and water turbulence will be so marginal that it cannot reasonably affect the recruitment of cod in the Arkona basin. Especially not in the light of the extensive shipping traffic that occurs in this part of the Baltic Sea. As for suspended bottom sediment, the disturbance will be very small. Excavation of the pipeline in the seabed, the construction work that gives rise to suspended sediment in the water, will only take place along a stretch of 6 km (at shipping lane 5) within the approximately 3,500 km2 large spawning area in the Arkona Basin. Considering the extensive bottom trawling in the area, which means a recurring and powerful resuspension of sediment year-round, the subsequent clouding from the burial of the pipeline will have a negligible impact on the cod.	Based on a dialogue with the Danish Fishery Authority, the Danish Energy Agency can inform you that the permit will contain a condition where the developer in planning the construction works, the company must attempt to avoid pipelaying in what is known as the Arkona Basin during the period from July to August. No intervention works may be carried out during the period mentioned.

	addition to trawling, although there are no targeted scientific studies on this. Time restrictions HaV's view on time restrictions for the construction work is stated in the previous opinion. These views are maintained. Time restriction on clearing weapons as a protection for porpoises HaV mentioned in a previous opinion that there is a risk that underwater noise caused by the detonation of weapons can affect marine mammals and that the risk of this should be minimized. The company has previously proposed conditions to be applied in cases where the clearance of weapons will be necessary. In the response, this proposal has been adjusted so that a further time limit has been proposed for the clearance of identified antifouling agents in the Natura 2000 area of Southwest Skåne Lakes (SE 0430187). This commitment is fully in line with what HaV has proposed. Regarding HaV's proposal for concrete protective measures to be used in detonating explosives, the authority proposed double bubble curtains, visual and acoustic observations and seal scare. The company states that this is too detailed a description of protective measures and that they are unnecessarily restrictive. Instead, the company proposes appropriate safeguards to protect porpoises in consultation with the County Administrative Board. HaV considers that this is also an acceptable solution as long as the County Administrative Board is informed in due time to allow the County Administrative Board to make the correct assessment of what is currently the most appropriate safeguard measure / combinations of safeguard measures. Natura 2000 HaV's opinion remains that businesses within Natura 2000 areas may need a separate review against the Natura 2000 rules. However, HaV has in no way taken a position on the issue of whether Natura 2000 permits are needed or not for the current business but has in this regard referred to the County Administrative Board in Skåne, which is decisive on these issues.	There are further arguments confirming that demands for time restrictions are not justified. GAZ-SYSTEM S.A. has additionally analyzed Arkona Basin as cod spawning area (see Appendix 3, expert opinion by Joakim Hjelm). Also, in a recently published article (Eero et al., 2019) analyzed how the no-catch areas for the eastern stock during spawning, which have been in place for many years had affected the stock. No positive effects of this protection of spawning areas could be demonstrated. Therefore, a two-month restriction period in the Arkona Basin, which does not belong to the main home area of the Baltic Sea cod, will likely not have any significance for the development of the stock. In the Arkona Basin, the time interval for cod spawning reflects a combination of different spawning periods for the western and eastern stocks, which extend from February to August. The western stock spawn mainly during February-April, while the dominant spawning period for the eastern stock is May to August. The head spawning periods may vary slightly due to various environmental factors. This means that any disturbance at a specific time will have a marginal impact on the spawning success for both stocks (see Sub-Appendix 4. expert opinion by J. Hjelm). The analysis also confirms that main spawning areas contributing to the reproductive success of both Baltic cod stocks are not located in the Arkona Basin. They are located in Bornholm Basin for the Eastern stock and in Kiel Bay, Mecklenburg Bay and Danish Belts for the Western stock. This means that a short-term and local disturbance at any specific time in the Arkona Basin will only have a marginal impact on the spawning of both Baltic cod stocks. The analysis concludes that a time restriction during July-August, as proposed by SwAM, will most likely not impact both cod stocks' conservation and is therefore not justified based on the extended spawning period in the Arkona Basin and because both Baltic cod stocks have their spawning area in other areas than in the Arkona Basin. In summary; since the construction work will not have a negative impact on the recruitment of Baltic cod, any time restrictions for the installation of the pipeline are not justified. Information to the County Administrative Board in due time GAS-SYSTEM S.A a intends to inform the County Administrative Board as soon as possible before clearance is made for the design of mitigation measures, in order to minimize the risk of impact on harbour porpoises as far as possible. Regarding the clearance of non-detonated munition, which are first found during construction work and which could not reasonably be identified in conducted UXO investigations, GAS-SYSTEM S.A. emphasize that these protective measures may need to be handled expeditiously, as the investigations are done in connection with the installation of the pipeline. The speed of contact between GAS-SYSTEM S.A. and the County Administrative Board in Skåne may be needed, to minimize security risks when handling the UXOs.	
Swedish Board of Agriculture			
2	The Swedish Board of Agriculture has stated that, it has to be clarified who is liable in case of accidents or incidents to the pipe or fishing vessels or fishing gear. The Swedish Board of Agriculture therefore again calls on Denmark to	The Project Developer GAZ-SYSTEM S.A. attaches special importance to the questions of safety and cooperation with all users of the marine areas, including fisheries. Mitigation of the potential risk of damaging fishing vessels, fishing tools or the pipeline itself, have been analyzed during all stages of the project development and design process.	It will be a condition in the permit that Gaz-System S.A. must have established, at all stages of the project, an emergency response plan to handle the consequences of hydrocarbon wastage or other unintended incidents. The emergency plan must be submitted annually to the Danish Energy Agency.

	supplement the impact assessment with such an evaluation.	Mitigation measures have been included in the design of the pipeline system, so that the risks are below the risk acceptance criteria, and measures are implemented to ensure that the risks are further reduced to a level as low as reasonably practicable (ALARP). This is reflected in the following documents prepared by the Developer, which form the basis and input for the technical design of the pipeline: • HAZID analysis (risk identification) • QRA (quantitative risk assessment) • HAZOP analysis The Developer of Baltic Pipe project pursues the same claims policy covering the entire route of the pipeline in all three countries. The approach to liability in case of accidents and incidents is as described below: GAZ – System will take out an insurance policy covering damages related to the pipeline during construction and operational phase. In the event of an accident/incidence and / or damage to the pipeline, a ship, fishing vessel, loss of fishing gear or other accidents/incidences connected with the pipeline, Gaz-Systems' insurance will compensate the plaintiff(s) in accordance with the liability of GS. An Emergency Response (ER) plan will be developed by GAZ-SYSTEM before installation or operation, respectively, takes place. The contingency plans shall contain action plans to minimize the effects of any accidents in accordance with the Helsinki Commission (HELCOM) guidelines. The ER plan will be tailored to the activities that are planned to take place and to the risks associated with these activities, as described above. The framework for the ER plan is the GAZ-SYSTEM management system for Health, Safety and Environment (HSE), which has been developed in accordance with the standards OHSAS 18001 / ISO 45001: Occupational Health and Safety Management Systems and ISO 14001: Environmental management system. A Project Health Safety and Environment Plan has been prepared and is further developed as the project progresses. The plan is applicable to all work carried out as part of the Baltic Pipe Offshore Pipeline Project, whether work is carried out in the Project or at the Contractor’s offices, construction sites or on marine construction and associated vessels or during operation. Gaz -System will report as per agreed with authorities reporting scheme, while approving the ER Plan.	
3	The Swedish Board of Agriculture requests that the project developer will compensate fisheries for any potential economic loss due to the construction or operation of the Baltic Pipe pipeline. Referring to the answer provided by the project developer, the Swedish Board of Agriculture takes it for granted that a potential compensation will be extended to affected Swedish fishermen.	Figure 1 demonstrates the significance of fisheries and relative coverage by countries that fish in the ICES rectangles adjacent to the Baltic Pipe route, based on the average catch value (€) for the period 2010-2015 for cod, flounder, herring, plaice and sprat. Data were collected from the national fishery authorities for fisheries that operate in subdivision 24 and 25. Finnish data are not included due to data protection, but their summed catch for the period comprises less than <1% when compared to Danish landings. As shown on the figure,	The Danish Energy Agency has no further comments on this topic.

		Swedish fleet's share, in terms of catch value, in the fisheries located in the ICES rectangles which are the proposed project area, was small (38G4 - about 5,5% of the overall value) or negligible (37G4 and 38G5 - far less than 1% of the overall value). The same applies to the average catches in tonnes, where Swedish fleet's share in rectangle 38G4 was around 7%, while in rectangles 37G4 and 37G5 it was below 1%. It has to be emphasized that only a small fraction (minority) of rectangle 38G4 lies within the Polish exclusive economic zone (the Polish section constitutes less than 15% of the total length of the pipeline in this rectangle), while the numbers given above represent the catch attributed to the whole rectangle. It can be assumed if there is no significant impact on the operation of the Polish fishing fleet within the areas of the proposed project location (see Espoo Report, Chapter 7.4.2), no significant impact is to be expected on the operation of the Swedish fishing fleet within this area. Nevertheless, the views expressed by fishermen are important for the developer and are carefully analyzed. Gas Transmission Operator GAZ-SYSTEM S.A. is aiming to ensure that the pipeline does not negatively affect fishing interests. As an integrated part of the permitting process Gas Transmission Operator GAZ-SYSTEM S.A. has an ongoing dialogue with the Fishery Organisations. The first meeting with the Swedish fishery was held on the 15th of November 2018 in Gothenburg and the second meeting was held in Gothenburg on the 28th of August. To secure consensus between the project and the fishery needs the dialogue with the fishing communities will be continued and further consultation meetings will be organized during the 4th quarter of 2019.  	

4	The Swedish Board of Agriculture has requested that the project developer GAZ-SYSTEM S.A. informs the relevant authorities in each country about the timing of the construction and location. The information should be precise when it comes to timing and place of the construction work to avoid any unnecessary negative impact on fisheries.	In cooperation with the contractor and the Maritime Authority in each country, the project developer GAZ-SYSTEM S.A. will in due time announce the planned periods of construction activities as well as locations according to national maritime regulations.	The Danish Energy Agency has no further comments on this topic.
5	The Swedish Board of Agriculture has request the project developer GAZ-SYSTEM S.A. to clarify the issue concerning trawlability of the pipeline.	During the operation phase it is likely that relevant authorities will request that safety zones are established along the pipeline. The restrictions may be related to shipping, navigation, extraction, and also certain fishing activities. However, the Project Developer GAZ-SYSTEM S.A. assumes that the pipeline is trawlable (i.e. it is designed and will be constructed in such a way it won't cause any problems for fishing activities), and thus no fishing restrictions will be required. The maximum size of the safety zones has been used as the basis for a scenario assessing the potential impact of the planned project and subsequent consequences. However, practical experience shows that the maximum radius of the safety zone is seldom used whereas zones of 200 m radius are the most common. Nevertheless, the final decision whether to establish a restriction zone or not is the responsibility of the maritime authorities in respectively Sweden, Denmark and Poland.	The Danish Energy Agency has no further comments on this topic.

Responses – Germany

No.	Respons/statement	Answer from Energinet DK/GazSystem	Comments from the Danish Energy Agency
Federal Office of Bundeswehr Infrastructure, Environmental Protection and Services			
1	I would like to point out explicitly that not only the public interest of the safety and security of national and Alliance defence in general is affected, but the project also has a direct effect on the German Navy Headquarters (Marinekommando) as a military agency and its seagoing units as well as on all units of NATO partners and other friendly nations conducting exercises in this area. Therefore, I herewith send you a separate letter containing the objection of the German Navy Headquarters and its seagoing units and of the units of NATO partners and other friendly nations as directly affected agencies.	-	This is noted.
2	Comment on the planned routing of the Baltic Pipe Offshore Pipeline with regard to the possible influence on four NATO submarine diving areas west of Bornholm: Within the Danish and Swedish exclusive economic zones (EEZ), the route of the Baltic Pipe Offshore Pipeline runs directly along four NATO submarine diving areas. There is even a section of 8 km length where the distance is only 550 m. The submarine diving areas which are situated partly in the Danish and in the Swedish and German exclusive economic zones are managed in their entirety and exclusively by the German Navy on behalf of NATO (see contact details below). All year round, they are used regularly by submarines for training and exercise patrols of the German Navy, the NATO partners and other friendly nations in order to give the soldiers the best possible initial, proficiency and deployment training for the accomplishment of their missions and operational tasks. From the point of view of the German Navy, there are no objections against the operation of the high-pressure natural gas pipeline because the Baltic Pipe Offshore Pipeline will not be routed through these areas.	-	This is noted.
3	During the construction phase, however, the establishment of temporary safety zones around the ships supporting the construction operations (so-called pipeline ships) and the safety zones of other ships with restricted maneuverability may lead to restrictions in the eastern part of the NATO submarine diving areas. With regard to the anchor boat, the	The comment has been noted. Please note that the current route of the gas pipeline was also designed according comments reported from the Federal Office of Bundeswehr Infrastructure.	This is noted.

	project developer expects that the safety zone will extend in a radius of 1,000 to 1,500 m around the vessel. In accordance with the project developer's plans, the pipe-laying ship will move along the 8-km long route with a speed of approximately 3 km per day; thus the impact on the NATO submarine diving areas will be restricted to a period of 3 to 4 days. From the point of view of the German Navy, there are no objections against this temporary restriction if an early notification is provided.		
4	Early notification of construction periods and the use of acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment: a. Information on the times when the pipeline along the northern boundary of the NATO submarine diving areas will be installed shall be provided to the German Navy Headquarters as early as possible, ideally 250 days prior to the start of construction works in the respective sections (see contact details below).	The comment has been noted.	The Danish Energy Agency has noted the ideal pre-warning period of 250 days and will advise the developer to inform the German Navy Headquarters as early as possible.
5	b. If - before the activation of the Baltic Pipe Offshore Pipeline - acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment is employed, e.g. by means of an unmanned underwater vehicle (e.g. remotely operated vehicle, autonomous vehicle, glider and floats) or as stationary measuring equipment, in the vicinity of the training areas west of Bornholm, which are under German administration, information on the technical performance data of these instruments, the period of operation and the coordinates of the operating location (including the sections to be examined) shall be provided at an early stage, but not later than 20 working days in advance, to the German Navy Headquarters.	Installation of the Baltic Pipe will require pre-lay surveys prior to installation, a post-lay survey (as build documentation) and frequent control surveys during operation. All surveys are imperative to safe operation of the pipeline. The developer will announce any survey as per required national law to each authority. Surveys inside the NATO training areas are not foreseen.	As part of the conditions in the permit the developer shall make an assessment of the pipeline after it has been laid, including a post-lay survey. The assessment with conclusions shall be submitted for the Danish Energy Agency's approval in terms of whether further seabed intervention works must be performed. The developer shall furthermore submit documentation for the management system for operation, inspection and maintenance of the pipeline before the pipeline can be put into use. The management system shall ensure that operations and conditions are constantly monitored to ensure maintenance of the pipelines' integrity. The management system is re-assessed using a risk-based approach based on the observations made on the pipelines' condition and based on the pipelines' operating conditions.
6	After the activation of the Baltic Pipe Offshore Pipeline, the employment of acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment, e.g. by means of an unmanned underwater vehicle (e.g. remotely operated vehicle, autonomous vehicle, glider and floats) or as stationary measuring equipment, in the vicinity of the training areas west of Bornholm, which are under German administration, shall generally be prohibited.	Please see previous comment No. 5.	Please see previous comment No. 5.
7	If the employment of this measuring equipment is absolutely necessary nevertheless, it shall be coordinated at an early stage with the Navy. Information on the scheduled times when the pipeline along the northern boundary of the NATO submarine diving areas will be	Technically obligatory surveys will be coordinated as per binding law and requirements of national law, which also includes notifying military services.	Technically obligatory surveys are necessary requirements and part of conditions stated in the permit from the Danish Energy Agency. The developer is obliged according to binding law and requirements of national law, to apply for geophysical surveys, which also includes notifying military services.

	installed or acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment will be employed in the vicinity of the training areas west of Bornholm, which are under German administration, shall be directed to the German Navy in Glücksburg.		
8	Handling of the monitoring results provided by the monitoring programmes during the construction and operation phase: According to the Danish draft for the approval of the Baltic Pipe natural gas pipeline, the project developer is obliged to provide monitoring programmes, which collect environmentally relevant data, during the construction and operation phase. The project developer is obliged to publish the environmentally relevant monitoring results acquired during the construction and operation phase. Due to the security considerations of the NATO partners and friendly nations, the monitoring results acquired along the northern border of the submarine diving areas shall not be published unless a mutual agreement on the contents of the publications can be made with me in close cooperation with the German Navy. In this case, it must be ensured that security-relevant, and thus sensitive, military data of the NATO units and the units of friendly nations will not be published.	Comment has been noted.	Gaz-System S.A. must submit the data collected from the construction phase and the operational phase from the vicinity of the military training areas to the Naval Command Denmark. Data from NATO Submarine Practice Areas may not be published or shared with any third party without the permission of the Naval Command Denmark. Gaz-System S.A. must publish results from the monitoring programs when available, but after data has been approved by the Naval Command Denmark. The information to be published relates only to the environmental conditions during the construction- and operation-phase.
9	As a body responsible for public interests, i.e. the interests of national defence and Alliance commitments, I am making - within the framework of the Espoo procedure initiated by the Kingdom of Denmark - the following comments on the Espoo Report prepared by the project developer, GAZ System S.A. - Baltic Pipe Offshore-Pipeline -Approval and Design, and the draft of a Danish approval.	--	This is a statement which does not require a response.
10	1. Comment on the planned routing of the Baltic Pipe Offshore Pipeline with regard to the possible influence on four NATO submarine diving areas west of Bornholm. Within the Danish and Swedish exclusive economic zones (EEZ), the route of the Baltic Pipe Offshore Pipeline runs directly along four NATO submarine diving areas. There is even a section of 8 km length where the distance is only 550 m. The submarine diving areas which are situated partly in the Danish and in the Swedish and German exclusive economic zones are managed in their entirety and exclusively by the German Navy on behalf of NATO (see contact details below).	Comment is noted.	Comment is noted.

	All year round, they are used regularly by submarines for training and exercise patrols of the German Navy, the NATO partners and other friendly nations. From the point of view of the German Navy, there are no objections against the operation of the high-pressure natural gas pipeline because the Baltic Pipe Offshore Pipeline will not be routed through these areas.		
11	During the construction phase, however, the establishment of temporary safety zones around the ships supporting the construction operations (so-called pipeline ships) and the safety zones of other ships with restricted maneuverability may lead to restrictions in the eastern part of the NATO submarine diving areas. With regard to the anchor boat, the project developer expects that the safety zone will extend in a radius of 1,000 to 1,500 m around the vessel. In accordance with the project developer's plans, the pipe-laying ship will move along the 8-km long route with a speed of approximately 3 km per day; thus the impact on the NATO submarine diving areas will be restricted to a period of 3 to 4 days. From the point of view of the German Navy, there are no objections against this temporary restriction if an early notification is provided.	Please see comments in No. 3.	Please see comments in No. 3.
12	Early notification of construction periods and the use of acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment: a. Information on the times when the pipeline along the northern boundary of the NATO submarine diving areas will be installed shall be provided to the German Navy Headquarters as early as possible, ideally 250 days prior to the start of construction works in the respective sections (see contact details below).	Please see comments in No. 4.	Please see comments in No. 4.
13	b. If - before the activation of the Baltic Pipe Offshore Pipeline - acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment is employed, e.g. by means of an unmanned underwater vehicle (e.g. remotely operated vehicle, autonomous vehicle, glider and floats) or as stationary measuring equipment, in the vicinity of the training areas west of Bornholm, which are under German administration, information on the technical performance data of these instruments, the period of operation and the coordinates of the operating location (including the sections to be examined) shall be provided at an early stage, but not later than 20 working days in advance, to the German Navy Headquarters.	Please see comments in No. 5.	Please see comments in No. 5.

14	After the activation of the Baltic Pipe Offshore Pipeline, the employment of acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment, e.g. by means of an unmanned underwater vehicle (e.g. remotely operated vehicle, autonomous vehicle, glider and floats) or as stationary measuring equipment, in the vicinity of the training areas west of Bornholm, which are under German administration, shall generally be prohibited.	Please see comments in No. 5.	Please see comments in No. 5.
15	If the employment of this measuring equipment is absolutely necessary nevertheless, it shall be coordinated at an early stage with the Navy. Information on the scheduled times when the pipeline along the northern boundary of the NATO submarine diving areas will be installed or acoustic, optical, optronic, magnetic-sensory, electrical, electronic, electromagnetic and/or seismic measuring equipment will be employed in the vicinity of the training areas west of Bornholm, which are under German administration, shall be directed to the German Navy in Glücksburg.	Please see comments in No. 7.	Please see comments in No. 7.
16	Handling of the monitoring results provided by the monitoring programmes during the construction and operation phase According to the Danish draft for the approval of the Baltic Pipe natural gas pipeline, the project developer is obliged to provide monitoring programmes, which collect environmentally relevant data, during the construction and operation phase. The project developer is obliged to publish the environmentally relevant monitoring results acquired during the construction and operation phase. Due to the security considerations of the NATO partners and friendly nations, the monitoring results acquired along the northern border of the submarine diving areas shall not be published unless a mutual agreement on the contents of the publications can be made with me in close cooperation with the German Navy. In this case, it must be ensured that security-relevant, and thus sensitive, military data of the NATO and of friendly nations will not be published.	Please see comments in No. 8.	Please see comments in No. 8.

Responses – Poland

No.	Respons/statement	Answer from Energinet DK/GazSystem	Comments from the Danish Energy Agency
General Directorate for Environmental Protection			
1	Should the detonation of explosive materials of military origin be necessary (which is treated as an unplanned event), the Investor committed to design and implement a plan for the disposal of unexploded ordnance (UXO) of maritime origin, including the mitigation plan for marine mammals and the specification of the detailed application mode of the following mitigation actions: •The visual monitoring by observers of marine mammals (MMO) from the vessel (from an appropriate observation platform) in accordance with the methodology specified by the JNCC; •The passive acoustic monitoring (PAM) to supplement the visual monitoring by the observers of marine mammals (MMO), which consists in the monitoring of the distribution of marine mammals by means of a set of hydrophones hauled in the water column and specialist software to process the sounds registered by the hydrophones; •The use of acoustic devices to frighten off seals and harbour porpoises from the construction sites, fishing equipment, etc. The Investor also undertook to adjust the schedule of detonations of unexploded ordnance, unexploded bombs, which were not possible to omit in the design of the route of the pipeline, to the summer period when only specimens of the population of harbour porpoise from the Belt Sea, counting approx. 20000 specimens, would be the only species in the area of impact.	Energinet DK/GazSystem has no further comments on this topic.	It is a condition in the permit that Gaz-System S.A. must comply with the requirements of the Danish Navy in connection with the execution of the project.
2	In view of the aforementioned issues, Poland believes that the investment should be performed first in a way which does not make it necessary to detonate ammunition in the water environment and, if possible, with the use of the following actions, inter alia: the extraction of ammunition/unexploded ordnance from the seabed and the detonation in a safe zone. With the use of such solutions, the potential adverse impact of the detonations on marine mammals will not be significant. To ensure an appropriate level of protection, it is first necessary to analyse the	Preventive actions are the best way to avoid damage on harbor porpoise. This is why the project conducts detailed surveys in order to detect ammunition using up to date survey technology. In addition, the project has the flexibility to fine tune the alignment to avoid removal of ammunition. The Marine Mammals Mitigation Plan (as it is described in chapter 7.3.2 and 9.1.1 of Espoo DK) to be prepared, when removal of ammunition becomes unavoidable, will in cooperation with the competent authorities endeavor all options, also physical removal of ammunition. Removal by detonation is only applied as last solution.	If removal of ammunition becomes unavoidable in Danish territorial waters, the relevant Danish authorities endeavor all options, also physical removal of ammunition. Removal by detonation is only applied as last solution if UXO's determine a thread for safety matters and will be performed in compliance with normal procedure and The Marine Mammals Mitigation Plan (as it is described in chapter 7.3.2 and 9.1.1 of Espoo DK). In matters of possible cross border impacts the relevant authorities in the respective country, will be advertised upon possible detonation.

	possibility to carry out preventive actions and then mitigating and/or compensatory actions.		Furthermore the permit permit will contain conditions regarding that the developer shall prepare a monitoring programme for the construction phase, including in connection with construction activities. The monitoring programme shall include the environmental conditions and be approved by the Danish Energy Agency before construction activities are initiated.
3	Considering the project entitled “The protection of marine mammals and birds and their habitats”, which is implemented jointly by the Prof. Krzysztof Skóra Sea Station of the Institute of Oceanography of the University of Gdańsk and the WWF Foundation Poland, and which indicates that pingers are the most effective deterrent devices for harbour porpoises, we point out the necessity to use these devices in case the denotation must be conducted on site. Furthermore, it is recommended to use air curtains through which compressed air is delivered, which hampers the emission of noise to a large extent.	As stated in the Espoo report (Chapter 7.3.2 and 9.1.1) a Marine Mammals Mitigation Plan will be developed in the case that detonation of unexploded ordnance will be necessary. The MMMP specifies all mitigation measures and ensures cooperation with the responsible authorities. However, we would like to stress that seal scares have been chosen as mitigation measure because of their longer ranging effect compared to pingers. Seal scarers emit a strong signal which is able to deter harbour porpoises in the range of several kilometres. This is why they are commonly applied e.g. for mitigation of pile driving noise in the offshore industry. Pingers are less powerful and are usually applied to deter marine mammals locally around gillnets to reduce bycatch. Their effect range is below one kilometer. Bubble curtains are indeed a powerful tool to reduce underwater noise, widely used for offshore industry and also to mitigate the impact of detonations. Bubble curtains wil be considered as well as mitigation measure.	Please see previous comments in No. 2.
4	The Directorate believes that if the Investor uses an appropriate set of the aforementioned mitigation measures, this will allow to significantly reduce the cross-border impact on marine mammals. Neither is the investment expected to exercise a cross-border impact on the Nature 2000 areas.	The use of mitigation measures (e.g. bubble curtains) for regular pipe installation work (dredging and pipe laying activities, vessel movements) goes much beyond of what is required in the given case. As also mentioned in the Espoo report (Chapter 7.3.2) construction noise does only cause a very local and short time disturbance of very few individuals of habour porpoises, which do experience thousands of similar situations during their movements throughout the year. Harbour porpoises can hear the sound of the vessels from far distance and can easily navigate around the area as soon as the noise becomes too intense. This does not necessarily mean that the animals are losing energy. Harbour porpoises do not migrate following long distance linear lines. Their movements are characterized by steady changes of direction in search of food. Avoiding the construction area therefore does not reduce the probability of finding food significantly. Additional mitigation measures would have no effect.	The Marine Mammals Mitigation Plan (as it is described in chapter 7.3.2 and 9.1.1 of Espoo DK) are in compliance with the Danish Energy Agencies expectations to the developer of this project. In matters of possible cross border impacts the relevant authorities in the respective country, will be advertised in time.
5	However, due to the sensitivity of the water environment and the fast dispersion of pollution Poland requests to monitor the dispersion of sediments to verify the modelling results and to confirm that there will be no adverse impact on ichtyofauna.	It is mentioned in chapter 9.1 of the Espoo report, that the offshore monitoring includes both the sediment spill (water quality/turbidity) and the efficiency of mitigation measures under detonation of ammunition.	It will be a condition for the permit that the developer shall prepare a monitoring programme for the construction phase, including in connection with laying of the pipeline. The monitoring programme shall include the environmental conditions and be approved by the Danish Energy Agency before construction activities are initiated.
6	In view of the nature of the project, Poland points out the necessity to extend the construction monitoring onto the following issues, inter alia: - The dispersion of sediments (the concentration and scope of the distribution of disturbed sediments during the construction of the offshore gas pipeline) to verify and confirm that the concentration of the released compounds from the disturbance of sediments will not be exceeded against the model results and will not impact the condition of waters and biodiversity;	Please see previous comments no. 5.	The permit will contain conditions regarding that the developer shall prepare a monitoring programme for the construction phase, including in connection with laying of the pipeline. The monitoring programme shall include the environmental conditions and be approved by the Danish Energy Agency before construction of the pipeline is begun. Furthermore the developer is required to make an assessment of the pipeline after it has been laid, including a post-lay survey. The assessment with conclusions shall be submitted

	- The efficiency of the applied mitigating and preventive measures for the detonation of ammunition with regard to marine mammals.		for the Danish Energy Agency's approval in terms of whether further seabed intervention works must be performed.
7	Furthermore, I hereby request you to submit the results of the ongoing monitoring to the Regional Director for Environmental Protection in Szczecin and to the General Directorate for Environmental Protection.	The comment has been noted.	It will be a condition for the permit that the developer shall publish the results of the monitoring during the construction and operation phases of the environmental conditions as they become available.
Maritime Office in Szczecin			
8	With regard to the route of the Baltic Pipe gas pipeline, as well as during performance of future construction works, due to the substantial development of maritime infrastructure in the Baltic region, attention should be paid to cumulative impacts arising from the situation of wind farms in this part of the Baltic Sea and from the planned project.	Cumulative impacts with regards to Danish projects (including offshore windparks) are included and assessed in chapter 7.5 of the Espoo report. It is concluded, that cumulative impacts cannot occure, mostly because of the short range of impacts and also short duration. With regards to Swedish and Polish OWPs we refer to the respective Espoo reports.	The comment has been noted and The Danish Energy Agency has no further comments on this topic.
9	It should be noted that the route of the gas pipeline cannot pose a risk to the safety and free flow of ship traffic, since navigation has privileged status in this area. Therefore, realization of the project should not create the risk of collision with watercraft, which may lead to the occurrence of environmental pollution as a consequence. The issue of potential disruptions and threats to navigation should be subjected to detailed analysis during the performance of measuring works, preparatory works, and works related to gas pipeline construction.	Navigational safety during construction phase is one of top priorities and will be coordinated with the authorities in each country. The developer is aware of the potential difficulties in relation to navigation safety. Therefore much effort has been spent to assess the actual risks including those mentioned in the comment. This is documented in chapter 4.5 of the Espoo DK report, which also mentions the mitigation measures necessary to ensure safe navigation during the construction phase.	Navigational safety during construction phase is coordinated with the relevant Danish authorities. It is a condition for the permit that there for all phases of the project, is an emergency response setup established for addressing the consequences of spills of hydrocarbons or other accidental events. Plans for the established emergency response preparedness shall be submitted to the Danish Energy Agency annually.
10	I also indicate that the state administrating the marine waters through which the gas pipeline's segment will run, in this case, Denmark, should make every effort so that the conducted activities do not disrupt safe navigation or restrict the specifications of vessels using current navigation routes.	We fully endorse this statement.	Please see previous comments No. 9.
11	Moreover, for the Polish side, which is taking part in the realization of the Baltic Pipe project through the Polish operator of the gas transmission pipeline system, GAZ-SYSTEM S.A., cooperating with the Danish operator of the natural gas and energy transmission system, ENERGINET, potential restrictions and difficulties in realizing the project due to the planned "intersection of [Baltic Pipe's] route with the existing Nord Stream 1 gas pipeline and also with the planned Nord Stream 2 pipeline" should be significant. With regard to this issue, agreements between the operators of the aforementioned gas pipelines will be important, with respect to both technical issues and for the purposes of ensuring the proper conditions and measures safeguarding the potential impacts of the planned projects on the maritime environment and undertaking joint protective	We fully endorse this statement. Crossing agreements with Nord Stream 1 (and 2) as well as any other linear infrastructure will ensure that the crossings do not create increased risks.	It will be a condition for the permit that the developer shall conclude agreements with the owners of the cable and pipeline installations which are crossed by the projected pipeline. The agreements are for the purpose of ensuring indemnity of the owners as a result of the crossing. The developer shall take out insurance for compensation of damage caused by the activities exercised in accordance with the permit, even if the damage is incidental. Furthermore the developer shall submit design and method choice to the Danish Energy Agency's approval in connection with the crossing of other infrastructure after entering agreements with the owners of the infrastructure to be crossed, but before the construction of the pipeline.

	actions in the event of a failure of any gas pipeline in the vicinity.		During the construction phase and during operation, the pipeline installations are subject to supervision by the Danish authorities. As part of the Danish Energy Agency's supervision of the pipeline, the Danish Energy Agency may at any time request submission of internal and external audits in order to gain insight into the auditing and independent third-party verification performed. For all phases of the project, the developer shall have an emergency response setup established for addressing the consequences of spills of hydrocarbons or other accidental events. Plans for the established emergency response preparedness shall be submitted to the Danish Energy Agency annually.
12	In addition, I propose to expand the provisions given in section 4.7.2. "Risk of unplanned encountering of chemical ammunition" of the Espoo Report with a specification of the procedure for ship crews after surfacing of chemical weapons and to consider additionally equipping ships working on the Baltic Pipe project with decontamination kits for crew members.	The emergency response procedures, including the procedures in case of unplanned encountering of chemical ammunition, are not considered suitable for inclusion in an Espoo report. Nevertheless Gaz-System will ensure that the operational procedures of the contractors working in areas posing risk of interfering with chemical munitions will include handling of possible chemical munitions. This is in line with other emergency response procedures, e.g. procedures for management of spills of oil and chemicals, Medivac procedures and similar.	The relevant authorities are informed of the project to ensure, amongst others that the operational procedures of the contractors working in areas posing risk of interfering with chemical munitions and etc. are handled in compliance with Danish legislation in Danish territorial waters.
Department of Infrastructure at the Ministry of National Defence			
13	Further to the letter concerning the opinion on documentation concerning potential trans-boundary impact on the territory of Poland of the planned project involving construction of the Baltic Pipe pipeline on the Baltic Sea, received from the Danish side under Article 3 of the Espoo Convention, I respectfully inform that the Ministry of National Defence does not report any remarks or motions in the aforementioned matter.	The comment has been noted.	The Danish Energy Agency has noted the comment.