

Case No: 88278  
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Decision No: 040/25/COL

## **EFTA SURVEILLANCE AUTHORITY DECISION**

of 9 April 2025

issuing an opinion on the draft permit to permanently store carbon dioxide on the Aurora field on the Norwegian continental shelf, in accordance with Article 10(1) of Directive 2009/31/EC of 23 April 2009 on the geological storage of carbon dioxide

THE EFTA SURVEILLANCE AUTHORITY,

Having regard to:

the Agreement on the European Economic Area ('the EEA Agreement'),

the Agreement between the EFTA States on the Establishment of a Surveillance Authority and a Court of Justice ('the Surveillance and Court Agreement'), in particular Article 5(2)(b), and

the Act referred to at point 21at of Annex XX to the EEA Agreement:

*Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 ('the CCS Directive'),<sup>1</sup>*

as adapted to the EEA Agreement by Protocol 1 thereto, and in particular Article 10(1) of that Directive.

Whereas:

Article 6(1) of the CCS Directive requires that no carbon dioxide ('CO<sub>2</sub>') storage site is operated without a storage permit.

Article 10(1) of the CCS Directive requires an EEA EFTA State to make the permit applications available to the EFTA Surveillance Authority ('the Authority') within one month after receipt, and to inform the Authority of any draft storage permits.

Article 10(1) of the CCS Directive provides that the Authority may, within four months after receipt of the draft storage permit, issue a non-binding opinion on it.

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<sup>1</sup> OJ L 140, 5.6.2009, p. 114-135, as incorporated into the EEA Agreement at point 21at of Annex XX by the Decision of the EEA Joint Committee No 115/2012 (OJ L 270, 4.10.2012, p. 38 and EEA Supplement No 56, 4.10.2012, p. 39) and which entered into force on 1 June 2013.

Article 10(2) of the CCS Directive requires the competent authority of the EEA EFTA State to notify the final decision to the Authority, and to state its reasons where it departs from the opinion of the Authority.

On 5 January 2023, the Authority received from the Norwegian Environment Agency a copy of the application from Northern Lights JV DA ('Northern Lights') for a CO<sub>2</sub> injection and storage permit in a storage complex located on the Aurora field on the Norwegian continental shelf.

On 16 December 2024, the Authority received from the Norwegian Environment Agency a draft permit for the injection and storage of CO<sub>2</sub> by Northern Lights JV DA ('the Draft Permit').

The Authority's opinion on the Draft Permit is set out in the Annex to the present Decision.

HAS ADOPTED THIS DECISION:

1. The Authority's opinion on the Draft Permit to Northern Lights JV DA is set out in the Annex to this Decision.
2. The Annex forms an integral part of this Decision.
3. This Decision shall be notified to the Norwegian Environment Agency.

Done at Brussels,

For the EFTA Surveillance Authority

Arne Røksund  
President

Stefan Barriga  
College Member

Árni Páll Árnason  
Responsible College Member

Melpo-Menie Joséphidès  
Countersigning as Director,  
Legal and Executive Affairs

*This document has been electronically authenticated by Arne Roeksund, Melpo-Menie Josephides.*

## ANNEX:

### **EFTA Surveillance Authority opinion on the draft permit to permanently store carbon dioxide on the Aurora field on the Norwegian continental shelf, in accordance with Article 10(1) of Directive 2009/31/EC of 23 April 2009 on the geological storage of carbon dioxide**

## **1 The legal framework**

Directive 2009/31/EC of 23 April 2009 on the geological storage of carbon dioxide ('the CCS Directive')<sup>2</sup> entered into force in the European Economic Area ('EEA') Agreement on 1 June 2013. It establishes a legal framework for the environmentally safe geological storage of carbon dioxide ('CO<sub>2</sub>').

The CCS Directive aims to contribute to mitigating climate change and to ensure that carbon capture and storage ('CCS') is deployed in an environmentally safe way.

The CCS Directive requires that no storage site is operated without a storage permit<sup>3</sup> and establishes requirements for the national permitting process and the content of the storage permit.<sup>4</sup>

Pursuant to Article 10(1) of the CCS Directive, the EEA EFTA States are required to make any storage permit applications and draft storage permits, together with relevant material, available to the EFTA Surveillance Authority ('the Authority'), for its review.

The Authority may, within four months after receipt of draft storage permits, issue non-binding opinions on them to ensure consistency in the implementation of the CCS Directive's requirements across the EEA.

If the competent authority departs from the Authority's opinion, Article 10(2) of the CCS Directive requires the competent authority to state its reasons.

The competent authority for issuing CO<sub>2</sub> storage permits in Norway is the Norwegian Environment Agency (the 'Competent Authority').

## **2 The project and national permitting process**

### **2.1 Application for a storage permit**

On 9 December 2022, Northern Lights JV DA ('the Applicant') submitted to the Competent Authority an application ('the Application') for a permit to inject and store CO<sub>2</sub> in a storage site and storage complex located on the Aurora field within licence area EL001,<sup>5</sup> covering

<sup>2</sup> Directive 2009/31/EC of the European Parliament and of the Council of 23 April 2009 on the geological storage of carbon dioxide and amending Council Directive 85/337/EEC, European Parliament and Council Directives 2000/60/EC, 2001/80/EC, 2004/35/EC, 2006/12/EC, 2008/1/EC and Regulation (EC) No 1013/2006 (OJ L 140, 5.6.2009, p. 114-135), as incorporated into the EEA Agreement at point 21at of Annex XX by the Decision of the EEA Joint Committee No 115/2012 (OJ L 270, 4.10.2012, p. 38 and EEA Supplement No 56, 4.10.2012, p. 39) and which entered into force on 1 June 2013.

<sup>3</sup> Article 6 of the CCS Directive.

<sup>4</sup> Articles 7-11 of the CCS Directive.

<sup>5</sup> Refers to the area covered by the licence for exploitation of subsea reservoirs for injection and storage of CO<sub>2</sub> issued to Equinor ASA on 11 January 2019, 'Utnyttelsestillatelse EL001'. Licence

block numbers 31/4, 31/5, 31/7, 31/8 and 31/9 on the Norwegian continental shelf ('the Project').

Following requests by the Competent Authority, the Applicant provided supplementary information in the period of 20 June 2023 to 8 May 2024.<sup>6</sup>

## 2.2 Project description

The Project intends to inject and permanently store CO<sub>2</sub> in the northern part of the North Sea.

The Draft Permit authorises the Applicant to store a total of 37.5 million tonnes ('Mt') of CO<sub>2</sub> over a period of 25 years, based on the storage of 1.5 Mt of CO<sub>2</sub> per year.

The Draft Permit covers the following activities:

- receipt of CO<sub>2</sub> from the terminal referred to as 'Energiparken' in Øygarden via a pipeline;
- injection of CO<sub>2</sub> in the geological formation referred to as the 'Johansen formation' via the primary injection well A-7 AH (60°34'35,13" North, 3°26'36,12" East) and the emergency response well C-1 H (60°30'48,51" North, 3°28'12,11" East);
- storage of CO<sub>2</sub> in the Dunlin and Statfjord groups within the current delineation of the licence area EL001;
- normal operation and maintenance of the injection well A-7 AH and the emergency response well C-1 H.

The Draft Permit authorises the injection and storage of CO<sub>2</sub> and associated substances from the production process at the capture facilities delivering CO<sub>2</sub> to Northern Lights.<sup>7</sup> The Draft Permit sets a minimum content requirement of 96 per cent CO<sub>2</sub> and defines limit values for certain associated substances (water (H<sub>2</sub>O), oxygen (O<sub>2</sub>), sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), and hydrogen sulphide (H<sub>2</sub>S)), as described in Section 4.1.6 of this opinion.

## 3 Review by the Authority

On 5 January 2023, the Competent Authority submitted to the Authority the Application for the injection and permanent storage of CO<sub>2</sub> on the Aurora field.<sup>8</sup>

The Authority met with the Competent Authority to discuss the Application on several occasions.<sup>9</sup>

On 22 March 2024, the Competent Authority submitted to the Authority part of the draft permit ('preliminary Draft Permit'), covering the technical aspects.<sup>10</sup>

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area EL001 covers an area of 1406.7 km<sup>2</sup> in blocks 31/4, 31/5, 31/7, 31/8 and 31/9 of the Norwegian continental shelf.

<sup>6</sup> Section 2.2 of the Draft Administrative Decision.

<sup>7</sup> Section 3.3 of the Draft Permit.

<sup>8</sup> The Competent Authority sent further documents to the Authority on 17 February 2023, 24 April 2023, 28 June 2023, 6 December 2023 and 12 January 2024.

<sup>9</sup> In 2023, the Authority and the Competent Authority met on 25 April, 26 October, 15 November and 15 December. On 18 March 2024, the Authority visited the receiving terminal in Øygarden and met with the Competent Authority and the Applicant to exchange on the Application.

<sup>10</sup> Requirements of the CCS Directive relative to financial security (Articles 9(9), 19 and 20 of the CCS Directive) were not covered by the preliminary Draft Permit received on 22 March 2024.

On 6 June 2024, the Competent Authority submitted supplementary material containing assessments from relevant national authorities.<sup>11</sup>

On 16 December 2024, the Competent Authority submitted to the Authority the complete draft permit, including the requirements on financial security ('the Draft Permit'). The Draft Permit is annexed to a draft administrative decision containing the Competent Authority's assessment and basis for the requirements set out in the Draft Permit ('the Draft Administrative Decision'). The Competent Authority also submitted a monitoring plan, a corrective measures plan and a provisional post-closure plan, which the Competent Authority proposes to approve as part of the permit. In addition, the Competent Authority submitted a draft supplementary declaration to the parent/affiliated company guarantees as an appendix to the Draft Permit.

On 20 December 2024<sup>12</sup> and 4 February 2025,<sup>13</sup> the Competent Authority submitted supplementary material, including an instruction from the Norwegian Ministry of Climate and Environment concerning conditions for financial security.

The Authority met with the Competent Authority to discuss the Draft Permit on several occasions.<sup>14</sup>

In order to ensure a homogeneous approach concerning CO<sub>2</sub> storage permits within the EEA, the Authority took into account during its review, insofar as relevant, the European Commission's ('the Commission') non-binding guidance documents on the implementation of the CCS Directive.<sup>15</sup>

## 4 Opinion

The Draft Permit, the Draft Administrative Decision, the Application and supporting documents provided by the Competent Authority constitute the basis for the Authority's review and this opinion.

<sup>11</sup> Letter from the Norwegian Ocean Industry Agency dated 30 January 2024 '*Faglig bistand fra Havtil ved vurdering av søknad fra Northern Lights om tillatelse til injeksjon og lagring av CO<sub>2</sub>*' ('Assessment by the Norwegian Ocean Industry Agency') and a memo from the Norwegian Offshore Directorate of 13 February 2024 '*Søknad om injeksjonstillatelse*' ('Assessment by the Norwegian Offshore Directorate').

<sup>12</sup> Instruction from the Ministry of Climate and Environment to the Norwegian Environment Agency regarding conditions for financial security dated 25 October 2024 '*Instruks til Miljødirektoratet - Vilkår om finansiell sikkerhetsstillelse i utkast til injeksjons- og lagringstillatelse for Northern Lights JV DA*'.

<sup>13</sup> Exploitation licence for EL001 dated 11 January 2019 '*Utnyttelsestillatelse EL001*', EL001 Northern Lights Plan for development, installation and operation – Part 1 – Main document dated April 2020 '*Plan for utbygging, anlegg og drift – Del I – Hoveddokument*', and State Support Agreement of 5 March 2021 '*Tilskuddsavtale*'.

<sup>14</sup> The Authority and the Competent Authority met on 18 October 2024, 4 December 2024, 27 January 2025, 6 February 2025 and 13 February 2025. On 5 February 2025 the Authority met with the Competent Authority, the Norwegian Ministry of Energy, the Norwegian Ministry of Climate and Environment and the Norwegian Offshore Directorate. On 25 February 2025 the Authority met with the Competent Authority, the Norwegian Ministry of Energy and the Norwegian Ministry of Climate and Environment.

<sup>15</sup> In July 2024, the Commission issued revised guidance documents to the CCS Directive on '*CO<sub>2</sub> Storage Life Cycle and Risk Management Framework*' (guidance document 1); '*Characterisation of the Storage Complex, CO<sub>2</sub> Stream Composition, Monitoring and Corrective Measures*' (guidance document 2); '*Criteria for Transfer of Responsibility to the Competent Authority*' (guidance document 3) and '*Financial Security and Financial Contribution*' (guidance document 4). The guidance documents can be found here: [https://climate.ec.europa.eu/eu-action/industrial-carbon-management/designing-and-implementing-industrial-carbon-management-projects\\_en#paragraph-3536-1-title](https://climate.ec.europa.eu/eu-action/industrial-carbon-management/designing-and-implementing-industrial-carbon-management-projects_en#paragraph-3536-1-title)

Overall, the Authority finds that the technical part of the Draft Permit is well documented and complies with the requirements of Article 9 of the CCS Directive. On the delimitation of the storage complex with regard to Article 3(6) of the CCS Directive, and on the financial security requirements under Articles 19 and 20 of the CCS Directive, the Authority sets out its considerations below and invites the Competent Authority to address them in its final permit.

## 4.1 Technical requirements

### 4.1.1 Suitability of the storage site and storage complex

The Authority considers that the information provided in the Application, Draft Permit, Draft Administrative Decision and supplementary information adequately documents the suitability of the storage site and storage complex for permanent geological storage of CO<sub>2</sub> from a technical point of view.

The Authority refers in this context to the detailed characterisation and assessment of the storage site and storage complex in the Application, including static, dynamic, fracture, geochemical and well performance modelling. Pursuant to the information provided, the proposed storage site has been the subject of significant data gathering, including an extensive database of seismic data and data acquired from the two newly drilled wells to be used for injection and contingency purposes. The Authority takes note of the Competent Authority's conclusion that the geological formations at the Aurora field are considered to be suitable as a storage location.<sup>16</sup>

In its assessment, the Competent Authority emphasises that the storage site has sufficient capacity, the permeability of the formations seems adequate (indicating that no significant pressure build-up is expected), the caprock appears to constitute a reliable barrier to prevent upward migration, and the probability of leakages from the seabed via faults, cracks and abandoned wells is low. The Competent Authority also relied upon assessments of the suitability of the storage site and storage complex by the Norwegian Offshore Directorate<sup>17</sup> and the Norwegian Ministry of Energy.<sup>18</sup>

### 4.1.2 Delimitation of the storage site and storage complex

The Draft Permit defines the storage site and storage complex, including their precise location and delimitation.<sup>19</sup> Pursuant to the Draft Permit, the storage site and storage complex are located on the Aurora field within licence area EL001.

The *lateral* boundaries of the storage site and storage complex coincide with the boundaries of the licence area EL001 covering block numbers 31/4, 31/5, 31/7, 31/8 and 31/9 on the Norwegian continental shelf.<sup>20</sup> The geological formation in which the storage site is located extends beyond the licence area EL001, and thus beyond the boundaries of the storage site and storage complex for the Project.

<sup>16</sup> Section 3.1.1 of the Draft Administrative Decision.

<sup>17</sup> Assessment by the Norwegian Offshore Directorate.

<sup>18</sup> Assessment made in connection with the Ministry of Energy's approval of the Plan for development, installation and operation.

<sup>19</sup> The license boundaries are indicated by coordinates in Section 2 of the Draft Permit and stated in the Norwegian Offshore Directorate's FactMaps:

[https://factmaps.sodir.no/factmaps/3\\_0/?run=EXLByNPDID&NPDID=34751726](https://factmaps.sodir.no/factmaps/3_0/?run=EXLByNPDID&NPDID=34751726).

<sup>20</sup> The parts of the blocks included in the licence are delimited by the following corner coordinates: 60°40'N 3°17'E, 60°40'N 3°36'E, 60°30'N 3°36'E, 60°30'N 3°51'E, 60°28'N 3°51'E, 60°28'N 3°56'E, 60°30'N 3°56'E, 60°30'N 4°00'E, 60°15'N 4°00'E, 60°15'N 3°17'E.

The Draft Permit describes the *vertical* delimitation of the geological formation into which the CO<sub>2</sub> will be injected. Storage will primarily take place in the Dunlin Group, in the geological formation referred to as the 'Cook formation' and possibly in the Johansen formation. Since some CO<sub>2</sub> also has the potential to migrate downwards into the underlying Statfjord group, the Statfjord group has been included in the storage complex.<sup>21</sup> Pursuant to the Draft Administrative Decision, these geological formations are located at 2.600-2.700 meters below the seabed.<sup>22</sup> The overlying shale formation (referred to as the 'Drake formation') is described as the primary geological barrier to ensure that the CO<sub>2</sub> does not migrate vertically from the seabed.

The Authority notes from the Draft Permit that "*Storage of CO<sub>2</sub> outside EL001 (...) is not covered by the permit*".<sup>23</sup> In this context, the Authority notes that the information provided in the Application and the Draft Administrative Decision suggests that CO<sub>2</sub> is anticipated to migrate laterally out of the delimitation of the storage complex, as drawn up in the Draft Permit, at some point in time.<sup>24</sup>

The Draft Administrative Decision explains that such CO<sub>2</sub> migration is anticipated because the geological structures in licence area EL001 slope slightly upwards to the north, and injected CO<sub>2</sub>, which has a lower specific gravity than the formation water, will over time move northwards towards a structural trap approximately 400 metres below producing reservoirs on the Troll West hydrocarbon production field ('the Troll West field').<sup>25</sup>

The Authority recalls, in this regard, that the purpose of the CCS Directive, reflected under its Article 1, is the "*permanent containment of CO<sub>2</sub>, in such a way as to prevent and, where this is not possible, eliminate as far as possible negative effects and any risk to the environment and human health*". The storage complex is defined by Article 3(6) of the CCS Directive as "*the storage site and surrounding geological domain which can have an effect on overall storage integrity and security*" and referred to as the "*secondary containment formations*". Accordingly, the storage complex should have the suitable properties to contain the injected CO<sub>2</sub>. In this context, the Authority takes note of the revised Commission guidance document stating that in practical terms the storage complex "*must include the volume where a CO<sub>2</sub> plume may be present*".<sup>26</sup>

Based on the above, the Authority invites the Competent Authority to clarify its considerations for the lateral delimitation of the storage complex in the Draft Permit, and to ensure that this delimitation of the storage complex is coherent with the CCS Directive's definition and the objective of permanent containment of CO<sub>2</sub>, in such a way as to prevent and, where this is not possible, eliminate as far as possible negative effects and any risk to the environment and human health, and to ensure legal certainty for the operator of the storage site ('the Storage Operator').<sup>27</sup>

In the Authority's view, should the Competent Authority consider that the CO<sub>2</sub> plume<sup>28</sup> is expected to migrate out of the delimitation of the storage complex, as currently defined in the Draft Permit, the northern boundary of the storage complex should be expanded in the

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<sup>21</sup> Section 2.1 of the Draft Administrative Decision.

<sup>22</sup> Section 2 of the Draft Administrative Decision.

<sup>23</sup> Section 2 of the Draft Permit.

<sup>24</sup> Sections 4.5.1, 4.5.2 and 8.3.6 of the Application and Section 3.1.2 of the Draft Administrative Decision.

<sup>25</sup> Section 3.1.2 of the Draft Administrative Decision.

<sup>26</sup> Guidance document 1, page 13.

<sup>27</sup> Article 3(10) of the CCS Directive.

<sup>28</sup> Article 3(15) of the CCS Directive reads "*CO<sub>2</sub> plume' means the dispersing volume of CO<sub>2</sub> in the geological formation*".

final permit to include all areas where the CO<sub>2</sub> plume could be present in the future, including before and after 2054.<sup>29</sup>

The Authority notes that the delimitation of the storage complex is a prerequisite to ensure legal certainty for the Storage Operator, including with regard to the boundaries of its installation under the ETS Directive,<sup>30</sup> which will be based on the delimitation of the storage complex and determine the Storage Operator's responsibility to monitor the injected CO<sub>2</sub> and report/surrender allowances for any potential leaks.<sup>31</sup> A migration of the CO<sub>2</sub> plume out of the storage complex and its monitoring boundaries could constitute an emission and require the surrender of allowances in accordance with the ETS Directive.<sup>32</sup>

#### 4.1.3 Injection period, injection rates and pressure limits

The Authority finds that the requirements of the Draft Permit concerning the total quantity of CO<sub>2</sub> to be injected,<sup>33</sup> the maximum period of injection,<sup>34</sup> the maximum injection rates,<sup>35</sup> the reservoir pressure limits<sup>36</sup> and the minimum<sup>37</sup> and maximum<sup>38</sup> pressures at the well heads are reasonable.

These requirements are based on comprehensive and detailed reservoir and well-modelling presented in the Application. Pursuant to the information provided, these requirements aim to ensure that the CO<sub>2</sub> remains in liquid form during injection and to avoid any fracturing of the overlying shale formation acting as the geological barrier against leakage. Pursuant to the Draft Administrative Decision, the amount of CO<sub>2</sub> that can be injected is limited by pressure conditions and migration rate of CO<sub>2</sub>, rather than by the total capacity of the storage site.<sup>39</sup>

#### 4.1.4 Risks of leakage

<sup>29</sup> See for example Section 4.5.1, Section 4.5.2 and Figures 17 c) and 18 c) of the Application and Section 5.1 of the plan for corrective measures.

<sup>30</sup> Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p. 32), as amended and as incorporated into the EEA Agreement at point 21a) of Annex XX by the Decision of the EEA Joint Committee No 146/2007 (OJ L 100, 10.4.2008, p. 92 and EEA Supplement No 19, 10.4.2008, p. 90) ('ETS Directive').

<sup>31</sup> Annex IV Section 23 of Commission Implementing Regulation (EU) 2018/2066 of 19 December 2018 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 601/2012 (OJ L 334, 31.12.2018, p. 1), as amended and as incorporated into the EEA Agreement at point 21apj by Decision No 320/2019 (OJ L 68, 5.3.2020, p. 77 and EEA Supplement No 14, 5.3.2020, p. 85).

<sup>32</sup> Article 3(b) of the ETS Directive.

<sup>33</sup> The maximum permissible volume of CO<sub>2</sub> to be stored is 37.5 Mt (Section 1 of the Draft Permit).

<sup>34</sup> The period of injection of CO<sub>2</sub> is set to a maximum of 25 years, running from the time Northern Lights JV DA receives the first delivery of CO<sub>2</sub> from a full-scale capture facility on land (Section 1 of the Draft Permit).

<sup>35</sup> The maximum injection rate is 4,920 tonnes CO<sub>2</sub>/day and 1.5 Mt CO<sub>2</sub>/year (Section 3.1 of the Draft Permit).

<sup>36</sup> The reservoir pressure limit for the primary injection well A-7 AH is 388 bara v/2606 m True Vertical Depth at Mean Sea Level ('TVD/MSL') and for the emergency response well C-1H 405 bara v/2721 m TVD/MSL (Section 3.2 of the Draft Permit).

<sup>37</sup> The minimum wellhead pressure of the two injection wells is 47 bar (Section 3.2 of the Draft Permit).

<sup>38</sup> The maximum wellhead pressure of the two injection wells is 165 bar (Section 3.2 of the Draft Permit).

<sup>39</sup> Section 3.1.1 of the Draft Administrative Decision.



Pursuant to Article 4(4) of the CCS Directive, a geological formation “*shall only be selected as a storage site, if under the proposed conditions of use there is no significant risk of leakage, and if no significant environmental or health risks exist*”.

In this context, the Authority notes that it is upon the Competent Authority to assess the risk of leakage of CO<sub>2</sub> (meaning “*any release of CO<sub>2</sub> from the storage complex*”<sup>40</sup>) and the risks to the environment and health. The assessment must consider whether there is a significant risk, defined in Article 3(18) of the CCS Directive as “*a combination of a probability of occurrence of damage and a magnitude of damage that cannot be disregarded without calling into question the purpose of this Directive for the storage site concerned*”.

The Authority notes that for the overall Project, a detailed risk assessment has been conducted as part of the Application. It also notes that the Competent Authority has assessed the risks based on the information provided by the Applicant, and input from other relevant national authorities.<sup>41</sup> On this basis, the Competent Authority considers that the Project entails no significant risk of leakage.<sup>42</sup>

The Authority raises the following observations with regard to the risks of vertical and lateral leakages.

Concerning the risk of leakage of stored CO<sub>2</sub> from the seabed through wells, and the risk of *vertical* leakage of CO<sub>2</sub> from the storage complex, the latter referring to an upwards migration of CO<sub>2</sub> through the caprock or boreholes, the Authority acknowledges that the Application and the Draft Administrative Decision suggest that these risks have a low likelihood and that the possible environmental consequences are not considered significant.

Concerning the risks of *lateral* leakage of CO<sub>2</sub> below the seabed, due to sideways migration of CO<sub>2</sub> from the storage complex, the Authority notes, as described in Section 4.1.2 above, that the Application and the Draft Administrative Decision suggest that CO<sub>2</sub> is anticipated to migrate out of the lateral delimitation of the storage complex at some point in time.<sup>43</sup> The Applicant has undertaken reservoir simulation modelling of the lateral migration of CO<sub>2</sub> on short, medium and long terms.<sup>44</sup>

The Authority acknowledges that this identified risk of *lateral* leakage has been taken into account for the design of the project, as the amount of CO<sub>2</sub> that is permitted is limited by pressure conditions and migration rate of CO<sub>2</sub>, rather than by the total capacity of the storage site (as noted above in Section 4.1.3).<sup>45</sup> The Authority notes, in this regard, that the Draft Permit, the monitoring plan and the plan for corrective measures reflect measures aimed at monitoring, and if needed, reducing the lateral migration of CO<sub>2</sub> (see Sections 4.1.7 and 4.1.8 for further details). The Authority however understands that these measures will not in themselves stop the lateral migration and possible leakage of injected CO<sub>2</sub> from the storage complex.

The Authority invites the Competent Authority to clarify how the risk of lateral leakage of CO<sub>2</sub> has been assessed, its probability and its impact, with reference to Article 4(4) of the CCS Directive.

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<sup>40</sup> Article 3(5) of the CCS Directive.

<sup>41</sup> Assessment by the Norwegian Ocean Industry Agency and Assessment by the Norwegian Offshore Directorate. Sections 3.1.1 and 3.1.2 of the Draft Administrative Decision.

<sup>42</sup> Section 3.1.2 of the Draft Administrative Decision.

<sup>43</sup> Sections 4.5.1, 4.5.2 and 8.3.6 of the Application and Section 3.1.2 of the Draft Administrative Decision and Section 3.1.2 of the Draft Administrative Decision.

<sup>44</sup> Section 3.1.1 of the Draft Administrative Decision.

<sup>45</sup> Section 3.1.1 of the Draft Administrative Decision.

In the Authority's view, should the Competent Authority consider that there is a significant risk of lateral leakage of CO<sub>2</sub> below the seabed but from the storage complex, even if no environmental impacts are likely, it should amend the delimitation of the northern boundary of the storage complex in the final permit to ensure legal certainty for the Storage Operator with regard to the boundaries of its ETS installation. This is a prerequisite to minimise as much as possible that leakages below the seabed from the storage complex would have to be quantified to surrender emissions trading allowances in accordance with the ETS Directive.

For the sake of completeness, the Authority notes that Article 11(3) of the CCS Directive requires the Competent Authority to *“review and where necessary update or, as a last resort, withdraw the storage permit (...) if it has been notified or made aware of any leakages or significant irregularities”*. Consequently, legal certainty about the boundaries of the storage complex is key to fulfil obligations under the CCS Directive as well as the ETS Directive, including for reporting purposes to ensure that any leakages can be reliably monitored and quantified if and when they occur.

#### 4.1.5 Interaction with other storage sites

The Authority notes from the Draft Administrative Decision that there are currently no other CO<sub>2</sub> storage sites being utilised in the area in question, which could be affected by the storage operations at the proposed location. This satisfies the condition in Article 8(1)(c) of the CCS Directive in terms of hydraulic or pressure interactions between adjacent sites.

The Authority notes that the Competent Authority mentions that two new exploration licences were awarded for storage of CO<sub>2</sub> in the neighbouring blocks east and west of EL001 in 2022, and that it cannot be ruled out that this may become a relevant topic in the future.<sup>46</sup>

#### 4.1.6 CO<sub>2</sub> stream

Article 12 of the CCS Directive provides for CO<sub>2</sub> stream acceptance criteria and procedure. It requires the CO<sub>2</sub> stream to consist *“overwhelmingly of carbon dioxide”* and that *“no waste or other matter may be added for the purpose of disposing of that waste or other matter”*. Article 12 addresses the acceptance of non-CO<sub>2</sub> constituents in the CO<sub>2</sub> stream, and states that *“[a] CO<sub>2</sub> stream may contain incidental associated substances from the source, capture or injection process and trace substances added to assist in monitoring and verifying CO<sub>2</sub> migration”*, provided that these do not *“adversely affect the integrity of the storage site or the relevant transport infrastructure or pose a significant risk to the environment or human health”*.

Article 12 of the CCS Directive requires an assessment by the Competent Authority and the Applicant, specific to the site considered for a permit, the natural surroundings around the storage site and specific to the technology and CO<sub>2</sub> source.

Pursuant to the Draft Permit, the CO<sub>2</sub> stream injected into the storage site must contain at least 96 per cent of CO<sub>2</sub> on a molecular weight basis, and as an average value over one calendar year. The CO<sub>2</sub> stream must not contain substances other than those originating from the production process at the capture facilities delivering CO<sub>2</sub> to Northern Lights and small amounts of sealant that can leak into the CO<sub>2</sub> stream from the export pumps at the onshore injection facility in Energiparken in Øygarden.

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<sup>46</sup> Section 3.1.4 of the Draft Administrative Decision.

The Draft Permit defines limit values for the maximum content of certain associated substances in the CO<sub>2</sub> stream, expressed on a molecular weight basis and as average values over one calendar year: 30 ppm for water (H<sub>2</sub>O), 10 ppm for oxygen (O<sub>2</sub>), 10 ppm for sulphur oxides (SO<sub>x</sub>), 10 ppm for nitrogen oxides (NO<sub>x</sub>), and 9 ppm for hydrogen sulphide (H<sub>2</sub>S). The Draft Permit also sets a limit value for the leakage into the CO<sub>2</sub> stream of the pump sealant (Kleberfluid NH1 4-005) to be used, which must not exceed 500 kg/year.<sup>47</sup>

Pursuant to the Draft Permit, the addition of waste or other material to the CO<sub>2</sub> stream with the purpose of removing it is not permitted, and the Draft Permit does not include the addition of trace elements to the CO<sub>2</sub> stream for the purpose of monitoring CO<sub>2</sub> plume migration.<sup>48</sup>

The Competent Authority has considered, inter alia, the following for its assessment of the CO<sub>2</sub> stream requirements:<sup>49</sup>

- comparability with the 96 per cent CO<sub>2</sub> content requirement in permits for injection and storage of CO<sub>2</sub> on the Sleipner and Snøhvit fields;
- the assumption that it will be possible to achieve at least 96 per cent purity at the capture plants that will deliver CO<sub>2</sub> to the Project;
- that such a high purity will help to ensure that the CO<sub>2</sub> flow has predictable properties and does not adversely affect the infrastructure and geological formations in the storage site;
- based on the information provided by the Applicant, limit values are set for components with inherent properties that can have a negative impact on the integrity of pipelines and injection facilities in excessive concentrations;
- those limit values are based on the acceptance criteria established by the Applicant for the reception of CO<sub>2</sub> at the onshore facility to avoid, inter alia, corrosion risk and risk of hydrate formation;
- no limit values are set for other accidentally included substances, which are assumed to not pose any significant risk of harm to the environment or human health or have the potential to damage the storage site or the associated transport infrastructure;
- the assessment for other accidentally included substances is based on general knowledge about the intrinsic properties of relevant substances in low concentrations, and that storage will take place in deep geological structures where the risk of leakage is very low;
- the content of other substances will nevertheless be limited by the requirement that the stream must contain at least 96 per cent of CO<sub>2</sub>, and be subject to monitoring, analyses and documentation by the Applicant of the CO<sub>2</sub> stream received at the onshore terminal as required by the permit;
- a specific risk assessment for all individual components that may conceivably be present in the CO<sub>2</sub> streams to be delivered from different capture facilities is neither considered realistic nor needed to comply with Article 12(3)(a) of the CCS Directive, as long as the risk assessment describes the risk as a whole and the requirements of the permit and the Applicant's acceptance criteria are complied with.

The Authority takes note of the site-specific assessment made by the Competent Authority. For transparency, and with reference to the Commission Guidance document 2 stating that

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<sup>47</sup> Pursuant to Section 3.3.3 of the Draft Administrative Decision, the sealant is easily soluble in liquid CO<sub>2</sub>. The risk of accumulation in piping systems downstream of the pumps is therefore considered very low, and there is no reason to believe that the sealant will have negative impact on the subsea geological formations. To ensure focus on good operation of the pumps and limit any increase in leakage over time, a limit for permitted leakage is set at 500 kg/year.

<sup>48</sup> Section 3.3 of the Draft Permit.

<sup>49</sup> Section 3.3.3 of the Draft Administrative Decision.

*“competent authorities must assess the trade-off between the cost of additional CO<sub>2</sub> stream purification, and the cost of managing risks to human health, the environment, storage sites and transport infrastructure”,* the Authority invites the Competent Authority to clarify its assessment in this regard.

The Authority also welcomes that the Draft Permit requires the Applicant to provide documentation that the requirements for the composition of CO<sub>2</sub> stream are complied with, and to provide such documentation in the annual reports to the Competent Authority.<sup>50</sup> Moreover, the Draft Permit requires the Applicant to notify the Competent Authority as soon as possible if measurements or analyses show that the CO<sub>2</sub> stream contains other substances in concentrations with the potential to damage the integrity of the storage site or the associated transport infrastructure or pose a significant risk of harm to the environment or human health.

The Authority finally welcomes the condition in the Draft Permit that the Competent Authority may change the requirements for the composition of the CO<sub>2</sub> stream if deemed necessary due to the risk of damage to the storage site or the associated transport infrastructure or pose a significant risk of damage to the environment or human health.<sup>51</sup>

#### 4.1.7 Monitoring

The Authority considers that the monitoring plan, to be approved as part of the permit, and the condition in the Draft Permit to implement it and to update it every five years,<sup>52</sup> pursuant to the requirement in Section 35-9 of the Norwegian Pollution Control Regulations,<sup>53</sup> comply with Articles 9(5) and 13(2) of the CCS Directive.

The Draft Permit<sup>54</sup> and the monitoring plan include a requirement to establish and regularly update a reservoir simulation model to track the evolution of the CO<sub>2</sub> plume, based on seismic and pressure information collected as part of the required monitoring. Furthermore, the monitoring plan includes requirements for continuous monitoring of the pressure and temperature at the wells, periodic investigations of the well integrity and injectivity and seismic surveys at regular intervals before the total stored volume of CO<sub>2</sub> exceeds 5, 15, 25 and 37.5 Mt of CO<sub>2</sub>, respectively, and once during the post operational period.

With regard to the risk of *vertical* leakage of CO<sub>2</sub> from the seabed, for which the wellbores are identified by the Applicant as the primary leakage pathway, the monitoring plan refers to various monitoring tools including area wide seabed bubble detection surveys and subsea wellhead and pipeline surveys using robotic vehicles.

With regard to the risk of *lateral* leakage of CO<sub>2</sub> below the seabed, the monitoring plan includes principally 3D time lapse seismic surveys and updated reservoir models, taking account of injection pressures, rates, volumes and temperatures. These data will be used to generate predictive models for the longer-term migration of the CO<sub>2</sub> plume (i.e., beyond the 25-year operational period). Presently, the assessments of the long-term migration rates and pathways of the injected CO<sub>2</sub> rely on pre-injection seismic data and data from two wellbores.

#### 4.1.8 Corrective measures

<sup>50</sup> Section 8 of the Draft Permit.

<sup>51</sup> Section 3.3 of the Draft Permit.

<sup>52</sup> Section 4.5 of the Draft Permit. The Competent Authority may require an update of the monitoring plan more often if this is necessary in connection with the approval of new financial security.

<sup>53</sup> 'Forskrift om begrensning av forurensning' (FOR-2004-06-01-931).

<sup>54</sup> Section 4.2 of the Draft Permit.

The corrective measures plan, which the Competent Authority proposes to approve as part of the permit, reflects measures to address leakages or significant irregularities.

The Authority notes that some of the preventive and/or corrective measures reflected in the said plan are subsea inspection and safety operations, additional seismic surveys, and extending the licence area to the north or even potentially vertically into the overlying Brent and Viking Group sandstone.

More specifically, in relation to the lateral migration of the CO<sub>2</sub> plume and the potential for leakage across the northern boundary of the storage complex (see Section 4.1.2 above), the main measures are:

- Assessing migration through monitoring and modelling;
- Reducing or stopping injection;
- Moving the injection to the contingency well some 7 km to the south

The Authority notes, based on explanations provided by relevant national authorities in meetings with the Authority, that these measures will provide real data upon which to make an assessment of the risk of leakage across the northern boundary of the storage complex and could reduce or slow the rate of migration of the CO<sub>2</sub> plume. The Authority understands that they will not in themselves stop the lateral migration of injected CO<sub>2</sub> and possible leakage of the CO<sub>2</sub> plume to the north of the storage complex. The Authority refers to its observations in Section 4.1.2 in this regard.

The Draft Permit requires the Applicant to provide to the Competent Authority signed agreements with third parties concerning the necessary assistance and/or resources for preparedness and corrective measures at least two months prior to the start of injection.

The Authority takes note of the obligation in the Draft Permit for the Applicant to immediately notify the Competent Authority in the event of leakages or significant irregularities and to implement the necessary corrective measures pursuant to the corrective measures plan. This is in line with the requirements of Article 9(6) of the CCS Directive. The Authority also takes note of the obligation in the Draft Permit for the Competent Authority to consider amendments or revocations if it has been notified or made aware of any leakages or significant irregularities, which reflects the requirement of Article 11(3) of the CCS Directive.<sup>55</sup>

#### *4.1.9 Closure of the site*

The Authority finds that the Draft Permit's<sup>56</sup> provisions on the closure of the storage site satisfy the requirements of Articles 9(7) and 17 of the CCS Directive. The Draft Permit requires closure of the storage site at the latest when the maximum permitted amount of CO<sub>2</sub> has been injected or when the end of the injection period is reached. The Applicant is to notify the Competent Authority in writing at least one year prior to the planned closure of the site and submit a proposed final post-closure plan for approval by the Competent Authority.

#### *4.1.10 Post closure*

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<sup>55</sup> Section 10 of the Draft Permit, pursuant to section 35-7 second paragraph of the Norwegian Pollution Control Regulations.

<sup>56</sup> Section 6.2 of the Draft Permit.

Pursuant to the Draft Permit,<sup>57</sup> the Applicant is to ensure that the post-closure operations are undertaken in line with the approved post-closure plan and that post-closure monitoring is undertaken in accordance with the monitoring plan.

The Authority considers that the provisional post-closure plan, to be approved as part of the permit, complies with the requirements of Articles 9(7) and 17 of the CCS Directive. The provisional post-closure plan requires the full decommissioning and removal of all injection facilities, including the plugging of wells and safe disposal of equipment involved in the process. Furthermore, it includes the requirement of a seismic survey to confirm the movement and disposition of the CO<sub>2</sub> plume and its conformance with the models.

Article 18(1)(b) of the CCS Directive requires the post-closure operations and monitoring to take place for a minimum period of 20 years, unless the Competent Authority finds it evidenced that the stored CO<sub>2</sub> is completely and permanently contained before the end of that period. The Draft Permit refers to Section 35-14 of the Norwegian Pollution Control Regulation, which states that the Ministry for Energy determines the conditions for the transfer of responsibility. The Authority notes that the provisional post-closure plan refers to Section 5-8, first subsection, of the Norwegian Storage Regulation,<sup>58</sup> which reflects the requirement of Article 18(1)(b) of the CCS Directive, including the minimum period of 20 years referred to above. For the sake of clarity, the Authority invites the Competent Authority to also include a reference to Section 5-8, first subsection, of the Norwegian Storage Regulation in the final permit.

#### 4.1.11 Operator of the site

Finally, the Authority takes note of the assessment by the Competent Authority pursuant to Article 8(1)(b) of the CCS Directive concluding that the Applicant is considered to be technically competent and reliable to operate and control the site. The Competent Authority considers that the Applicant has the required expertise in reservoir geology, geophysics, well technology and well operations and experience in operating CO<sub>2</sub> injection and storage offshore as an operator on the Sleipner and Snøhvit fields. The Competent Authority notes additionally previous assessments undertaken by the Ministry of Energy in relation to issuing other permits for this Project,<sup>59</sup> coming to the same conclusion.

The Draft Permit also includes a condition that personnel involved in the operation of the facilities covered by the permit must have the necessary professional and technical expertise and receive adequate training, pursuant to Section 35-4, third paragraph (d) of the Norwegian Pollution Control Regulation, which reflects the requirement of Article 8(1)(b) of the CCS Directive.<sup>60</sup>

## 4.2 Environmental requirements

The Authority acknowledges the environmental impact assessment ('EIA') undertaken by the Applicant as part of the plan for development, installation and operation approved by the Norwegian Ministry of Energy,<sup>61</sup> and the assessment and conclusion of the Competent

<sup>57</sup> Section 6.3 of the Draft Permit.

<sup>58</sup> 'Forskrift om utnyttelse av undersjøiske reservoarer på kontinentalsokkelen til lagring av CO<sub>2</sub> og om transport av CO<sub>2</sub> på kontinentalsokkelen' (FOR-2014-12-05-1517).

<sup>59</sup> I.e., the Ministry of Energy's issuance of an exploitation licence for EL001 and approval of the plan for development, installation and operation.

<sup>60</sup> Section 3.4 of the Draft Permit.

<sup>61</sup> The plan was first approved in February 2021 and has later been expanded to include drilling and operation of the emergency well C-1H and storage of CO<sub>2</sub> in the Statfjord group.

Authority in its Draft Administrative Decision that the planned injection and storage of CO<sub>2</sub> will not pose a significant risk to the environment and human health.<sup>62</sup>

The Authority acknowledges that the Competent Authority has assessed relevant risk scenarios and found that incidents with potentially significant environmental consequences have a very low likelihood of occurring, while there is a higher probability of incidents that may result in minor environmental consequences.

The Authority notes that the EIA was conducted on the basis of storing 100 Mt of CO<sub>2</sub>, more than double the volume permitted in the Draft Permit (i.e., 37.5 Mt of CO<sub>2</sub>). In addition, data from the surrounding environment and fields/wells were used in the assessment including the effects of leakage on seabirds, marine life, commercial fishing, benthic fauna and flora. The EIA was based on information from local, regional and national databases of information and covered areas within and peripheral to the storage complex.

The EIA also considered the environmental effects of any lateral migration of CO<sub>2</sub> towards the north and to the structural trap below the Troll West field. The risks were found to be within environmentally acceptable levels.

In its assessment, as reflected in the Draft Administrative Decision, the Competent Authority has, inter alia, reflected the following with regard to the environmental impacts:

- the licence area has been well mapped in connection with the development and operation of nearby oil and gas fields;
- the environmental resources in the area are satisfactorily described and the mapping, based on relevant databases and environmental reports, has not uncovered instances of particularly valuable or vulnerable environmental resources within this area;
- the CO<sub>2</sub> stream injected will contain a maximum of 4 % components other than CO<sub>2</sub>, and the probability of a major blowout from the storage is very low. The risk of emissions of these components resulting in significant environmental effects will therefore be very low, and any leakages of CO<sub>2</sub> and formation water from the seabed have the potential to impact only a relatively limited geographical area;
- the assumptions on which the EIA are based are conservative, so that the real environmental risk, expressed as the product of probability and consequence, are probably lower than what is described in the Application.

The Authority notes that the Draft Permit and the monitoring plan include relevant requirements for monitoring (see Section 4.1.7).

### 4.3 Financial requirements

#### 4.3.1 Financial soundness

In line with the conditions for issuing a storage permit laid down in Article 8(1)(b) of the CCS Directive that the Applicant is “*financially sound*”, the Authority takes note of the Competent Authority’s assessment of the Applicant’s financial soundness.<sup>63</sup>

The Competent Authority first notes that the Norwegian State covers through state aid<sup>64</sup> a significant share of foreseeable and unforeseen costs that may be incurred in the first ten-

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<sup>62</sup> Section 3.1.2 of the Draft Administrative Decision, pursuant to Section 35-3 I of the Norwegian Pollution Control Regulations.

<sup>63</sup> Section 3.1.3 of the Draft Administrative Decision.

<sup>64</sup> The Norwegian Government has provided State financing to the Project, as set out in the State Support Agreement, which was approved by the EFTA Surveillance Authority’s Decision No.

year period after the start of injection, as reflected in the State Support Agreement ('SSA') dated 5 March 2021 (see Section 4.3.2 below). The Competent Authority further considers Northern Lights' financial solvency to be good, on the basis of its liability regime and publicly available accounting figures.<sup>65</sup> The Competent Authority finally highlights that the Norwegian Ministry of Energy concluded that Northern Lights' financial soundness was satisfactory in relation to the granting of the exploitation licence for EL001.

The Authority welcomes these statements. In the interest of transparency, it invites the Competent Authority to add in the Draft Administrative Decision the references or links to the mentioned publicly available accounting figures and to detail its assessment as well as the information supporting its assessment.

#### 4.3.2 Financial security and financial contribution

Pursuant to Article 9(9) of the CCS Directive, the permit is to contain a requirement to "*establish and maintain*" financial security or any other equivalent pursuant to Article 19 of the CCS Directive. This latter provision requires States to ensure that, when applying for a storage permit, the potential operator provides "*proof that adequate provisions can be established*", by way of financial security or any other equivalent, on the basis of arrangements to be decided by the States. Pursuant to Article 19(1) of the CCS Directive, the "*amount*" of the required financial security is to be based on the estimated cost of meeting the obligations arising from the permit, as well as obligations arising from the ETS Directive. The financial security related to closure and post-closure should, inter alia, include the estimated financial contribution to be provided in accordance with Article 20 of the CCS Directive.<sup>66</sup>

Article 19 of the CCS Directive requires the financial security to be "*valid and effective before commencement of injection*" and "*periodically adjusted to take account of changes to the assessed risk of leakage and the estimated costs of all obligations arising under the permit*".

The CCS Directive leaves it up to the States to choose the acceptable financial security instruments and eligibility criteria for their issuance and use.

The financial security for the Project consists of the following instruments:

- guarantees provided by the Northern Lights joint venture partners pursuant to the SSA ('the Guarantees');
- declarations, supplementing the Guarantees, required by the Draft Permit and specified in the appendix to the Draft Permit ('Draft Supplementary Declarations').

The scope of the Guarantees is aligned on the scope of the SSA, namely covering obligations related to the *establishment* and *operation* of the Project's transport and storage facilities for the first 10 years of the operating period (the Guarantees expire on 31 December 2034). The Guarantees are subject to an annual decrease from the time of commencement of operations. The financial security will be renewed and reassessed in July 2029.<sup>67</sup>

The Draft Supplementary Declarations' provides:

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1143911 of 17 July 2020, available at:

<https://www.eftasurv.int/cms/sites/default/files/documents/gopro/COL%20-%20State%20aid%20-%20Norway%20-%20the%20Full-Scale%20CCS%20Project%20-%20Non-conf06.11.202013-50-01.pdf>.

<sup>65</sup> Section 3.1.3 of the Draft Administrative Decision.

<sup>66</sup> Guidance document 4, Section 3.4.3.4, page 22.

<sup>67</sup> Section 3.3.7 of the Draft Administrative Decision.



- the relevant national authorities that may draw upon the Guarantees;
- that the obligations pursuant to the injection and storage permit, the Norwegian Pollution Control Regulation Chapter 35, the Norwegian EU ETS Act<sup>68</sup> and the ETS permit are covered by the Guarantees;
- the preservation of the Guarantees in case of alteration, modification, rescission, or waiver of applicable permits or legislation;
- the payments under the Guarantees and their impact on the amount guaranteed;
- the right to draw the full amount guaranteed in case no new or supplementary satisfactory financial security is provided by the deadline set in the Draft Permit;
- conditions for the Guarantees' validity and guarantors liability in case of changes to the joint ventures.

The Authority raises the following observations with regard to the Project's compliance with the CCS Directive's financial security requirements.

#### The requirement to establish and maintain a financial security

With reference to Article 9(9) of the CCS Directive and the requirement for the draft Permit to contain a requirement to “*establish*” financial security, the Authority notes that the Draft Permit is made conditional upon the existence of an approved financial security and specifies the financial instruments and total amounts required at the commencement of injection.<sup>69</sup>

Concerning the requirement to “*maintain*” the financial security, the Authority notes that the Draft Permit, on the one hand, states that “[n]o CO<sub>2</sub> may be received at the facility for injection and storage without an approved financial security”, and, on the other hand, suggests that exemptions may be considered if “*the Environment Agency, following a decision by the Ministry of Energy and the Ministry of Climate and Environment, has agreed to a temporary postponement of this requirement*”.<sup>70</sup>

The CCS Directive does not allow for a temporary postponement of financial security requirements. The Competent Authority has in written correspondence with the Authority clarified that the provision on temporary postponement is not intended to permit the injection or storage of CO<sub>2</sub> without a financial security in place at any time.<sup>71</sup> The Authority welcomes this clarification and invites the Competent Authority to update accordingly the final permit.

#### Financial security instruments

While the Authority acknowledges that the choice of the financial security instrument is at the discretion of the States, it notes that the Commission guidance document 4 on financial security does not list declarations as examples of financial security instruments.<sup>72</sup> This may indicate that declarations are not amongst the traditional instruments for financial security.

In this context, the Authority stresses the importance of ensuring that the Draft Supplementary Declarations are adequate as financial security instruments, inter alia by being legally enforceable, to fulfil the requirements under the CCS Directive for the financial security instruments to be “*valid and effective*” before commencement of injection.<sup>73</sup>

<sup>68</sup> ‘Lov om kvoteplikt og handel med kvoter for utslipp av klimagasser’ (LOV-2004-12-17-99)

<sup>69</sup> Section 1 of the Draft Permit.

<sup>70</sup> Section 7 of the Draft Permit.

<sup>71</sup> Email from the Competent Authority of 4 February 2025 (Document No 1515437).

<sup>72</sup> Guidance document 4, pages 35-38.

<sup>73</sup> Article 19(1) of the CCS Directive.

The Authority invites the Competent Authority to confirm the legal enforceability of the Draft Supplementary Declarations, clarify their legal relationship to the Guarantees and explain the rationale for requiring Draft Supplementary Declarations to existing Guarantees instead of, for instance, requiring amendments to these Guarantees or setting requirements directly in the storage permit.

The Authority emphasises that it is the responsibility of the Norwegian Government to ensure that the Project's financial security instruments are fit for purpose. The Authority draws attention to the Commission guidance document 4, inviting States, when selecting financial security instruments, to aim at limiting taxpayer burdens, while reducing unnecessary financial burdens on operators.<sup>74</sup>

The Authority welcomes the Draft Permit's condition that the Applicant annually documents the validity and effectivity of the financial security, as required by Article 14(3) of the CCS Directive.

#### Financial security scope and calculations

The Authority welcomes the setting in the Draft Permit of the financial security amount at the commencement of the operations.

The Authority further welcomes the Draft Permit's condition that the Applicant provides a financial security which is adequate to ensure that all obligations pursuant to the permit and the relevant national legislation can be met, and to cover the costs of the obligations related to the handling of the CO<sub>2</sub> which is permitted to be injected, through all phases of the Project.

Based on the information received, the Authority however cannot conclude whether all the relevant obligations have indeed been assessed and taken into account. The Authority lacked comprehensive information with regard to the provided costs estimates and the assumptions for their calculations as well as to what extent the proposed financial security also covers the financial contribution required by Articles 18 and 20 of the CCS Directive.<sup>75</sup>

The Competent Authority has, in meetings with the Authority, confirmed that they considered the obligations under the CCS Directive in their calculations of the financial security amounts and that they consider all the obligations to be adequately secured under the Draft Permit.

In the interest of transparency, the Authority invites the Competent Authority to provide further information concerning the adequacy of the financial security to cover all the obligations of the CCS Directive, and on how they have taken into account the annual reduction of the value of the Guarantees, and other possible obligations under the SSA that could impact the financial security for the Project.

The Competent Authority has in written correspondence with the Authority clarified that the financial security required prior to commencement of injection is to cover an amount for the financial contribution.<sup>76</sup> The Authority welcomes these clarifications and invites the Competent Authority to confirm that the financial contribution required under Article 20 of the CCS Directive is covered.

#### Reviews and updates

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<sup>74</sup> Guidance document 4, page 8.

<sup>75</sup> Guidance document 4, Section 3.4.3.4, page 22.

<sup>76</sup> Email from the Competent Authority of 20 March 2025 (Document No 1526313).

Concerning the requirement of the CCS Directive to periodically adjust the financial security to take account of changes to assessed risks of leakage and the estimated costs,<sup>77</sup> the Authority welcomes the obligations set on the Applicant in the Draft Permit to:

- submit an updated amount and risk assessments for the calculation of the financial security, as well as a proposed financial security, to the Competent Authority by 1 January 2029;
- submit documentation for a new or supplementary financial security no later than 1 June 2029;
- assess whether the security is adequate to ensure fulfilment of the environmental obligations<sup>78</sup> at least every 5 years from the date of the last approval of the financial security, or more often if required by the Competent Authority, and to send this assessment to the Competent Authority.

## 5 Final remarks

The Competent Authority is invited to take into account the Authority's views as set out in this opinion in the finalisation of its permit.

Pursuant to Article 10(2) of the CCS Directive, the competent authority is to notify the final decision to the Authority, and where it departs from the Authority's opinion, it is to state its reasons.

The present opinion is based on the documents and information submitted by the Norwegian Environment Agency and is without prejudice to the Authority's position on any future Draft Permit, or vis-à-vis national authorities responsible for the transposition of EEA legislation, as regards the compatibility of any national implementing measure with EEA law.

The Authority will publish this Decision on its website.

The Authority does not consider the information contained herein to be confidential. The Norwegian Authorities are invited to inform the Authority within five working days following receipt whether it considers that, in accordance with EEA and national rules on business confidentiality, this document contains confidential information which it wishes to have deleted prior to such publication. Reasons should be given for any such request.

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<sup>77</sup> Article 19 of the CCS Directive.

<sup>78</sup> The obligations pursuant to the injection and storage permit granted by the Norwegian Environment Agency, the Norwegian Pollution Control Regulations Chapter 35, the Norwegian EU ETS Act and the regulation of storage activities in the ETS permit granted by the Norwegian Environment Agency.