ROYAL NORWEGIAN MINISTRY OF CLIMATE AND ENVIRONMENT

EFTA Surveillance Authority
Avenue des Arts 19H
1000 BRUSSELS
BELGIUM

Your ref	Our ref	Date
CN 88013 DN 1262901	12/3553-	29 September 2022

Information concerning WFD compliance and current Norwegian measures in place to eliminate or reduce the environmental effects of certain activities on water bodies in Norway to ensure the Article 4 WFD requirements, and other relevant requirements, are met

Dear Madam/Sir,

The Ministry of Climate and Environment (the Ministry) refers to the letter from the EFTA Surveillance Authority (the Authority) dated 6 May 2022 containing questions about compliance with the Water Framework Directive (WFD) in water bodies affected by hydropower (case 88013). The Authority has set the deadline to 30 September 2022 for responding to the Authority's questions as well as any other information the Norwegian government considers relevant to the case.

The information provided by the Norwegian Government in the previous correspondence with the Authority in case 69544 and 81034 is still relevant. The information below follows the same structure as the Authority's letter of 6 May 2022. For some topics which are covered by several of the Authority's questions, the Ministry will refer to previous answers.

Introduction

Hydropower in Norway

Hydroelectric power constitutes of 90 % of the Norwegian power generation. In an average year, 138 terrawatt-hours (TWh) are produced from more than 1700 hydropower plants, of which a large share utilise water stored in almost 1000 reservoirs. As a low carbon,

Postal address	Office address	Telephone	Department	Reference
Postboks 8013 Dep 0030 Oslo postmottak@kld.dep.no	Kongens gate 20 www.kld.dep.no	+47 22 24 90 90 Org. nr. 972 417 882	Department for Nature Management	Tor Simon Pedersen +47 22 24 59 62

renewable and flexible power source, hydropower is essential for the Norwegian society and contributing to national and EU climate targets.

The Implementation of the Water Framework Directive
Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy, the Water Framework Directive (WFD), has been transposed into Norwegian national law by way of the Water Regulation (FOR-2006-12-15-1446 «forskrift om rammer for vannforvaltningen»).

When the WFD came into force in Norway in 2009, a new and holistic approach to plan for environmental improvements in watercourses was introduced using local, regional as well as national processes. The approach to the water management in the WFD is ecosystem-based by dividing Norway into River Basin Districts (RBDs). For each RBD, a River Basin Management Plan (RBMP) and Programme of Measures (POM) are elaborated, identifying the specific environmental objectives for each water body pursuant to Article 4 of the WFD and the measures aiming to achieve the specific environmental objectives. The RBMPs and POMs are revised in 6-year cycles.

EU States are currently on the third 6-year cycle of RBMPs and POMs. Pursuant to Article 1b of the EEA Committee Decision No. 125/2007 to implement the WFD into the EEA Agreement, the deadlines in the WFD shall be calculated from the date that the WFD entered into force under national law for EFTA States. Consequently, Norway is currently preparing for the second 6-year cycle of RBMPs and POMs.

Hydropower activities may affect the ecology in the rivers and lakes. The total number of water bodies in Norway is 34 052. 3379 of the 5431 water bodies affected by hydropower in Norway are significantly affected by hydropower and designated as “Heavily modified water bodies” (HMWBs).

The Norwegian Government is committed to implement measures with the aim of improving the ecological status/potential of water bodies already affected by hydropower and to provide strict environmental requirements for new developments. All new hydropower projects must be in line with Article 4 (7) of the WFD. The measure and efforts to achieve the environmental objective of the WFD might vary from region to region, as stated in the joint statement attached to the EEA Committee Decision No. 125/2007. The WFD takes account of these diversities and allows authorities responsible for the implementation of the WFD to select measures and efforts adapted to the pressures and impacts prevailing, whilst achieving the environmental objectives.

In 2016, the Ministry of Climate and Environment approved the first RBMPs for 2016-2021 with environmental objectives for all Norwegian water bodies. Norway has not received country wise feedback on the reporting from the Authority of the RBMPs 2016-2021. In 2016, a total of 183 water bodies were approved with environmental objectives which required a minimum flow release and a corresponding reduced power production. The balance between

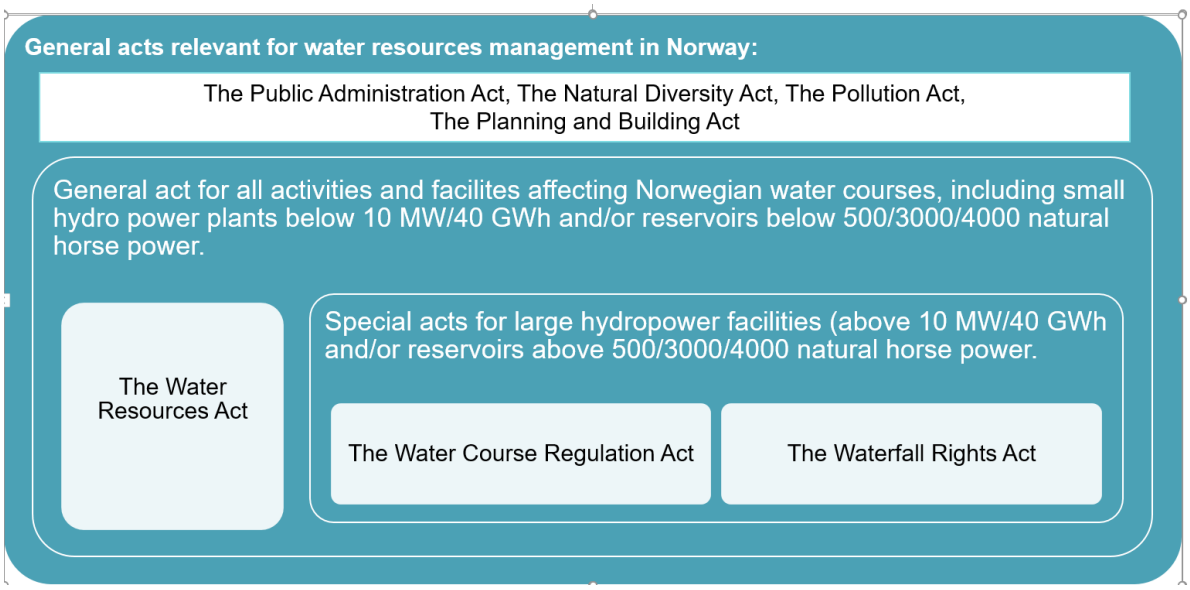
environmental improvements and renewable production requires thorough processes. In our experience, significant environmental improvements can be made with acceptable losses in terms of reduced production.

The relevant measures with the aim to achieve the specific environmental objectives are identified in the POMs. For instance, since 2016, several licenses have been revised to fulfil these objectives. During the first 6-year cycle, Norway reported to the Authority which measures of the POMs that had been applied by then.

Revised RBMPs for 2022-2027 are currently under approval.

The License and Control System

The administrative decisions of Norwegian authorities to ensure measures with the aim of achieving specific environmental objectives in specific water bodies are founded in the water resources legislation. The water resources legislation includes, amongst others, the Water Resources Act (Act No. 82 of 24 November 2000 relating to river systems and groundwater), the Watercourse Regulation Act (Act No. 17 of 14 December 1917 relating to regulations of watercourses) and the Waterfall Rights Act (Act No. 16 of 14 December 1917 relating to acquisition of waterfalls). A more detailed explanation of the legal framework can be found in www.energifaktanorge.no. The following illustration shows how these acts are interrelated:



Source: The Ministry of Petroleum and Energy

The Water Resources Act also applies to hydropower facilities with a licence pursuant to the Watercourse Regulation Act, to the extent the Watercourse Regulation Act does not include special provisions applicable for these facilities.

Norway has a well-established and comprehensive licence system for construction and operation of hydropower facilities, developed over the last 135 years. The licencing system includes several tools for adjusting the licences where this is necessary to reach the

environmental objectives of the WFD. The system also includes the possibility to summon unlicensed facilities for licensing in order to achieve the objectives.

To control the operators, the Norwegian Water Resources and Energy Directorate (NVE) has a unit for environmental inspection of hydropower facilities. Licencees are required to have an internal control system to ensure operations are in accordance with legislation and granted licences.

In this letter, the main tools for managing, monitoring, controlling and adjusting the licenses to meet the environmental objectives of the WFD are described in detail. The Ministry is of the opinion that the current national system contains the necessary tools to successfully implement, and follow up, the objectives of the WFD.

General Comments to the Authority's Questions
At the outset, the Ministry has a few comments of a more general nature relating to some of the questions from the Authority.

First, the Authority has references to ensuring the achievement of the Article 4 WFD environmental objectives. Pursuant to Article 4 of the WFD, the EEA states are commited to prevent further deterioration, protect and enhance the HMWBs with the aim of achieving good ecological potential (GEP) and good chemical status, and protect, enhance and restore natural water bodies with the aim of achieving good ecological status (GET) and chemical status, unless exemptions under Article 4 apply.

Second, several of the Authority's questions appear to be based on a premise that increased minimum water flow is mandatory for all water bodies in all cases. The Ministry would like to emphasise that the specific environmental objective for the specific water body, for instance GES, GEP or less stringent objectives, is decisive for what is considered to be sufficient water.

Environmental objectives for HMWBs are set individually (cf. answer to question 7). The objectives are based on an overall cost-benefit analysis and the regions' priorities. If the environmental objective for the specific water body is set to be GEP, this would imply that the ecological conditions may be achieved by implementing all realistic mitigating measures that do not have a significant adverse effect upon the water use. For several water bodies, costs in terms of reduced energy production and national security of supply, are necessary for the aim to achieve the environmental objectives. These prioritised water bodies are specified by name and number in the national approvement of the RBMPs. This gives a transparent overview of the necessary changes and the deadlines that apply for each water body.

If the environmental objective is set to be less stringent, this would imply that the achievement of GES/GEP is assessed to be infeasible or disproportionately expensive. Where the environmental objective is set to less stringent, mitigation measurements within the water body, such as biotope adjustment measures may still be imposed to improve the

conditions and achieve the environmental objective in place. Water bodies with less stringent objectives are also specified in the RBMPs.

Third, the Authority has asked for several lists of cases where measures with the aim of achieving the environmental objectives pursuant to Article 4 of the WFD have been implemented in practice. The Ministry emphasises that these lists must be read in the light of the RBMPs, which contains the specific environmental objectives for each water body within the RBD, and the POMs, which identifiy the relevant measures for the aim to achieve each specific environmental objective. The Ministry would like to emphasise that the lists attached to this letter may not be complete since several databases are not interconnected. To obtain a complete picture, an individual assessment must be made, for instance for water bodies and hydropower facilities.

Fourth, in other questions, the Authority focuses on immediate reactions to change water-flow. However, according to the Ministry's understanding of the requirements of the WFD, immediate actions are not required as part of the RBMPs 6-year cycle. Nevertheless, the national authorities have the competence to impose such immediate actions in certain circumstances pursuant to national legislation, as further elaborated in this letter.

Answer to the Authority's question 1

The Norwegian system of controls regulating and controlling the action and inaction of hydroelectric power plant operators.

Please confirm that in order to ensure that the requirements set out in the WFD are met, Norway has adopted a number of legal measures which, amongst other things, regulate and control the action and behaviour of the companies and other entities which operate hydroelectric power plants in Norway, so that their actions and behaviour do not undermine, prevent or impede the Article 4 WFD environmental objectives from being achieved, or cause a breach of the principle of non-deterioration codified in the WFD.

The Ministry confirms that Norway has a number of legal measures to ensure compliance with Article 4 of the WFD.

a. ***As regards the legal measures which Norway has adopted controlling the behaviour of hydroelectric power plant operators, please explain whether the Norwegian system of granting and revising licences (including the terms and conditions set out in licences) to operators of hydroelectric power plants in Norway constitutes the single most important legal measure to control the actions and behaviour of operators of hydroelectric power plants, and ensure their actions/inactions do not undermine, prevent or impede the Article 4 WFD environmental objectives from being achieved.***

Please confirm that, pursuant to this Norwegian licensing system, operators of hydroelectric power plants are legally required to obtain and retain licences, and must adhere to the conditions within their respective licences in order to retain their rights to operate their hydroelectric power plants.

The Norwegian licence system

The Norwegian licence system is the single most important legal measure to control the behaviour of the hydropower operator. This system is founded in the water resources legislation and supplemented by the general administrative law. The terms set out in the licenses, as well as the legal measures founded in the water resources legislation form part of the Norwegian licence system.

Operators of hydropower facilities which are subject to a licence pursuant to the Water Resources Act or the Watercourse Regulation Act must adhere to the terms and limitations in their respective licences, in addition to direct requirements from the aforementioned acts, in order to retain rights to operate.

Hydropower operators which are not subject to a duty to obtain licences, cf. question 6, must adhere to the applicable legal requirements founded in the Water Resources Act. If summoned for licensing, these hydropower operators must adhere to the terms and limitations in their respective licences in addition to direct requirements from the Water Resources Act.

A description of relevant legal measures with the aim of achieving the environmental objectives are found in the national guidance document “Virkemidler og tiltak i vannforvaltningen”.[1]

Overview of the legal tools part of the Norwegian licence system

1. *The licence to construct and operate a hydropower facility*

All new hydropower projects above the thresholds in the Water Resources Act or the Watercourse Regulation Act must obtain a licence to construct and operate, and must be in line with Article 4 (7) of the WFD. One key factor for being subject to a licence obligation is that the hydropower project may cause significant damage or inconvenience to any public interests.

The licence itself defines which watercourse(s) the facility is permitted to regulate and/or transfer. The licence and its underlying documentation define the boundaries of the facility in terms of water resource exploitation and land use. Minimum and maximum water level in reservoirs and the permission to transfer a water course are considered to form part of the licence, where relevant. For a more detailed example, the limitations for the operating water flow are described under question 3b iv (aa).

[1] https://www.vannportalen.no/veiledere/Virkemidler-og-tiltak-i-vannforvaltningen-01.12.2020/

All licences have a set of standard terms and a set of specific terms as further described below. For an example of a full set of terms for a licence pursuant to the Watercourse Regulation Act, reference is made to Annex 1 and 2 with further references under question 10.

2. Specific terms

The licence may hold specific terms, including specific environmental terms, which are individually adjusted to the specific watercourse. For licenses pursuant to the Water Resources Act, minimum water flow requirements are included as specific terms, where relevant. Other specific terms included in the terms may be requirements of a bypass valve, restrictions on manoeuvring of the reservoir or restrictions on the operation of the power station.

3. *Standard environmental terms*

All new licences are provided with standard terms, including standard environmental terms. Some of the standard terms impose direct conditions and duties for the operators to adhere to.

The standard environmental terms contain a mandate for the authorities to impose different types and customized mitigation measures to improve the conditions for affected species, if found necessary. For instance, standard environmental terms regarding fauna and flora, wildlife and recreation allow the competent authority to impose surveys and measures to minimize the negative effects from the hydropower facilities. This mandate enables the authorities to impose mitigation measures at any time. These terms can implement any mitigation measures to mitigate damage of the regulation, except changes in the rules of manoeuvring.

4. The rules of manoeuvring

The rules of manouevring set restrictions for the water level in the reservoirs within the frames of the minimum and maximum water level. Requirements for minimum water flow in rivers are included where relevant. Terms to regulate minimum water flow are based upon an individual assessment, where factors such as energy production and disadvantages for the environment are relevant.

5. *Standard term for changing the rules of manoeuvring*

The standard term for changing the rules of manoeuvring allows for imposing changes in the manoeuvring at any time.
According to the Watercourse Regulation Act Section 16 (3) the rules of manoeuvring may be altered. The clause states: "*if it turns out that the manoeuvring based on these rules leads to significant harmful effects to public interest the Ministry has the power without compensation to the hydropower producer (…) to make the changes in the manoeuvring that are necessary*".

This has in many ways been regarded as a safety valve in the event an amendment

is required. Authorities may choose to use this instrument if the utility of water for environmental purposes is an argument for doing so.

6. *Test manoeuvring programme*

Where there is uncertainty about the effects of the regulation of a watercourse, especially for large hydropower regulating facilities, there are rules set for a temporary manoeuvring for a specific period, called test manoeuvring programme. The purpose is to test different levels and duration of minimum flow to provide new knowledge about the effects on the environment. After a preliminary period for testing of different water flows to accommodate environmental concerns, permanently fixed rules are set. These clauses have been used where appropriate and have been individually set.

7. Revision of terms

Revision includes changing or removing existing terms and supplementing new terms. The rules of manoeuvring may be changed except the lowest and highest permitted regulated water level in a reservoir, and changes in transfers.

The legal condition «30 years» must be accomplished for revising licence terms pursuant to the Watercourse Regulation Act Section 8. A shorter interval than 30 years may apply if several licences are granted in the same watercourse at different times, to ensure coordination. As a part of the RBMPs, revision of licence terms may be identified as a measure for environmental improvements in specific watercourses. If the specific environmental objectives require revision of the licence terms, this is sufficient for opening a revision case.

A clause for revision of existing terms enables the authorities to change the rules for the variations in the reservoir's water level between the lowest and highest permitted regulated water level. A relevant measure may be restrictions on the manoeuvring at certain periods of the year and within certain intervals of the regulation variation. The imposition of such limitations of the manoeuvring is, together with minimum flow release, an important tool in the revision of terms. This is considered in each revision of terms. Updated standard environmental terms and the standard clause for changing the rules of manoeuvring will be incorporated when the licence is revised, if these are not already part of the licence.

8. *Modification of licences*

Pursuant to Section 28 of the Water Resources Act, new or supplementary terms to an existing licence may be imposed. The provision demands a balancing of interests, including negative impacts for energy production and for environmental benefits. If further mitigating measures are still needed for the aim to achieve the environmental objectives in the RBMPs, in addition to the limitations set in the existing licence, this could be a "special circumstance" that would justify the use fo Section 28. This

measure may apply at any time.

9. Preconditions for not being subject to a licence obligation pursuant to current legislation

Operators of hydropower plants which are not subject to a licence pursuant to the Water Resources Act Section 18, cf. category (i) under question 6b, must construct the facilities in line with the presented design.

10. Duty for hydropower operators to act with due care

Pursuant to Section 5 of the Water Resources Act, both operators with and without a licence must act with due care to avoid damage or harm in the water body for public or private interests. The authorities may compel the operator to rectify its actions and levy fines in the event of violation of this duty.

11. Common lowest water flow

Operators of hydropower plants which are not subject to a licence pursuant to the Water Resources Act Section 18, cf. category (i) under question 6b, are required to release a minimum water flow, ref. Section 10 of the Water Resoruces Act. The minimum flow release defined as the required “common lowest water flow” pursuant to Section 10 of the Water Resources Act is based on a quantitative method for the lowest unregulated water flow present in the specific river before being affected by hydropower.

12. *Summoning of old unlicensed hydropower facilities for licensing*

The Water Resources Act Section 66 shall be applied “in special circumstances” and is applicable for imposing licensing when there are substantial environmental concerns. This may be the case if a measure cannot be imposed due to lack of standard terms and lack of rules of manoeuvring, and this will prevent the implementation of mitigation measures, as mandated in the POM of a RBMP. Section 66 of the Water Resources Act may be considered at any time. As a part of the summoning of the licence, modern terms will be made part of the licence. Where relevant, this also includes terms for ensuring sufficient water flow.

13. *Reversal of the authorities’ decision*

There is a general access to reverse a decision, but it is primarily considered for modifying or imposing certain terms in a licence. Reversal according to the Public Administration Act Section 35 authorizes an administrative agency to change its decisions regardless of whether there is a complaint. The purpose is to give the administration an opportunity to correct legal errors in the decision. Moreover, the administration has a general non-statutory conversion right, which provides the opportunity to change the terms of a licence if there are legitimate compelling public concerns.

Overview of categories of hydropower facilities which the legal measures apply to

Facilities with licence pursuant to the Watercourse Regulation Act

(with reservoirs)

For facilities issued before 1992: These facilities may be revised by 2022, cf. question 1a legal tool no. 7. The licence sets limitations, cf. legal tool no. 1. A large part of these licences has various forms of nature and fishing terms, which have been incorporated in licences issued later than 1960, cf. legal tools no. 2 and 3. Licences granted after 1990 have modern standard environmental terms, cf. legal tool no. 3. The rules of manoeuvring is mandatory for these facilities, cf. legal tool no. 4. The majority of these licenses have the standard clause for changing the rules of manoeuvring incorporated, cf. legal tool no. 5. A test manoeuvring programme may apply where relevant, cf. legal tool no. 6.

For facilities issued after 1992: These facilities may be revised 30 years after the licence was granted, cf. question 1a legal tool no. 7. The licence sets limitations, cf. legal tool no. 1. The rules of manoeuvring is mandatory for these facilities, cf. legal tool no. 4. All these licences have standard environmental terms and standard term for changing the rules of manoeuvring, cf. legal tools no. 3 and 5, and may also hold specific terms, cf. legal tool no. 2. A test manoeuvring programme may apply where relevant, cf. legal tool no. 6.

Facilities with licence pursuant to the Water Resources Act

The licence sets limitations, cf. question 1a legal tool no. 1, including relevant specific terms, such as minimum water flow, and standard terms, cf. legal tools no. 2-3. If needed, these facilities can be subject to modification of terms, cf. legal tool no. 8.

Facilities where licence is not mandatory pursuant to current legislation

All these facilities, cf. question 6b(i), are considered to not contribute to significant harm or inconvenience for public interests, for instance environmental reasons. The operator is limited by the presented design and that the encroachment does not reduce the water flow below a certain level referred to as the common lowest water flow, cf. question 1a legal tools no. 9 and 11. Rectifications may be compelled, and fines levied, if the operators violate the duty to act with due care, cf. legal tool no. 10.

Facilities where licence was not mandatory pursuant to former legislation

These facilities are described under question 6b(ii). The authorities may compel rectifications and levy fines in the event of violation of the duty to act with due care, cf. question 1a legal tool no. 10. The operator must comply with the required common lowest water flow unless such has been taken into use, cf. legal tool 11. Furthermore, these facilities may be summoned for licensing, cf. legal tool no. 12. Thereafter, the licence, specific terms and standard environmental terms will set limitations cf. legal tools no. 1-3. If further measures are needed for the aim to achieve the environmental objectives, such measures may be imposed pursuant to the relevant standard environmental term. If needed later, these licence terms may be subject to modification cf. legal tool no. 8.

The legal tools mentioned above may be used in combination to implement environmental improvements.

The watercourse may be affected by several of the categories of hydropower facilities mentioned above, i.a. a reservoir might have several hydropower plants downstream, with different licence status. Also, one hydropower plant might utilise water from several upstream reservoirs. For such cases, the terms applicable for the hydropower facilities with licences can contribute to environmental improvements of water bodies downstream. For instance, if an operator of hydropower facilities with a licence pursuant to the Watercourse Regulation Act upstream in the river has been imposed to do environmental improvements pursuant to its licence terms, these improvements can also contribute to the environment downstream in areas where the watercourse is also affected by hydropower facilities without licence.

Furthermore, one hydropower facility may hold several licences (for instance an acquisition licence (in Norwegian “ervervskonsesjon”) pursuant to the Waterfall Rights Act, as well as a licence pursuant to the Watercourse Regulation Act with subsequent changes to the latter licence, such as plan of change (“planendring” in Norwegian). Some may have additonal licences to allow refurbishment and development projects, which includes modernisation, efficiency improvement, upgrade or reconstructing the hydropower plant.

For hydropower facilities which are not subject to a licence pursuant to former legislation, latter refurbishment and development projects for these facilities may be subject to a licence pursuant to current legislation.

It must be emphasised that the relevant measures needed for the aim of achieving the environmental objectives for specific waterbodies pursuant to Article 4 of the WFD are identified as a part of the RBMPs and POMs.

b. Reference is made to the response to 1a.

c. Reference is made to the response to 1a.

Answer to the Authority’s question 2

Other Norwegian legal measures which control the action and inaction of hydroelectric power plant operators and ensure they do not undermine, prevent or obstruct the Article 4 WFD objectives from being achieved.

a. ***Please provide an exhaustive list of these other legal measures (excluding the Norwegian system of licences) which Norway has adopted.***

The Norwegian licence system controls the actions and inactions of hydropower operators to ensure compliance with the Article 4 of the WFD. An exhaustive list of measures is provided in the answer to question 1a.

There are other laws in Norway that in combination with the licence system will protect the environment such as the Nature Diversity Act (Act No. 100 of 19 June 2009 relating to the Management of Biological, Geological and Landscape Diversity), the Salmonids and Fresh-water Fish Act (Act No. 47 of 15 May 1992 relating to Salmonids and fresh-water fish and related matters), and the Pollution Control Act (Act No. 6 of 13 March 1981 relating to Protection Against Pollution and Waste). The Planning and Building Act (Act No. 71 of 27 June 2008 relating to Planning and the Processing of Building Applications) might also be the basis for environmental considerations.

Several of the considerations in these acts are also integrated in the licensing process, particularly the Nature Diversity Act.

The hydropower operator may also take an initiative to implement environmental improvements within the terms for the licence and the underlying acts or apply for changes of the licence to improve environmental conditions.

In particular, please indicate what legal measures Norway has adopted which guarantee that there is sufficient and minimum water flow into water bodies by hydroelectric power plant operators to ensure: the (i) the water body continues to exist; (ii) there is no relevant deterioration of the water body particularly vis-à-vis ecology and biodiversity; and (iii) the Article 4 WFD environmental objectives relating to ecology, including biodiversity, and chemical status – are capable of being achieved in practice.

In each case, please explain, in detail, how each measure ensures that Norway is able to control the actions and behaviour of operators of hydroelectric power plants to ensure they do not adversely affect the water bodies so as to cause deterioration in breach of the WFD requirements and/or prevent achievement of the Article 4 WFD environmental objectives – and that sufficient and minimum water flow into a water body is achieved, year-round, in practice.

The Ministry understands that these questions relate to other legal measures Norway has adopted to guarantee sufficient and minimum water flow into water bodies. In such cases the measures in the Norwegian licence system referred to in question 1a as legal tool no. 2 (specific terms), no. 4 (rules of manoeuvring), 5 (standard term for changing the rules of manoeuvring), 7 (revision of terms) and 8 (modification of terms) may apply. If minimum water flow is required for ecological considerations, this applies year-round.

b. ***In each case please also explain in detail how often, in reality, these other legal measures have actually been employed and used by Norway since mid-2009.***

Reference is made to the answer to question 2a.

(i)-(ii) ***For example, if Norway takes the view that Section 28 of the Water Resources Act consitutes either the most important legal measure, or one of the most important legal measures, which Norway has adopted to control the actions and behaviour of operators of hydroelectric power plants to ensure the Article 4 WFD environmental objectives are achieved, please explain in detail: (i) how often Norway has invoked and relied upon Section 28 of the Norwegian Water Resources Act to take action against operators of hydroelectric power plants since mid 2009 and (ii) how often Norway has invoked and relied upon Section 28 of the Norwegian Water Resources Act to legally compel operators of hydroelectric power plants to increase the water flow, and/or increase the amount of water, into a water body to ensure the Article 4 WFD environmental objectives are met.***

With regard to Section 28 of the Norwegian Water Resources Act, please explain how long, in practice, it takes to alter or change the behaviour of an operator of a hydroelectric power plant to, for example, increase water flow, and/or the amount of water, to ensure there is sufficient water within the water body to achieve compliance with the Article 4 WFD environmental objectives and prevent any relevant deterioration, particularly vis-à-vis ecological damage/biodiversity loss.

Modification of terms pursuant to Section 28 of the Water Resources Act form part of the licence system and is described under question 1a legal tool no. 8. Please find attached an overview over when Section 28 has been applied (Annex 3).

Modification of licences pursuant to Section 28 of the Water Resources Act is one of several legal measures to control the actions of hydropower operators to ensure that the environmental requirements are met. The Ministry would like to point out that the specific environmental objective is decisive for whether increased water flow is required.

Two cases have so far been summoned for modification pursuant to Section 28. One received minimum water flow after eight years in process, while the other case is still in process. Issues in cases relevant for Section 28 are often solved with voluntary measures or the possibility to impose changes which is founded within an existing licence. Therefore, there have been fewer cases where Section 28 has been applied.

c. (i)-(iii) ***In each case where the measure was employed in the past, please explain the ultimate outcome including (i) whether the actions and behaviour of the hydropower operator was permanently and sufficiently altered; (ii) whether there is now suffient water contained within the water body year-round to ensure it is able to support aquatic ecology and biodiversity as required under the WFD; and (iii) whether the water body now fully achieves the environmental objectives set out in Article 4 of the WFD, and is, for example, of good ecological and chemical status.***

The Ministry understands that this question focuses on the outcome where other legal measures, excluding measures which form part of the Norwegian licence system, have been taken.

The relevant measures to aim at achieving the specific environmental objectives pursuant to the WFD are listed in the POMs. The specific environmental objective is decisive for which measures that are sufficient and whether increased water flow is required. Imposed measures apply permanently, except from legal tool no. 6 (test manoeuvring programme) or until terms are changed, for instance by applying legal tools no. 7 (revision of terms) and 8 (modification of terms). If flow release is needed for the aim to achieve the environmental objectives, this must be founded in the licence system, cf. question 1a, and not in other legal measures.

For all cases, the current environmental status/potential for the affected water bodies, and status of whether the environmental objectives are achieved, are published in the water information system "Vann-Nett".

For the case where the Water Resources Act Section 28 has been applied and finalised, the authorities have imposed permanent measures towards the operator for the aim to achieve the relevant environmental objectives. The current environmental status/potential of the affected water bodies is published in "Vann-Nett".

Answer to the Authority's question 3

The terms and conditions contained within Norwegian licences which control the actions and behaviour of the operators of hydroelectric power plants.

Please confirm that under the current Norwegian system of licences, the Norwegian authorities grant licences to operators where the licences contain requirements and obligations incumbent on the operators to ensure the water bodies are protected and enhanced, such that they will achieve compliance with the Article 4 WFD environmental objectives and there is no deterioration in breach of the WFD requirements.

Reference is made to the legal tools described under 1a above. The requirements in the licences and the acts these licences are founded in, ensure compliance with Article 4 of the WFD.

a. ***In this regard, please explain in detail what standard terms and conditions are included in licences in Norway, which oblige operators of hydroelectric power plants to protect and enhance the water bodies such that the water bodies will achieve compliance with the Article 4 WFD environmental objectives and to ensure there is no deterioration of the water bodies in breach of the WFD requirements.***

These licence terms are described above, cf. question 1a legal tool no. 1 (the licence to construct and operate a hydropower facility), 2 (specific terms), 3 (standard terms), 4 (the rules of manoeuvring) 5 (standard term for changing the rules of manoeuvring), 6 (test manoeuvring programme) and 7 (revision of terms). Examples of a set of terms are enclosed as Annex 1 and 2.

Please explain, for example, whether licences contain any provisions which explicitly and expressly mention the requirements contained under the WFD, in particular the Article 4 WFD environmental objectives.

When deciding whether a new hydropower project should be granted a license, the Norwegian authorities assess the requirements in Article 4 (7) in the WFD.

Pursuant to Article 4 (7), new activity or development in a water body can be implemented even if this means that the environmental objectives (GES/GEP) are not reached or that the environmental conditions deteriorate, provided that certain conditions are met. The relevant environmental objective may be revised as a part of the next revision of the RBMPs. All practicable measures should be put in place to limit negative development in the state of the water body. If the authorities grant a license, terms that are suitable to mitigate a negative development in the water body are identified and imposed, such as release of minimum water flow and habitat improvements.

b. (i) ***Please confirm that operators are required, under the conditions in their licences, to ensure that the water body in question continues to exist.***

Pursuant to the WFD Article 2(9) a heavily modified water body (HMWB) is defined as “a body of surface water which as a result of physical alterations by human activity is substantially changed in character, as designated by the Member State in accordance with the provisions of Annex I». Surface water is defined as «inland waters, except groundwater; transitional waters and coastal waters, except in respect of chemical status for which it shall also include

territorial waters», cf. Article 2 (1).

The water body as such continues to exist also after the regulation of the river has taken place, but the hydrology within the boundaries may be modified according to the licence.

(ii) ***Please confirm that there is sufficient water within the water body to support the relevant aquatic ecology including biodiversity.***

The specific environmental objective for the specific water body, for instance GEP or less stringent objectives, is decisive for what is considered to be sufficient water within the water body.

The licence terms and/or relevant acts set limitations for the use of the water flow, in particular legal tool no. 1 (the licence), 2 (specific terms), 4 (the rules of manoeuvring) and 5 (standard term for changing the rules of manoeuvring) under question 1a. The amount of water left in the water bodies affected depends on the licence in question. Terms to regulate flow release are based upon an individual assessment, where factors such as energy production and disadvantages for the environment are relevant. Where the license terms set requirements for minimum water flow, this must be documented by the operator, and the operator must comply with the licence, cf. question 4.

(iii) ***Please confirm as such there is adequate and sufficient water flow into the water body during a defined period of time (i.e. each day or week) to support the relevant aquatic ecology in the short, mid and long term.***

The specific environmental objective for the specific water body is decisive for what is considered to be sufficient water within the water body. When minimum water flow is required for ecological considerations pursuant to the licence terms, this requirement must be fulfilled each hour of the year.

(iv) ***Please confirm that there are specific, express, clear limits set on the amount of water/water flow hydroelectric power plant operators are able take or divert from a water body over a daily/weekly/monthly/yearly period taking into account rainfall and other climatic conditions.***

This is explained in the detailed questions below.

(aa) ***Please explain in detail the requirements contained in licensing concerning maximum limits of water taken from water bodies.***

The licence and the underlying documentation set limitations for the amount of water that can be used for energy production.

The highest and lowest permitted water level in the reservoir is determined in the rules of manoeuvring. In the event of flood, the rules of manoeuvring may set a higher level of maximum amount of water permitted in the reservoir.

Further, the size of the turbines (operating water flow) determines the minimum and maximum amount of water that the power plant can use for electricity production. Regarding the operating water flow, the amount of water the operator is allowed to take does not change automatically with increased inflow or climatic conditions. If the operator wishes to utilize more of the water resource, an application for a change of licence must be submitted.

The operating water flow is set in the underlying documentation for the licence. If licence is granted, the presented operating water flow forms part of the limitations for the licence. The detailed technical plans also include the size of the turbines, which is approved by NVE before the facility is constructed.

(bb) ***Please explain in detail the requirements contained in licensing concerning minimum requirements for water flow.***

The licence terms regulate the amount of water that can be used for energy production. The rules of manoeuvring set limitations for the use of water from the reservoirs, and specific requirements for minimum water flow are also set where relevant, cf. question 1a legal tool no. 2 and 4.

(cc) ***Please explain in detail the requirements contained in licensing concerning whether Norway is able to immediately or quickly alter or revise the conditions of a licence to ensure more water flow into a water body where necessary (due, for example, to climatic conditions such as reduced rainfall) to ensure compliance with the WFD.***

The Ministry notes that the Authority asks for immediate actions. As the Ministry understands the requirements of the WFD, the 6-year cycle of the RBMPs does not explicitly require immediate actions. However, measures exist to impose immediate actions in certain circumstances.

The operator must follow the rules of manoeuvring, cf. question 1a legal tool no. 4. As an example, temporary exemptions from the rules of manoeuvring can be made to reduce danger for human beings, the

environment or property, cf. the Water Resources Act Section 40. Temporary exemptions from the rules of manoeuvring can be made in a single case if this exemption does not lead to environmental harm, cf. Watercourse Regulation Act Section 16 (2).

The authorities have procedures for administrative reactions, sanctions and penalties if the licensee violates the requirements, cf. question 4. If needed, the authorities may impose changes to the rules of manoeuvring, cf. question 1a legal tool no. 5. Before imposing changes to the rules of manoeuvring, public consultations etc. must take place.

(dd) ***Explain how quickly, in practice, it normally takes for the Norwegian authorities to revise, alter or change the conditions within a licence, to ensure water flow is increased so that the Article 4 WFD environmental objectives are fully achieved.***

The deadlines for the specific environmental objectives are decisive for when terms must be in place. The specific measures aiming to achieve the environmental objectives identified in the POMs are decisive for whether there is a need to impose increased water flow within a licence.

The 22 completed cases with revised terms took 11 years to complete in average. One case typically includes a specific geographical area with a large number of licences each with several hydropower plants, reservoirs and water bodies. Revision of terms is time-consuming, and many considerations must be taken into account.

Legal measures that are also relevant to ensure sufficient minimum water flow are the standard term for changing in the rules of manoeuvring, cf. question 1a legal tool no. 5, and modification of terms, cf. legal tool no. 8.

c. ***Please explain whether all licences currently active and in operation in Norway contain these standard terms and conditions (referred to in question 3a and 3b). If not, please explain how many licences currently active and in operation in Norway, do not contain these standard terms and conditions (i.e overall number, and percentage as compared to overall number of licences).***

Not all active licenses contain standard terms. All licenses obtained after 1990 contain a set of standard terms.

There are more than 600 active licenses without standard terms. Please find Annex 4 enclosed, which contains licenses granted before 1990. However, many licenses granted before 1990 also have stipulated various forms of nature and fishing terms, but not as systematically as after 1990. As described under question 1a, one

hydropower facility may hold several licences. In addition, terms applicable for the hydropower facilities with licences can contribute to environmental improvements of water bodies downstream which are also affected by unlicenced hydropower activities. The list attached as Annex 4, which contains licences before 1990, does therefore not entail the number of hydropower facilities without possibilities to impose environmental improvements pursuant to standard terms.

Please explain how long these licences, which do not contain these standard terms and conditions, will each currently endure.

More than 600 active licenses do not contain modern standard terms. It will be very time-consuming providing information regarding their duration. However, most licenses are granted for unlimited duration. As explained under question 5, the duration of the licence is not a hindrance for implementing environmental improvements if needed.

d. ***Please explain how many times, since mid-2009, Norway has revised, reviewed or changed the terms of a licence, or annulled, cancelled or withdrawn a licence, in order to ensure the Article 4 WFD environmental objectives are achieved.***

According to Annex 4, these changes have been undertaken 38 times. Imposed measures pursuant to the standard environmental terms are not part of this list.

e. ***Please provide an exhaustive list of the cases (including dates, names of companies, names of water bodies, and details of the action taken etc) where Norway has relied upon the conditions set out in a licence to legally compel an operator of a hydroelectric power plant to increase the amount of water, or water flow, into a water body to ensure the Article 4 WFD environmental objectives were met, since mid-2009.***

The Ministry would like to emphasise that the achievement of environmental objectives is not dependant on increased water flow in all cases. Increased water flow can be imposed by applying several legal tools as explained under question 1a. Please find Annex 4 for an overview over where minimum water flow has been increased since 2009.

Answer to the Authority's question 4

Norwegian authorities' monitoring of hydroelectric power plant operators compliance with the licensing conditions, and Norwegian enforcement action.

a. ***Please explain, under Norwegian national law, which Norwegian authorities (i.e. Ministries, Departments, Agencies and/or other national or regional***

bodies) are responsible for ensuring that water bodies achieve the Article 4 WFD environmental objectives, including the ecological and chemical outcomes set out under the WFD, and that water bodies do no deteriorate.

For water bodies affected by hydropower, the authorities responsible for ensuring the achievement of the environmental objectives set in Article 4 of the WFD are the Norwegian Environment Agency, NVE, the County Governor's Offices, the Ministry of Climate and Environment, the Ministry of Petroleum and Energy and the Government. As a general rule for standard environmental terms, the Norwegian Environment Agency has the authority to impose measures in anadromous water courses and the County Governor's Offices in other inland water courses. If the specific water body is affected by other causes than hydropower, other Norwegian authorities may be involved as well.

Please explain, under Norwegian national law, which Norwegian authorities (i.e. Ministries, Departments, Agencies and/or other national or regional bodies) are responsible for granting and renewing licences to operators of hydroelectric power plants.

It is the Norwegian authorities (NVE, the Ministry of Petroleum and Energy, the Government and the Parliament) who are responsible for granting and renewing licenses to operators of hydropower facilities. The municipality is the responsible authority for granting licenses for hydropower facilities under 1 MW, with some exceptions.

Please explain how the Norwegian authorities which are responsible for granting and renewing licences to operators of hydroelectric power plants ensure the licences contain the relevant terms and conditions (tailored and adapted in light of any relevant specific factual circumstances) to ensure the behaviour and actions of hydroelectric power plant operators are controlled and regulated so that the Article 4 WFD environmental objectives are achieved.

A licence can only be granted if the advantages of the proposed facility exceed the disadvantages. A thorough process before and during the assessment of granting the licence, ensures that the licences contain relevant and tailored terms, including relevant mitigating measures to reduce the environmental impacts. The licensing procedures for hydropower projects pursuant to the Water Resources Act and the Watercourse Regulation Act are described in www.energifaktanorge.no.

For large-scale hydropower projects under the Water Resources Act and Watercourse Regulation Act, the procedures are more comprehensive. When an environmental impact assessment (EIA) pursuant to the Regulation on Environmental Impact Asessments (FOR-2017-06-21-854 "Forskrift om konsekvensutredninger") is mandatory, a notification and proposed EIA programme

are sent to NVE. NVE holds public consultations and thereafter determines the EIA programme. Then, the applicant sends the application and EIA report to NVE. NVE holds public consultations. Supplementary studies are performed if needed.

Relevant consultative bodies are local, regional and governmental entities, as well as local and national NGOs. Different public agencies have a responsibility to consider the application including the impact assessment. The Environment Agency and the County Governor's Offices are key agencies in this process. The assessment and consultation ensure that the decision is based on knowledge pursuant to the requirements in the Nature Diversity Act Section 8. If NVE finds that a licence should be granted, then NVE also recommends to the Ministry tailored terms to mitigate negative impacts from the hydropower facilities, such as minimum bypass flow, fish migration measures etc. The Ministry of Petroleum and Energy furthermore sends NVE's recommendation on public consultation to relevant local and regional municipalities. The applicant and other interest groups may comment upon this recommendation. Based upon this, and after feedback from relevant ministries, the final case is decided by the government.

Power plants between 1 and 10 MW pursuant to the Water Resources Act are also subject to comprehensive assessments and sent on public consultations. A study of biodiversity that may be affected by the development is required. After the application has been sent to NVE, NVE holds a public consultation. Authorities, organisations and landowners that will be affected are amongst those who are consulted. Supplementary studies are performed if needed. NVE's decision may be appealed.

In addition to this, tailored measures may be imposed after the licence has been granted. For instance, such tailored measures may be imposed pursuant to standard environmental terms as described under question 1a legal tool no. 3.

In those cases where it has been established that a minimum amount of water flow is necessary to ensure a water body is able to achieve the Article 4 WFD environmental objectives, please explain which Norwegian authorities are responsible for ensuring this happens in practice.

The licensee is responsible for ensuring compliance with the requirements set in the licence and relevant acts. NVE and the Ministry of Petroleum and Energy are responsible for controlling the licensee's compliance, as explained under question 4. If needed, the licences terms may be subject to revision, modification and other tools as described under question 1a.

b. ***Please explain how, Norway, in practise, monitors and assesses the actions/inactions and activities of operators of hydroelectric power plants and their effects on the respective water bodies.***

The Ministry notes that the Authority has asked similar questions under question 5aii. and 6d. Ecological status/potential is assessed for all water bodies, including those affected by hydropower activities.
Imposed surveys in regulated rivers and lakes are part of the operational monitoring according to Article 8 of the WFD and typically includes monitoring of fish status and ecological conditions for fish production (habitat/physical conditions, important areas for fry, spawning areas, ecological continuum etc). Invertebrates or other quality elements are included in the surveys where relevant. The main task is usually to identify bottlenecks for fish production and ecological functioning in order to assess relevant mitigating measures. Operational monitoring, imposed by the competent authorities, is an important source of data used to assess the effects of hydropower operation. Pursuant to standard terms set in licenses, cf. question 1a legal tool no. 3 above, the Environment Agency and NVE can impose the operator to do investigations on the effects of the hydropower facility on the respective water bodies.

Some regulated rivers are among the 37 rivers in The Norwegian Environment Agency's River Monitoring Programme, which form part of the surveillance monitoring in accordance with the requirements of the Article 8 of the WFD. In the surveillance monitoring all biological quality elements are monitored. The data from the monitoring will indicate the total effect of all the impacts on the watercourses. The data can in that way be used to show the effect of hydropower regulations. Regarding water bodies where such monitoring programs are imposed, the assessment is based on data collected from the surveys/monitoring.

In water bodies where monitoring is not imposed, for instance for hydropower activities without a licence, other surveys/monitoring may be initiated by local water administrators, often municipalities, NGOs using fiscal instruments or other stakeholders. If there is no monitoring, assessments are done by expert judgement based on pressure analysis, information in public databases (water flow etc) and local knowledge. For water bodies where status/potential is deteriorated, competent authorities identify relevant measures to include in the POMs.

In particular, please explain in detail if and whether operators of hydroelectric power plants are under legal requirements, in their licences or otherwise to monitor water flow.

As a part of the licence system, NVE and the Environment Agency perform inspections of the environmental conditions and development in water bodies and supervise whether the operators' actions are compliant with the terms. Also, pursuant to the Watercourse Regulation Act Section 31 and the Water Resources Act Section 53, NVE may control whether the licensee is compliant with the licence

terms.

The operators of hydropower facilities must adhere to the Internal Control Regulation («forskrift om internkontroll etter vassdragslovgivningen»), which shall ensure that requirements set in amongst others the Water Resources Act and Watercourse Regulation Act, or requirements set in licenses or similar pursuant to these acts, are fulfilled.

Pursuant to the Internal Control Regulation, the operators are obliged to monitor and document the fulfilment of requirements set in the licence or the underlying acts, such as minimum water flow or limits for amount of water in reservoirs set in the rules of the manoeuvring. The operator is also obligated to establish routines for uncovering, correcting and preventing deviations from requirements set in the licence or underlying acts. In the event of deviations, the operator shall correct such deviations.

NVE may supervise the operator's compliance of the Internal Control Regulation, compel the operator to pay liquidated damages in accordance with amongst others the Water Resources Act Section 60 and the Watercourse Regulation Act Section 33, and levy fines pursuant to the Water Resources Act Section 60a. In addition, violation of the Regulation may lead to penal sanctions with fines or imprisonment cf. the Water Resources Act Section 63. These legal measures are further described below under question 4c.

In particular, please explain if and whether hydropower operators are under legal requirements to ensure a minimum overall amount of water is retained in water bodies; ensure no relevant deterioriation of a water body (including its biodiversity) in breach of the WFD requirements; and/or, and ensure that the water body achieves compliance with the WFD environmental objectives (good ecological/chemical status) by the relevant deadlines.

For HMWBs, the Ministry would like to emphasise that the relevant environmental objectives are GEP. The obligations set in the WFD are binding for national authorities and national authorities are responsible for ensuring compliance with the WFD.

The operators of hydropower are therefore not directly responsible under the WFD. Their responsibility follows from terms set out in respective licenses and other relevant sector regulations, as described under question 1.

Please also explain whether hydropower operators are under a legal requirement in Norway to notify or inform Norway where there is a negative impact on the water body due to their actions, including an impact on water flow above relevant limits.

The WFD is binding for the national authorities. However, the hydropower operator is obligated to provide information of significance for the authorities' supervision when requested, cf. the Water Resources Act Section 55.

Pursuant to the Internal Control Regulation Section 6, the licensee shall document the requirements which follow from Section 5, including measurements and registrations to ensure that the facilities are operated in accordance with requirements in licenses or in the water resources legislation. Furthermore, NVE may compel the licensee to provide information, documentation and similar which is necessary to document its compliance with the Internal Control Regulation, cf. Section 6.

c. ***In those cases where there is a breach of the conditions in a licence (such as exceedance of a limit of the amount of water taken from a water body within a defined period of time), please explain what legal penalties or consequences exist under Norwegian national law.***

Administrative reactions

Reactions and sanctions may be founded in the standard terms, cf. question 1a legal tool no. 3. Pursuant to the Water Resources Act Section 59 and the Watercourse Regulation Act Section 32, the Norwegian authorities may oblige the licensee to correct or, if necessary, stop activities in breach of the terms. If needed to ensure that the hydropower production is done in accordance with the licence and underlying acts, such correction may include reverting the water body back to the former, legal condition pursuant to the licence.

If the licensee does not correct the circumstances within the deadline set by the authorities, the licensee may be obliged to pay liquidated damages from this deadline, cf. the Water Resources Act Section 60 and the Watercourse Regulation Act Section 33.

Fines for breach of amongst other licence terms may be levied, cf. Water Resources Act Section 60a and the Watercourse Regulation Act Section 35. The licence authorities may withdraw the profit gained from breach of amongst others the licence terms, cf. the Water Resources Act Section 60b and the Watercourse Regulation Act Section 35a.

If the licensee does not adhere to the order authorities to implement a measure or it is necessary to prevent an overhanging danger, the licence authorities can make sure that the measure is implemented, cf. the Water Resources Act Section 61. This only applies for duties founded in the Water Resources Act or a licence granted pursuant to this Act.

If the licensee is no longer deemed suitable to operate the hydropower facilities after

severe or repeated breaches of the law or decisions made in accordance with the law, the licence authorities can withdraw a licence or another permit, cf. the Water Resources Act Section 28 (2) and the Watercourse Regulation Act Section 34 (2). The same reaction applies if the licencee has provided incorrect or incomplete information of significance for the authorities' decision, cf. Water Resources Act Section 28.

Penalties

Fines or imprisonment are legal penalties for amongst other intentional or negligent breach of licence terms, cf. the Water Resources Act Section 63 and the Watercourse Regulation Act Section 36.

Further, the Authority has asked detailed questions for legal measures in the event of breach of the licence conditions.

In these questions, the Authority asks for Norway to explain immediate reactions. It is the understanding of the Ministry of the requirements of the WFD thatimmediate actions are not required. However, the national authorities have the competence to impose such immediate actions in certain circumstances pursuant to national legislation.

(i) ***In the event of breach of licence conditions, please explain whether a licence can be immediately withdrawn, annuled or forfeited.***

A licence can be withdrawn in the event of severe or repeated breaches of the Water Resources Act or decisions founded in this act, cf. Water Resources Act Section 28 and Watercourse Regulation Act Section 34. This is subject to an advance notice. However, other legal measures leading to less serious consequences for the licensee is typically used before withdrawing a licence. An example is immediately stopping the activities if the breach is severe and an immediate reaction is needed, cf. (iii) below.

(ii) ***In the event of breach of licence conditions, please explain whether the conditions of a licence can be immediately revised, changed or altered.***

The legal measure to revise the licence terms pursuant to the Watercourse Regulation Act Section 8 is not subject to the assumption that the licensee is in breach of its existing terms. Neither the legal measure to annul or change the licence terms pursuant to Water Resources Act Section 28 is based upon this assumption. The same applies for the standard term for changes in the rules of manoeuvring.

(iii) ***In the event of breach of licence conditions, please explain whether the operator can be immediately required to stop or change their activities.***

The licensee can be required to change or stop its activities to ensure compliance with the licence terms and the legislation, cf. Water Resources Act Section 51 and Watercourse Regulation Act Section 32. This is subject to an advance notice and an opportunity for the operator to give a comment. However if the breach is severe, an immediate reaction is needed, then the reaction to change or stop the operator's activities may occur without due delay.

(iv) ***In the event of breach of licence conditions, please explain whether Norwegian authorities can immediately require and compel the operators of hydroelectric power plants to increase water flow/quantity into a specific water body to ensure the protection and enhancement of the water body in accordance with the WFD, and under what conditions (i.e. whether Norwegian authorities can only require increased water flow/quantity for a certain period of time and/or only to the extent it does not significantly impact the financial or economic stability of the operator concerned);***

Reference is made to (iii) above, whereas the same conditions also apply in the event of breach of the requirements for minimum water flow. The licence authority may impose changing or stopping the licensee's activities to ensure compliance with minimum water flow requirements in the licence. If the specific licence term contributes to achieving the WFD environmental objective in the specific water body, the licence authority's order to stop or change the operator's activity will contribute to fulfilling this specific WFD environmental objective.

(v) ***In the event of breach of licence conditions, please explain whether the operator can be legally required to ensure the water body is changed so that it reverts back to substantively the same form as it was in before the hydroelectric power plant was constructed/operated.***

The Authority asks if the operator is required to ensure that the water body reverts back to the original form as it was before the plant was constructed. The Ministry understands that this question focuses on the authorities' enforcement actions in the event of breach of the licence terms.

If the licencee's breach of the terms does not qualify to withdraw the licence (cf. (i) above), then it is not relevant to impose a revertion of the water bodies back to the original form. Other reactions may be imposed to ensure compliance with the licence terms.

If the breach qualifies to withdrawing the licence, and in the event of closure,

the operator must remove the facility and, and on terms, revert the water body back to its original status prior to the construction of the hydropower facility, cf. the Water Resources Act Section 41 and the Watercourse Regulation Act Section 10.

d. ***Please provide an exhaustive list of the cases, since mid-2009, where Norway has taken steps to legally require and compel operators of hydroelectric power plants to increase the amount of water/water flow so as to ensure that the requirements under the WFD, in particular the environmental objectives under Article 4 of the WFD, are met. In each case, please explain:***

i. ***On what legal basis Norway took such action, and whether, for example (i) Norway relied upon the conditions contained in the licences to legally compel operators of hydroelectric power plants to increase the water flow; or (ii) Norway relied on other Norwegian national law to legally justify such action (and if so, what Norwegian law).***

ii. ***What specific action was taken by Norway and whether it involved enforcement action regarding a specific licence (e.g. forfeiture/annulment of a licence, revision of conditions in a licence, fines, legal orders or injunctive remedies for the operators to take action or refrain from taking certain action).***

iii. ***Whether the enforcement action taken by Norway has meant that the water body in question is now compliant with the WFD environmental objectives (good ecological/chemical status).***

The Ministry would like to emphasise that the specific environmental objective is decisive for whether increased water flow is necesarry to ensure achievement. Please find Annex 4 for an overview over where minimum water flow has been increased since 2009. Please find Annex 5 attached which lists cases from 2013 concluded by the Environmental Inspection unit in NVE. Annex 5 contains reactions towards operators due to lack of minimum flow and breaches on either the license or the Water Resources Act.

Answer to the Authority's question 5

Revision of licences and licensing conditions.

Please explain how the current Norwegian licensing system regarding hydroelectric power plant operators, in particular the revision and renewal of the terms and conditions of these licences, ensures that the Article 4 WFD environmental objectives are achieved in practice.

How the current Norwegian licensing system ensures compliance with the environmental objectives in Article 4 of the WFD are described in particular in question 1, 3 and 4, and below.

a. i. ***According to Section 6 of the Norwegian Watercourse Regulation Act, Norwegian authorities may grant licences to hydroeletric power plant operators for an unlimited period of time/duration (i.e. forever). Please provide an exhaustive list of the active licences, currently in existence, which are for an unlimited period of time including: (i) the names of the water bodies where the hydroelectric power plants are situated; and (ii) the names of the companies which benefit from these licences of unlimited time/duration.***

Please find enclosed a list of active licenses of unlimited duration, names of the water bodies where the hydropower plants are situated and names of the regulator/companies in Annex 6. The lists contains licences pursuant to the Watercourse Regulation Act related to cases of new hydropower, refurbishment and development and renewals. The list does not include hydropower plants pursuant the Water Resources Act.

ii. ***Please explain whether in the future, Norway currently intends to continue to grant licences to hydroelectric power plant operators of unlimited time/duration. If Norway does not currently have any intentions to grant a licence to a hydroelectric power plant operator of unlimited time/duration – please explain in what circumstances Norway would envision granting such a licence in the future.***

The main rule pursuant to the Watercourse Regulation Act is granting licenses of unlimited duration. Licences granted pursuant to the Water Resources Act are typically issued for unlimited duration but can be set with limited duration. Although the license is given with unlimited duration, the terms can be adjusted, revised or modified throughout the life cycle of the facilities, to reduce the environmental impacts where necessary. The duration of the hydropower licence is not considered to be a hindrance for achieving the environmental objectives. Therefore, the Norwegian government does not intend to introduce limited duration of new licences on the basis of WFD.

iii. (aa) ***Please explain how, in those situations where the Norwegian authorities have granted a licence of unlimited time/duration (i.e. forever) – the Norwegian licencing system ensures fulfilment of the Article 4 WFD environmental objectives and other WFD requirements before the deadlines as set out in the WFD as adopted.***

An overview of the legal tools applicable for indefinite licences, with the

aim of achieving the environmental objectives within the deadlines in the WFD, are provided under question 1 where further reference is made under the following categories:
- Facilities with licence pursuant to the Watercourse Regulation Act (with reservoirs)
- Facilities with licence pursuant to the Water Resources Act

(bb) ***Please explain how, in those situations where the Norwegian authorities have granted a licence of unlimited time/duration (i.e. forever) - the Norwegian licence system ensures fulfilment of the WFD Article 4 environmental objectives and other requirements in the WFD, in line with the 6-year monitoring and development programme as envisioned under the WFD and the publication of River Basin Management Plans.***

In the revision of RBMPs every six years, and in particular the assessment of cost-effective measures, the hydropower licences will be considered regarding possible environmental improvements. If a measure is assessed to be cost-effective and/or should be basis for re-defining GEP according to the “mitigation based method”/”Prague method”, the appropriate legal tools will be applied. The “Prague method” is described under question 7d. Regarding monitoring of the water bodies affected by hydropower, reference is made to question 4b.

Examples of how the Norwegian licence system ensures implementation of relevant measures in 6-year cycles, for water bodies where the environmental objectives are not yet reached, are provided below.

For licences pursuant to the Watercourse Regulation Act a relevant tool may for instance be revision of terms, cf. question 1a legal tool no. 7. If needed, relevant measures for the subsequent 6-year cycle may be founded in the licence terms such as standard environmental terms or the clause for change in the manoeuvring, cf. question 1a legal tool no. 3 and 5.

Relevant measures in the current 6-year cycle for licences pursuant to the Water Resources Act may for instance be modification of terms, cf. question 1a legal tool no. 8. If needed, relevant measures for the subsequent 6-year cycle may be founded in the standard environmental terms, cf. question 1 legal a) tool no. 3.

iv. ***Please explain how, in those situations where a hydroelectric power plant operator has been granted a licence to operate a hydroelectric power plant for an indefinite period of time (i.e. forever), Norway is able to sufficiently control the activities and behaviour of a hydroelectric power plant operator,***

for example, where there is, or may be, non-compliance with EEA law such as the WFD.

In particular, please explain how Norway is legally able, for example, to immediately withdraw or annul a licence where a water body deteriorates in breach of the WFD requirements, and/or does not, or may not, achieve the Article 4 WFD envrionmental objectives.

Please explain how Norway is legally able, for example, to immediately compel a hydroelectric power plant operator to increase water supply and flow into a water body to ensure compliance with the WFD.

The WFD is legally binding towards national authorities. If the environmental objectives are not reached in the specific water body, the national authorities will apply measures by imposing the operator to do environmental improvements, with the aim of achieving the specific environmental objective. It is the understanding of the Ministry that the requirements of the WFD do not require immediate reactions as a part of the RBMPs. However, the national authorities have the competence to impose immediate reactions under certain circumstances.

Reference is made to the legal measures to compel environmental improvements, cf. question 1, 3 and 5a iii. above. The licensee must adhere to the requirements set in the Internal Control Regulation, cf. question 4b. In the event of breach of a licence of unlimited duration pursuant to the Watercourse Regulation Act or the Water Resources Act, the Norwegian authorities may impose administrative reactions or sanctions on the licensee as described under question 4c.

Please explain, giving an exhaustive list of examples since mid- 2009, whether – in practice – Norway has ever legally compelled a hydroelectric power plant operator, who has an indefinite term licence, to change its activities and behaviour (such as increasing water flow into a water body) to ensure the Article 4 WFD environmental objectives are achieved in practice.

In the Ministry's reading, the Authority requests an exhaustive list of examples since 2009 where Norway has changed terms in indefinite licenses, to ensure the Article 4 WFD environmental objectives are achieved in practice. The Ministry would like to emphasise that the specific environmental objective is decisive for whether increased water flow is necessary to ensure achievement. Please find Annex 7 enclosed. In addition, measures have been implemented for licences pursuant to the Water Resources Act. Measures listed in Annex 3 and 6 may also be relevant.

b. i. ***According to Section 8 of the Norwegian Water Resources Regulation***

Act, Norwegian authorities may revise the conditions set out in licences to hydroelectric power plant operators after 30 years. Please provide an exhaustive list of the active licenses, currently in existence, for which the term/duration of the licence is for a 30-year period (or longer) including (i) the names of the water bodies where the hydroelectric power plants are situated; (ii) the names of the companies which benefit from these licences of a 30-year period or longer; (iii) the term/duration of the licence in question; and (iv) when these licences are currently due to expire/terminate.

Please find Annex 6 attached for active licences pursuant to the Watercourse Regulation Act.

ii. ***Please explain whether, from Norway's perspective, it would be correct to state that, under Norwegian national law, there is no automatic legal requirement for conditions set out in a licence to be revised at least every 30 years. Please explain whether it is possible, under Norwegian national law, that the licence conditions may never be revised, and the licence may continue to endure forever under the same conditions as initially set out in a licence. Please explain when (i.e. under what legal circumstances) the conditions in a licence would/would not be revised.***

Reference is made to question 1a and legal tool no. 7. As a part of the RBMPs, revision of licence terms may be identified as a measure for environmental improvements in specific water bodies. If the specific environmental objectives require revision of the licence terms, this is sufficient for opening a revision case. In theory, if there is not a need to revise the terms in the licence to ensure environmental improvements or modernisation, then a licence may not be revised.

iii. ***Please provide an exhaustive list of the active licences, currently in existence, for which the term/duration of the licence is for a 30-year period (or longer) and where the conditions of the licence have never been revised.***

Please find Annex 6 attached, for an exhaustive list of active licenses where the terms of the license has not been revised.

iv. ***Please provide an exhaustive list of the licences of 30 years or more in length, whose conditions have been revised since the entry into force of the WFD, including a summary of: (i) how/which conditions were revised; (ii) whether the conditions were revised to include provisions explicitly relating to the Article 4 WFD environmental objectives; (iii) whether the***

provisions were revised to include requirements for the hydroelectric power plant operators to permit a minimum amount of water flow into a water body; (iv) and a description on how long it took, in practice, to revise the conditions in these licences.

Please find Annex 6 attached, for an exhaustive list of the licenses whose terms have been revised.

v. ***Please explain how, in those situations where a hydroelectric power plant operator has been granted a long term licence (i.e. of 30 years or more in length) to operate a hydroelectric power plant, Norway is able to sufficiently control the activities and behaviour of a hydroelectric power plant operator, for example, where there is or may be non-compliance with EEA law such as the WFD.***

The same measures which apply to licences of unlimited duration mentioned under question 5a iii. and iv. with further references to question 1a also apply to licences of limited duration. In addition, when a licence of limited duration expires, this licence is subject to a new licence granting process. An application for a renewed licence may be declined by the licence authorities or may be granted with new specific terms and updated standard terms.

In particular, pleaseexplain how Norway is legally able, for example, to immediately withdraw or annul a licence where a water body deteriorates in breach of the WFD requirements, and/or does not, or may not, achieve the Article 4 WFD environmental objectives. Please explain how Norway is legally able, for example, to immediately compel a hydroelectric power plant operator to increase water supply and flow into a water body to ensure compliance with the WFD.

Reference is made to the answer to question 5a iv.

Please explain, giving an exhaustive list of examples since mid-2009, whether – in practice – Norway has ever legally compelled a hydroelectric power plant operator, who has a long term licence (i.e. of 30 years or more in length), to change its activities and behaviour (such as increasing water flow into a water body) to ensure the Article 4 WFD environmental objectives are achieved in practice.

Please find attached Annex 6 for an exhaustive list of changed activities for an operator with long term license. Annex 7 contains a list of cases where terms set out in a licence have been used to impose surveys and measures in anadromous rivers. More information on imposed measures is given in the answer to question

9d. Measures listed in Annex 3 may also be relevant.

c. i. ***The WFD sets out a programmatic legal framework under which EEA States are required to adopt plans, and take relevant measures, in 6-year cycles to ensure certain ecological and chemical outcomes are achieved. Please explain whether Norway would concur that, in line with the 6-year cyclical programme envisioned under the WFD, EEA States must put in place measures to monitor and, where relevant, take relevant action – to ensure the status of water bodies (including the relevant ecological and chemical parameters of water bodies) is protected, enhanced and does not deteriorate in any 6-year period – and that there is no deterioration from one 6-year period to another.***

Pursuant to Article 4 of the WFD, the EEA states are commited to protect and enhance the HMWBs with the aim of achieving GEP, and protect, enhance and restore natural water bodies with the aim of achieving GES, unless excemptions under Article 4 are applicable.

The Ministry concurs that EEA states must have monitoring programmes and POMs in place to ensure knowledge on ecological status/potential and chemical status, as well as the necessary measures in place aiming to obtain the environmental objectives.

(aa) ***Please explain whether Norway would concur that where there is a deterioration in breach of the WFD requirements, it is important to detect the deterioration as soon as possible – which implies a minimum frequency of monitoring on a weekly/monthly/yearly basis***

On a general basis, Norway concurs that it is important to detect deterioration in accordance with the requirements set in the WFD.

(bb) ***Please explain whether Norway would concur that where there is a deterioration in breach of the WFD requirements, it is important for those with any information suggesting deterioration – to inform the national authorities as soon as possible.***

National authorities are responsible for obtaining the environmental objectives pursuant to the WFD. On a general basis, the national authorities are positive to obtain information relevant to environmental status/potential from anyone.

Deterioration of biological quality elements, like fish, will usually take years to discover as pressures work over time. However, rapid incidents related to water flow might have abrupt and long-term negative effect on

ecology. These incidents will be identified by monitoring, and by locals who detect stranding of fish etc.

The hydropower operator must adhere to the requirement set in Internal Control Regulation, as further explained under question 4b. Monitored water flow is reported to the authorities. The hydropower plant is obliged to report to the authorities when the licence terms are not upheld. Surveys of possible deterioration due to the breaches of licence terms is usually initiated after such incidents.

(cc) ***Please explain whether Norway would concur that where there is a deterioration in breach of the WFD requirements, it is important for the national authorities to have sufficient legal powers to compel those responsible for such deterioration to cease or change their activities so no further deterioration occurs – which implies that national authorities have legal powers to, amongst other things, compel stakeholders to ensure there is sufficient or minimum water flow into a water body. Norway is asked to explain how the current Norwegian legal framework achieves these outcomes in practice.***

The Ministry concurs that it is important to have legal measures to compel hydropower operators responsible for deterioration in breach with the WFD, so no further deterioration occurs. It is emphasised that the specific environmental objective is decisive for whether increased water flow is necessary to ensure achievement. An overview of the legal framework is addressed under question 1a and 4. For instance, in the event of breach of the rules of manoeuvring, the authorities can impose that the activities are corrected. If changes to the rules of manoeuvring are needed, this may be founded in the standard term for changing the rules of manoeuvring.

ii. ***Please provide an exhaustive list of the active licences, currently in existence, which the Norwegian authorities have granted to operators of hydroelectric power plants, for which the term/duration of the licence is for a 6-year period (or longer) including: (i) the names of the water bodies where the hydroelectric power plants are situated; (ii) the names of the companies which benefit from these licences; (iii) the term/duration of the licence in question; and (iv) when these licences are currently due to expire/terminate.***

Please find Annex 6 enclosed for an exhaustive list of active licences, currently in existence, which the Norwegian authorities have granted to hydropower operators, for which the term/duration of the licence is for a 6-year period (or longer) including names of water bodies, operating company

and expiration date.

iii. ***In those cases where operators have a licence which endures for a period of more than 6 years, please explain in detail how Norway is able to adequately, sufficiently and effectively assess, control or change the activities of hydroelectric power plant operators as a minimum every 6 years to ensure the relevant water bodies are protected, enhanced and do not deteriorate in accordance with the legal principles and framework set out under the WFD. Please explain, for example, how Norway is legally able to immediately compel a hydroelectric power plant operator to increase water supply and flow into a water body to ensure compliance with the WFD.***

The Ministry's understanding of this question is that it has a focus on licences with a duration longer than 6 years, which consequently exceeds the 6-year cycle in the WFD. The same legal measures applicable for licences of limited and unlimited duration also apply for this category, cf. question 5 a) iii. and iv. and 5 b) v. with further references to question 1a.

The Ministry notes that the Authority asks for immediate actions. The Ministry's understanding of the requirements of the WFD is that the 6-year cycle of the RBMPs do not explicitly require immediate actions. However, there exist measures to impose immediate actions in certain circumstances.

iv. ***Please explain, giving an exhaustive list of examples since mid-2009, whether – in practice – Norway has ever legally compelled a hydroelectric power plant operator, who has a licence (with a duration of 6 years or more in length), to change its activities and behaviour (such as increasing water flow into a water body) to ensure the Article 4 WFD environmental objectives are achieved in practice.***

Please find Annex 3, 6 and 7 attached.

d. ***In those situations where:***

i. ***There is deterioriation regarding the classification of a particular water body (or a fall vis-á-vis a particular quality element) in breach of the Article 4 WFD requirements or it will not be possible for a particular water body to achieve good ecological/chemical status by the relevant deadline; and***

ii. ***The failure to comply with the Article 4 WFD requirements is due to the operation of the hydroelectrical power plant, and***

iii. ***The operator of a hydroelectrical power plant has been granted a licence which endures for a period which exceeds a 6 year period – with the consequence that the operator will not be required to change***

its activities to ensure the water body complies with the Article 4 WFD requirements before the deadlines:

(i) ***Please explain how Norway can stop, intervene or otherwise change the actions/inactions and behaviour of the operator of the hydroelectric power plant in order to ensure that Norway complies with the Article 4 WFD requirements.***

(ii) ***In the event that Norway cannot, per se, stop, intervene or otherwise adequately or sufficiently change the actions/inactions and behaviour of the operator of the hydroeletric power plant so that water body achieves echological/chemical status and/or does not deteriorate – pelase explain how Norway complies with and will comply with its obligations under Article 4 WFD. More specifically, if Norway does not have a legal system in place which can sufficiently control, or control at all, the behaviour and activtiies of operators of hydroelectric power plants – please explain how Norway has in accordance with Article 4 of the WFD «implement[ed] the necessary measures» to ensure the Article 4 WFD requirements are achieved before the relevant deadlines.***

The Authority has set some premises for the questions (i)-(ii) below. Reference is made to premise i., whereas the Ministry would like to emphasise that ecological potential is the relevant environmental objective for HMWB.

Furthermore, it is the Ministry's understanding that the Authority under this premise iii. sets as a premise that a consequence of having a licence with a duration exceeding 6 years is that the operator will not be required to change its activities to ensure that the water bodies comply with Article 4 within the relevant deadlines. As a continuation, under (i) the Authority asks how Norway can stop, intervene, or otherwise change the behaviour of the hydropower operator to ensure compliance with Article 4 of the WFD.

The Ministry finds that the premise under premise iii. is not accurate. The duration of the licence is not a hindrance for implementing the legal measures in the water resources legislation as referred to below to ensure compliance with the WFD.

(i) Reference is made to question 5a iii. And iv., 5b v. and 5c iii. With further references.

(ii) Reference is made to (i) above.

Answer to the Authority's question 6

Situations where hydroelectric power plant operators are not legally required to obtain or retain a Norwegian licence

a. ***Please explain whether operators of hydroelectric power plants are legally required to obtain or retain a licence to operate a hydroelectric power plant in Norway in all situations without exemptions or, alternatively, whether there are situations where certain operators of hydroelectric power plants are not legally required to obtain or retain a licence.***

Certain operators of hydropower plants are not legally required to obtain a licence, c.f. 6b.

Please explain how many hydroelectric power plants operate in Norway today which do not require a licence, which water bodies they operate within and who operate those plants (i.e. which companies).

Please find enclosed Annex 8.The information requested in question 6a, 6c and 6e are combined in one excel sheet. In the following, an explanation of the column G of the excel sheets is provided. In column G, the hydropower facilities without licence are divided into two categories: "exempt licensing" (category (i) under question 6b) and "no licence" (category (ii) under question 6b).

Some power plants, where licence was not mandatory pursuant to former legislation (category (ii) under question 6b), have been subject to refurbishment and development. In these cases, and upon specific assessments, the power plant after the refurbishment/development may still not be subject to a licence pursuant to current legislation (category (i) under question 6b). This applies to a small amount of power plants. In addition, some of the power plants with no licence (category (ii) under 6b) are dated from when they were refurbished/developed in column G, but the original power plants are older than stated in the excel sheet.

The licence status of the power plants in the excel sheet might not be complete. To verify the license status, thorough assessment of historic documents must be undertaken for each specific power plant. Given this uncertainty, NVE has estimated that the total number of power plants without a license is 682 (Annex 8) of which 479 are exempt license (category (i) under question 6b) and 203 do not have licence pursuant to former legislation (category (ii) under question 6b). The total power production from these plants is approximately 9,8 TWh of the total Norwegian

hydropower production of 138 TWh. The majority of production comes from large run of river plants constructed before the Watercourses Regulation Act of 1917 and Water Resources Act of 1940. Of the 203 power plants with no license (category (ii) under question 6b), 120 are under 1 MW. 365 of the 479 power plants given with license exemption (category (i) under question 6b) are under 1 MW.

b. ***Please explain why these operators are not legally required to obtain and retain licences. Please explain, for example, whether that is because the hydroelectric power plant: (i) is considered too small (i.e. an installation, for example, below 10MWpa) to have any relevant effects on the water body; and/or (ii) was constructed and began to operate before 1905 (i.e. before the entry into force of Norwegian national licensing laws for hydroelectric power plants).***

Operators which are not legally required to obtain licences can mainly be divided into following main categories:

(i) ***Licence not mandatory pursuant to current legislation****:* Hydropower facilities which do not contribute to harm or disadvantage of significance for public interests, including the environment, are not subject to obtain a licence pursuant to the Water Resources Act Section 8 and 18. This applies for hydropower facilities constructed after the Water Resources Act entered into force in 2001. The majority of unlicenced facilities after 2001 are very small, under 1 MW capacity.

(ii) ***Licence not mandatory pursuant to former legislation****:* Hydropower facilities which were established before the Water Resources Act entered into force and were not subject to a licence pursuant to the current licence legislation at the time, may continue operating without being subject to a licence, unless they are summoned for licensing for instance due to failing the environmental objectives of the WFD. However, if the operator applies for alterations in existing old hydropower facilities, it must be assessed whether such alteration causes that the facilities now are subject to a licence pursuant to the current water resources legislation.

c. ***Please provide a list of names of the companies which operate hydroelectric power plants in Norway and which are not currently required to obtain/retain a licence to operate the hydroelectric power plant. Please indicate where these plants are situated (i.e. what water bodies), how long they have operated without a licence, and when, in the future, if ever, these operators will be required to obtain/retain a licence.***

Please find Annex 8 enclosed and explanatory notes in 6a.

d. ***Please explain in detail how Norway is able to adequately, sufficiently and effectively assess, monitor, control and/or change the activities of hydroelectric power plant operators as a minimum every 6 years to ensure the relevant water bodies are protected, enhanced and do not deteriorate – in accordance with the legal principles and framework set out under the WFD – in those cases where operators are not required to obtain or retain a licence to operate their hydropower plants at all.***

Regarding how Norway is able to adequately, sufficiently and effectively assess, monitor, reference is made to question 4b which also describe this for hydropower activities without licence.
If the environmental objectives are not reached in the specific water body, the national authorities will implement measures by compelling the operator with the aim of achieving the specific environmental objective. The necessary tools with the aim of achieving the Article 4 WFD environmental objectives for facilities mentioned under 6b are described above under question 1a where further reference is made under the following categories:

- Facilities where licence is not mandatory pursuant to current legislation
- Facilities where licence was not mandatory pursuant to former legislation

As described under question 1a, if an operator of hydropower facilities with a licence upstream in the river has terms allowing the authorities to impose environmental improvements, these improvements can also contribute the environment downstream in areas where the watercourse is also affected by hydropower facilities without licence.

e. ***Please explain, giving an exhaustive list of specific situations since mid-2009, how Norway has legally compelled operators of hydroelectric power plants to take action (such as increasing water flow into a water body) to ensure the Article 4 WFD environmental objectives are achieved in practice in situations where the operator was not required to hold a licence, and how (i.e. on what legal basis) Norway took such action.***

Please find Annex 3 enclosed. This lists cases where Section 66 of the Water Resources Act have been applied for hydropower operators part of category 6b(ii), and cases where the “common lowest water flow” cf. Section 10 in the Water Resources Act for hydropower operators part of category 6b(i) have been applied. For the sake of completeness, operators also implement environmental improvements voluntarily.

f. ***In those situations where:***

i. ***There is a deterioration regarding the classification of a particular water body (or a fall vis-á-vis a particular quality element) in breach of the article 4 WFD requirements or it will not be possible for a particular water***

bod to achieve good ecological/chemical status by the relevant deadlines, and

ii. ***The failure to comply with the Article 4 WFD requirements is due to the operation of the hydroelectric power plant, and***

iii. ***The operator of a hydroelectrical power plant is not required to obtain or retain a licence – with the consequence that the operator cannot be required to change its activities pursuant to the conditions of a licence, to ensure the water body complies with the Article 4 WFD requirements before the relevant deadlines:***

(i) ***Please explain how Norway can stop, intervene or otherwise change the actions/inactions and behaviour of the operator of the hydroelectric power plant in order to ensure that Norway complies with the Article 4 WFD requirements.***

(ii) ***In the event that Norway cannot, per se, stop, intervene or otherwise adequately or sufficiently change the actions/inactions and behaviour of the operator of hydroelectric power plant so that water body achieves good ecological/chemical status and/or does not deteriorate – please explain how Norway complies and will comply with its obligations under Article 4 WFD. More specifically, if Norway does not have a legal system in place which can sufficiently control, or control at all, the behaviour and activities of operators of hydroelectrical power plants – please explain how Norway has in accordance with Article 4 of the WFD "implement[ed] the necessary measures" to ensure the Article 4 WFD requirements are achieved before the relevant deadlines.***

The Authority has set some premises for the questions (i)-(ii) below. Reference is made to premise i., whereas the Ministry would like to emphasise that ecological potential is the relevant environmental objective for HMWBs.

It is the Ministry's understanding that the Authority under this premise iii. sets as a premise that a consequence of not being obligated to have a licence is that the operator will not be required to change its activities to ensure that the water bodies comply with Article 4 within the relevant deadlines. As a continuation, under (i) the Authority asks how Norway can stop, intervene, or otherwise change the behaviour of the hydropower operator to ensure compliance with Article 4 of the WFD.

The Ministry finds that the premise under premise iii. Is not accurate. Also, for hydropower facilities without licence, legal measures in the water resources legislation and general administrative law as referred to under (i) below to

ensure compliance with the WFD are in place.

(i) Reference is made to question 6d with further references to 1a and 4b.

(ii) Reference is made to (i).

Answer to the Authority's question 7

Reliance by Norway on exemptions and derogations regarding achievement of Article 4 requirements vis-á-vis water bodies where hydroelectric power plants operate.

Please explain how many water bodies in Norway currently have hydroelectric power plants installed and/or operating within them.

When assessing the impact of human activity on the status of water bodies according to Article 5 of the WFD, hydropower was identified as a pressure in a total of 5431 water bodies (appr. 15%). Hydropower was identified as a significant pressure causing deterioration of status in 2789 river water bodies, 1184 lakes and 35 coastal water bodies, whereas status in 899 rivers, 499 lakes and 26 coastal water bodies were listed as having little or unknown effect on ecological status from hydropower activities. Also, hydropower activity might have an effect on ecological status beyond the water body they operate in.

A list over water bodies affected by hydropower plants from the water information system "Vann-Nett" is compiled in Annex 9. Water bodies significantly affected is found in a different sheet than those that are less affected. Some water bodies are assessed as being impacted by more than one hydropower pressure.

a. i. ***Of the water bodies which currently have hydroelectric power plants installed and/or operating within them, please explain how many have been identified as benefitting from one of the exemptions set out in Article 4 of the WFD. In particular, please explain how many of these water bodies have been declared and identified as being a 'Heavily Modified Water Bodies' under Article 4 (3) of the WFD.***

As the question refers to exemptions from good ecological status and not ecological potential, information on water bodies that fall under the scope of Article 4 (3), and are designated as HMWBs, is included as well. The environmental objective in a HMWB is GEP. The Ministry notes that HMWBs are an own category and not an exemption.

3379 water bodies significantly affected by hydropower are designated as HMWBs.

ii. ***Please explain how many of these water bodies have been***

identified as benefitting from the Article 4 (5) WFD exemption regarding 'less stringent environmental objectives'.

942 water bodies affected by hydropower plants or operations which are currently considered to fulfil the conditions for Article 4 (5) and have less stringent environmental objectives. The RBMPs 2022-2027 are under approval.

The Authority states in this and other questions that the water bodies benefit from the use of exemptions. The Ministry disagrees with the Authority in that description. The ecology in the water bodies does not benefit from this practise. Other considerations than ecology are however given overruling weight pursuant to the WFD Article 4 (5).

b. ***Please explain whether, in Norway's view, it would be correct to state that, for the period 2016-2021, approximately 1,452 water bodies in Norway were identified as benefitting from the Article 4(5) WFD exemption and that this number would account for approximately 60% of the all the water bodies in the whole of the EEA, which benefit from this exemption.***

Data reported by Norway for the RBMPs 2016-2021, shows that 1452 water bodies were identified as having less stringent objectives in accordance with Article 4(5) due to technical infeasibility or disproportionate cost. The RBMPs 2016-2021 were the first RBMPs in Norway. The available information has been improved for the second RBMPs 2022-2027.

Norwegian electricity production is to an exceptional degree based on hydropower (90%). This, and the Norwegian topography and hydrography, explain to a large extent the number of HMWB in Norway. These natural conditions are also reflected in the total number of water bodies in Norway (more than 34 000).

Norway has also chosen to delineate water bodies strictly in accordance with classification guidance provided by the CIS, and in that way generating this large number of water bodies. The percentage referred to in the question above with regards to Norway's share of water bodies with exemption due to the use of Article 4 (5) is correct as of the reporting of the RBMPs 2016-2021. However, the number has so far been significantly reduced during the subsequent planning period, cf. question c. below.

When comparing statistics, it should be kept in mind that there might be differences between the Member States in the use of exemptions pursuant to Article 4 (4) and 4 (5).

c. ***Please indicate whether the number of water bodies in Norway which have been identified as benefitting from an exemption to the requirement to achieve good ecological and chemical status – has, according to the River Basin Management Plans, increased since the entry into force of the WFD in Norway.***

The Ministry would like to emphasise that GEP is the environmental objective for HMWBs. HMWBs are considered to be an own category of water bodies.

The RBMPs 2016-2021 were the first RBMPs in Norway. When updating the RBMPs for 2022-2027, all water bodies are assessed by competent authorities using updated information, and the current number of the water bodies with less stringent objectives pursuant to Article 4 (5) has so far been reduced to 1011 HMWBs and 23 natural water bodies. 942 of the 1011 HMWBs with less stringent objectives are due to hydropower activities. Norway is at present in the process of formally approving the RBMPs for this second cycle.

d. ***Please provide a comprehensive breakdown of the water bodies, where hydroelectric power plants operate, that have now been identified by Norway as benefitting from an exemption to the requirement to achieve good ecological and chemical status.***

A list of all water bodies that currently fall under the scope of Article 4 (5) can be found in Annex 10. This is based upon the updated RBMPs 2022-2027, which are not yet approved. This list includes information on ecological potential, environmental objective and type of pressure. Rivers with anadromous species such as Atlantic salmon, Sea trout and Arctic charr have had a more detailed analysis than rivers with inland fish species.

Please explain whether water bodies, where hydroelectric power plants operate, are normally or generally automatically regarded as benefitting from the requirement to achieve good ecological and chemical status in Norway.

No water bodies are automatically considered as falling within the exemptions of Article 4. For descriptions on how these specific assessments are done in practice, reference is made to the answer to the Authority's subquestion below.

Please explain whether there are water bodies in Norway, where hydroelectric power plants operate, which, according to Norway, must achieve good ecological and chemical status.

There are 1908 water bodies affected by hydropower activity that are natural water bodies with good ecological and chemical status as environmental objectives. This would typically include smaller hydropower plants or installations or water bodies in which there already is, or it is possible to obtain, sufficient water flow, ecological

continuum, and habitat conditions to secure good ecological status without significantly affecting the water use.

When Norway assesses and identifies water bodies, where hydroelectric power plants operate, as benefitting from an exemption to the requirement to achieve good ecological and chemical status – please explain how this is done in practice, and whether the individual facts and characteristics of the water body in question are taken into account and, if so, how.

HMWB and GEP

As the question refers to exemptions from good ecological status and not ecological potential, information on water bodies that fall under the scope of Article 4 (3), and are designated as HMWBs, is included as well. The Ministry notes that a HMWB is an own category and not an exemption.

Water bodies designated as HMWBs have GEP and good chemical status as environmental objectives. The method for designating HMWBs and assessing measures and potential thus follows the "mitigation measures approach" ("Prague method"). The methodology is thoroughly described in a national guidance for HMWBs.[2]

All water bodies included those affected by hydropower activities, have first undergone an analysis by classifying ecological and chemical status and assessing pressures. The analysis identifies whether measures are necessary to obtain the environmental objectives. In water bodies where the pressures causing deterioration are changing the characteristics of a water body, a further analysis is needed to see whether the criteria for designation of a HMWB are met. This includes an analysis of whether measures that are necessary to obtain good ecological status have a significant adverse effect on the water use.

This analysis is performed by the County Governor's Office in dialogue with competent authorities such as the Environment Agency and NVE, local water managers and stakeholders. All water bodies undergo an individual assessment. Characteristics of the water body is found by using monitoring data and public databases containing information on geology, catchments, topography as well as information on calcium, organic carbon, and turbidity. This is described further under question 4b. Updated information is also obtained from implemented measures, which were identified in the POMs in the previous 6-year cycle.

For each individual HMWB, a further individual assessment is made to define GEP for the specific water body. GEP equals the ecological conditions that may be achieved by implementing all realistic mitigating measures that do not have a significant adverse effect upon water use. A national directions has been developed

[2] 01:2014 "Sterkt modifiserte vannforekomster"

to guide on the asessment of significant adverse effects. A minimum of biological and hydromorphological conditions must be present (functional aquatic ecosystem) to achieve GEP. A functioning aquatic ecosystem is described in the national guidance for HMWBs as an ecosystem with functioning ecological conditions to sustain complete life cycles, containing all biological quality elements that was there before the hydromorphological modfications. This is further specified as conditions supporting spawning and shelter for juvenile stages, water cover throughout the year for a substantial part of the water body, a minimum of possibilities for migration up- and downstream between spawning, rearing, and feeding grounds for particular vulnerable/prioritised species (part of the year).

Less stringent objectives

For some water bodies, additional regional meetings have been held to assess whether the criteria for less stringent objectives pursuant to Article 4 (5) of the WFD were met. This applies for water bodies in which realistic mitigating measures are not sufficient to meet the conditions for a functioning aquatic ecosystem, because this would be infeasible or disproportionately expensive. The methodology is described in a national guidance for HMWBs.[3]

Each water body is assessed individually by the use of information on status and monitoring data, regional and local know-how and public databases. Some river water bodies with less stringent objectives are river stretches in steep mountainous areas where water flow has been reduced, but where it would be difficult or very expensive to impose measures or were measures would have little effect. Others are water bodies in which necessary mitigating measures to achieve the environmental objective, most often increased water flow, is infeasible or disproportionately expensive.

Answer to the Authority's question 8

Norwegian Guidance Documents and CIS Guidance Documents.

Please explain whether the Norwegian national guidelines concerning hydropower installations adopted and/or published in 2014, are still in effect and used in Norway.

The national guidance on HMWB from 2014 was developed on basis of the existing knowledge at the time, in particular CIS Guidance Document No. 4. Furthermore, it was based on the results from a number of workshops that Norway participated in with the Member States. The "Prague method"/ "measure-based method" emerged as a result of this process.

The national guidance on HMWB from 2014 is still in effect. However, national guidance can

[3] 01:2014 "Sterkt modifiserte vannforekomster"

continuously be subject to changes.

a. ***Please explain whether Norway would agree that the 2014 Norwegian guidelines concerning hydropower installations do not contain important elements to consider regarding the installation and operation of hydroelectric power plants – such as the hydro morphological quality elements set out in CIS Guidance Document No. 37 (2019) "Steps for defining and assessing ecological potential for improving comparability of Heavily Modified Water Bodies".***

The CIS Guidance Document No. 37 (2019) includes more issues than the Norwegian HMWBs Guidance Document (2014).

Other Norwegian WFD Guidelines which describe hydro morphology and HMWB issues are also relevant, such as the national guidelines on measures and monitoring. As also described under question 1a, Norway published an updated national guideline on measures compiling all relevant measures which include measures from the European mitigation measure library used to mitigate impacts from hydropower.[4] In addition, the same measures are available in the national water information system "Vann-Nett".

In general, Norway has a good system for hydrological monitoring (waterflow in rivers, water level in lakes). Monitoring of morphological qauality elements is less developed. The CIS Guidance Document No. 37 focuses on "the best approximation to ecological continuum" both regarding sediment transport and water flow, in addition to migration and drift of aquatic organisms. The Norwegian guidance (2014) has mainly focus on biological continuity and measures to ensure or restore natural fish migration.

For the following RBMPs, Norway will consider updating the national guidances.

b. ***Please explain whether, in those situations where the Norwegian national guidelines concerning hydropower installations differ or are not the same as the guidance set out in more recent EU Guidance Documents – such as the CIS Guidance Documents - whether the older Norwegian Guidelines would be regarded as the primary measure and means of interpreting and implementing Norwegian law, or whether the CIS Guidance Documents would be regarded as the primary measure and means of interpreting and implementing Norwegian law.***

It is the Ministry's understanding that the CIS Guidance Documents are guidances and as such not legally binding. The national guidances and the CIS material may contribute to the interpretation and implementation of the requirements pursuant to the WFD in national law.

c. ***Please confirm that Norway participates and actively contributes to the creation and adoption of the CIS Guidance Documents and whether the Norwegian Water***

[4] https://www.vannportalen.no/veiledere/Virkemidler-og-tiltak-i-vannforvaltningen-01.12.2020/

Director, or another responsible person/body in Norway, has endorsed the CIS Guidance Documents.

Norwegian authorities normally participate at the Water Directors meetings. Norwegian experts have been actively contributing in the ECOSTAT intercalibration processes and to several of the recent CIS Guidance Documents as members of expert or drafting groups. The most relevant documents have been circulated and commented by relevant authorities and experts during the drafting and hearing processes arranged by the ECOSTAT group. The CIS Guidance Documents has endorsed the CIS Guidances Documents.

An unofficial executive summary from CIS Guidance Document No. 37 was translated into Norwegian in January 2020.

Answer to the Authority's question 9

Impact of hydroelectric power plants on biodiversity, including, for example wild salmon.

***Please confirm that Norway recently added wild salmon to the list of endangered species in Norway**.*

The Norwegian Red List, which contains endangered species, is revised in 6-years intervals. The most recent edition was published in November 2021. Atlantic salmon, *Salmo salar*, was added to the Norwegian Red List for Species in 2021.[5]

Please explain when and why Norway included wild salmon to the list of endangered species.

The assessment of status of Atlantic salmon for the Red List 2021 is based on monitored and estimated annual numbers of ascending salmon to the rivers. Numbers have been fluctuating, but a reduction in numbers of ascending salmon from 1983 to 2019 indicates a long-term downward trend with a reduction between 21 % and 25 % over three generations. Species on the Red List are assessed according to a set of quantitative criteria as set by the International Union for Conservation of Nature (IUCN). Atlantic salmon was regarded "near threatened" due to a significant reduction in numbers over three generations and an anticipated continued reduction.

Please confirm that this was due, in part, to the loss o**f **natural habitat for wild salmon, including the loss of natural habitat due to the installation and operation of hydroelectric power plants.

[5] Rødlista 2021 - Artsdatabanken

The loss of natural habitats for wild Atlantic salmon due to regulation of water flow is listed as one of several pressures causing reduction of Atlantic salmon over the last decades.

a. Please explain how many water bodies have seen a significant decrease in the number of wild salmon since mid-2009.

The status of Atlantic salmon has been classified for the years 2010-2014[6] and 2015-2019[7] in 449 rivers. When comparing status for Atlantic salmon during those periods, there is deterioration of status in 55 of the rivers from the first untill the last period due to decrease in the number of ascending salmon.

Each river contains several water bodies, including both main rivers and tributaries. The number of water bodies in parts of the river that provides habitats for spawning and juvenile stages for Atlantic salmon will vary. In some rivers, only parts of a water body contain habitats for Atlantic salmon, whereas in others Atlantic salmon can be found in several water bodies. A list of the rivers and water bodies with Atlantic salmon is found in Annex 11. The list is not exhaustive as not all tributaries with habitats for salmon are included. 19 of these rivers are not regulated for hydropower activity and has no hydropower activity in their catchment.

b. ***Of these water bodies, please explain how many have hydroelectric power plants installed and/or operating within them.***

36 of the rivers where status or Atlantic salmon has deteriorated have power plants installed and/or operating in their catchment. Approximately 29 of these have hydropower plants installed or operating within or close to water bodies with Atlantic salmon, whereas seven of these have hydropower plants operating in tributaries or upstream. However, a decline in the salmon population is also seen in unregulated rivers.

c. **(i)** ***Please explain how many of these water bodies have hydroelectric power plants operating within them where the operators are under no legal requirement to obtain or retain licences, due to, amongst other things the age of the hydroelectric power plant.***

16 of the rivers with deteriorated status for Atlantic salmon have hydropower plants (mostly small plants) operating in their catchment that are not subject to a licence obligation. Please find attached a list in Annex 12. This list contains hydropower activities which are not subject to a licence pursuant to current legislation (category 6b(i)) which are considered to not contribute to significant harm or inconvenience for public interests, for instance environmental

[6] http://hdl.handle.net/11250/2488936
[7] https://hdl.handle.net/11250/2830680 (chapter 11)

reasons. In addition, the list includes hydropower activities which are not subject to a licence pursuant to former legsilation (category 6b(ii)).

Stretches with Atlantic salmon in those 16 rivers includes 57 water bodies not counting small tributaries. Some of these rivers might have a complex system of hydropower regulation in the catchment area, where some rivers are affected both by licenced and unlicenced hydropower plants. In some cases, other pressures than hydropower also account. The effect on ecological status might extend beyond these water bodies though, both through the effects of barriers and the reduced water flow.

(ii) ***Please explain how many of these water bodies have hydroelectric power plants operating within them where the operators have been granted indefinite or long-term (over 6-year) licences.***

In 30 of the of the rivers with deteriorated status for Atlantic salmon, operators have been granted licences.

d. ***Please explain how Norway intends to improve the statuses of water bodies where hydroelectric power plants operate, and to prevent and stop deterioration of those water bodies, to improve the ecological status of those water bodies, including the natural habitat for wild salmon.***

Where the affected water body is a HMWB, the Ministry understands that the relevant environmental objective is GEP.

An overview of measures to improve status/potential in water bodies affected by hydropower is given in the updated POMs and is available in the water information system “Vann-Nett”.

The POMs include measures within the following measure groups (Key Measure Types (KTM) as defined in the WFD Reporting Guidance 2022):

- KTM 7 Improvements in flow regime and eflows
- KTM 6 Improving hydromorphological conditions
- KTM 5 Improving longitudinal continuity

A list of these key measures types 5, 6 and 7 to mitigate hydropower pressures in the POMs can be found in Annex 13. An overview of imposed surveys and measures are given in Annex 7. More information regarding names of licences, hydropower plants and companies can be found in Annex 6 and 3.

Measures include establishing minimum flow, operational modifications for hydropeaking, fish ladders, bypass arrangements, habitat restoration, building

grounds for spawning and breeding as well as providing shelter, cultivating local stock etc.

Many licences for hydropower have standard terms regarding fauna and flora, wildlife and recreation activity to minimize negative effect from hydropower activity. These aim at securing that degradation of living conditions for animals and plants is held at a minimum, degradation of fish stock is compensated and the possibility for recreation is upheld. Imposed surveys and measures are included in the POMs. Two reports to the Parliament (White papers) in 2016 emphasised increased and more efficient use of standard terms to improve ecological status in regulated rivers.[89]

Imposed surveys typically includes monitoring of ecological conditions including living conditions and status for fish, invertebrates and flora, habitat types and conditions for recreation activity. The surveys further identify bottlenecks for ecological functioning and assess relevant mitigating measures for improving habitats and ecological status/potential. Imposed measures includes continuum and habitat enhancing measures and in some rivers cultivation/fish stock enhancing activities are undertaken. Typical measures include bypass solutions or fish ladders, bars to stop migrating fish from entering the turbines, addition of spawning gravel, rocks or larger blocks to restore shelter and spawning grounds or harrowing the sediment to mitigate the silting of riverbeds. The hydropower plant owner is in addition imposed to make a proposed plan of measures in the regulated watercourse to achieve GEP/GET.

The process for compelling measures with the aim of environmental improvements towards hydropower operators, including increased water flow, has been described in answers to question 1-5. To prevent deterioration of status, conditions in Article 4 (7) of the WFD are assessed and must be met when granting licenses in all applications for new or altered/extended hydropower activity.

Please explain whether Norway would concur that:

i. ***The existence of a water body (including the amount of water within it) is of importance in the achievement of the Article 4 WFD environmental objectives and in ensuring, protecting and enhancing its aquatic ecology and biodiversity – including the ability for wild salmon to survive and thrive in practice.***

   The existence of a water body and the amount of water in it is in many cases of importance to the achievement of the environmental objectives set out in Article 4 and to ensuring, protecting, and enhancing its aquatic ecology and biodiversity – including the ability for wild salmon to survive and thrive in accordane with the environmental objectives. However, the achievements of

[8] Meld. St. 14 (2015–2016) - regjeringen.no
[9] Meld. St. 25 (2015–2016) - regjeringen.no

the environmental objectives are also affected by the geographical extent of the waterbody as well as residual run-off for the surrounding catchment.

ii. ***The Norwegian system of legal controls which regulate the action/inaction and behaviour of hydroelectric power plant operators vis-à-vis water flow, is of legal importance in the achievement of the Article 4 WFD environmental objectives as this affects the amount of water in a water body, including its ecology and biodiversity, and the existence of the water body itself.***

The system of legal controls that regulate the action/inaction and behaviour of hydropower operators regarding water flow is of importance in securing the environmental objectives set out in Article 4 of the WFD. The Ministry would like to emphasise that the specific environmental objectives are decisive for which measures within this system that are relevant.

iii. ***The absence of sufficient and adequate legal controls over the action/inaction and behaviour of hydroelectric power plant operators vis-à-vis water flow directly affects the ecology and biodiversity of water bodies, including the existence and survival of wild salmon– which is now under threat in Norway.***

Under this premise iii., the Authority has stated that the absence of sufficient and adequate legal controls over the action/inaction and behaviour of hydroelectric power plant operators regarding water flow directly affects the ecology and biodiversity of water bodies, including the existence and survival of wild salmon– which is now under threat in Norway.

As shown above and under question 1a, legal tools are available in the existing Norwegian legislation and can be used to minimize the impacts from hydropower on ecology and biodiversity.

Answer to the Authority's question 10

Hydroelectric power plants situated in the Aura river.

The Ministry notes that the Authority has a particular focus on the revision of terms for the Aura regulation. A complete overview of the revision cases can be found in Annex 6, and the specific assessments done under the revision cases can be found in NVE's licence database.[10]

[10] https://www.nve.no/konsesjon/konsesjonssaker/

a. ***Please explain whether Norway concur with the following points, and, if not, why not:***

i. ***In 1953, Statkraft was granted a licence to operate a hydroelectric power plant on the Aura river (Molde and Sunndal municipalities) for an unlimited period of time.***

In 1953, the operator Statkraftverkene (later Statkraft) was granted a licence to regulate the Aura river for an unlimited period of time. In 1959, a licence was granted for additional transfers.

ii. ***At that time, and in 1953, the Aura river contained a notable amount of wild salmon and other aquatic species (such as eels and pearl mussels) and was an important habitat for these species.***

The Eira/Aura river was before the hydropower development known for its large salmon population. The average weight of the salmon in Aura was 10-14 kg in the last years before the development. There are still river mussels and eels in the Aura watercourse. The condition of freshwater mussels in the Aura watercourse is poor and no recruitment has been registered as of today. However, the knowledge base from these species before the regulation is deficient.

iii. ***In 2016, Norwegian regional authorities concluded that, in order to achieve "Good Ecological Potential" by 2021, it was necessary to set minimum water flow rates from the hydroelectric dam on the Aura river (as set out in the relevant river basin management plans etc.)***

In the RBMP 2016-2021 the regional, as well as the national, authorities defined the environmental objectives as GEP based on the assumption that the benefits of releasing a minimum water flow in the Aura river would be higher than the costs.

iv. ***In 2021, the terms and conditions of the licence allowing Statkraft to operate a hydroelectric power plant on the Aura river, were revised. On 23 June 2021, Norway adopted a Royal Decree setting out the revised terms and conditions of the licence. The revised terms did not include any requiremetns regarding minimum water flow/amounts of water to be released into the water body by Statkraft. Instead, the terms of the licence require that the Aura river achieve GEP within the next 30-year period.***

In 2021, the terms of the licence allowing Statkraft to operate a hydropower plant on the Aura river, were revised. On 23 June 2021, Norway adopted a Royal Decree. The revised terms from 2021 did not include new requirements

regarding minimum water flow into the river Aura. However, a habitat plan to improve the environmental conditions was implemented.

In the revision case, a more detailed assessment of the costs and benefits of releasing a minimum water was carried out. The revision case was based on updated knowledge, such as in-depth investigation. Based upon this updated knowledge, the specific environmental objectives will be reconsidered in the upcoming RBMPs. Measures to reduce the impacts from other pressures than hydropower, such as aquacutlure, can also affect the environmental objectives.

The Ministry notes that the Authority has stated that the terms of the licence require that the Aura river achieve GEP within the next 30-year period. The Ministry understands this to be a reference to the subsequent 30-year interval for opening a revision case, i.e. from 2051. It must be emphasised that the licence terms have been updated as a part of the revision in 2021, meaning that the licence contains modern terms such as standard environmental terms, cf. question 1a) legal tool no. 3, and the term for changing the rules of manoeuvring, cf. question 1a legal tool no. 5. Hence, other measures are in place if those are needed with the aim to achieve the environmental objectives.

v. ***Today, the amount of water in the Aura river (below and in the region of the hydroelectric dam) is significantly less, year-round, as compared to that in 1953 due to the operation of the hydroelectric power plant. This has had a significant negative impact on the ecology and biodiversity. Indeed, salmon and other aquatic species (such as eels and pearl mussels) are now at risk of becoming extinct in the Aura river.***

The total salmon-carrying distance in the Aura/Eira river is 30 km. Most water has been removed from the 9 km river stretch upstream of the lake Eikesdalsvatnet and hence this stretch was the most central in the revision case. The mean water flow in the Aura river was about 25 m3/s before the construction of the hydropower facility, and has been reduced to 26 % after the construction, measured by the lake Litlevatnet. In general, the water flow is low in the period between January to March, and the watercourse can be almost drained during periods in the winter. During the migration period for fish, the water flow is reduced from 60 m3/s in July and 30 – 40 m3/s in the first half of August, to less than 12 m3/s after the hydropower development.

The regulations have further affected aquatic organisms and the basis of life for fish. Smolt production has dropped drastically, and low winter water flows have probably been the most limiting factor. The most important bottlenecks that have arisen are stated to be fish migration and survival on low winter water flows. Status of the salmon population is stated to be very poor where hydropower in combination with salmon lice and escaped farmed salmon are the affecting

factors. Measures with the aim of achieving environmental objectives are founded in the revised licence terms, cf. question iv. above.

b. ***Please explain in detail how, under the requirements set out in the Royal Decree dated 23 June 2021, Norway has ensured that the hydroelectric power plant operator is legally required to ensure that its actions and inactions do not undermine, prevent or impede the Article 4 WFD environmental objectives from being achieved.***

More particularly, please explain in detail how, under the requirements set out in the Royal Decree dated 23 June 2021, Norway has ensured that the hydroelectric power plant operator is legally required to allow sufficient water flow into the water body to secure the ecological and chemical outcomes as set out under the WFD, and to ensure there is no deterioration of the water body.

The WFD is binding for national authorities. The Ministry understands that the specific environmental objective is decisive for the measures needed, unless updated knowledge calls for a reconsideration of the environmental objective as a part of the subsequent 6-year cycle.

The Ministry would like to emphasize the environmental objectives for HMWB are set based on the assessments of costs and benefits. The environmental objective GEP is based on possible achievements with environmental measures that do not have a significant adverse affect on the beneficial use of the water, i.e hydropower production. As a part of the revision of the hydropower operators' licence terms, a cost/benefit assessment is also done.

The hydropower facilities need to be operated within the requirements stipulated in the licence and legislation. The full set of terms including standard terms and the rule of manoeuvring set out in the Royal Decree dated 23 June 2021 is enclosed as Annex 1 and 2. NVE performs physical controls to ensure that the hydropower companies have established an internal control system as described under question 4 above.

The standard terms provide NVE and the Environmental Agency authorization to impose the operator to investigate and implement measures with regard to fish, plants, animals and outdoor life, cf. question 1a legal tool no. 3. In the Aura river there is a potential to improve conditions for anadromous fish by physically altering parts of the river stretch from the lake Eikesdalsvatnet and up to a distance above the lake Litlevatnet, especially with regard to migration for sea trout and small salmon. In this part of the river Aura there is always some water, though sometimes low. According to the revised terms, the operator is required to prepare a comprehensive plan for physical measures to facilitate fish migration in Aura. Relevant physical measures in accordance with the plan may be imposed pursuant to the standard terms regarding

thresholds etc, cf. question 1a legal tool no. 3. The terms will contribute to the aim of improving the ecological and chemical status in the water body. Mitigating measures pursuant to the standard terms are further research and investigations, roe and fish stocking, fish passages and stairs, measures against acidification, sedimentation and erosion protection, biotope enhancements such as improved spawning gravel and sills.

The rules of manoeuvring dated 23 June 2021 sets requirements for water regulation levels and water transfers in the Aura scheme. If it turns out that the terms of water discharge and water level changes have detrimental effects of magnitude, necessary changes may be made. Should requirements regarding water discharges and water level changes have harmful effects of magnitude for public interests, necessary changes may be made to the regulations, cf. the standard term for changing the rules of manouvring described under question 1a legal tool no. 5.

c. ***Please explain, in detail, what action, if any, the hydroelectric power plant operator is required to take over the next 6-year period, to ensure the water body achieves good ecological and chemical status. Please explain whether, in practice, the hydroelectric power plant operator will be required to take any action at all vis-à-vis improvement of the ecological status of the water body, including its biodiversity, before the expiry of the new licence (i.e. before 2051) – presuming that the water body is regarded, by Norway, as achieving good ecological potential.***

Where the affected water body is a HMWB, the Ministry understands that the relevant environmental objective is GEP or less stringent objectives. If the specific environmental objectives set in the RBMPs for the next 6-year cycle require that environmental measures are implemented, the hydropower operator will be instructed to do so. Actions which might be relevant are listed under question 10b and 1a.

Furthermore, the Authority has made a reference to the the year 2051 as the year of expiration of the licence for regulating the Aura river. The Ministry would like to comment that the licence is of unlimited duration and the new cycle for revision of terms can find place after 2051. As described under question 5b above, the duration of the licence is not a hindrance for implementing necessary environmental improvements.

d. ***Given the concerns regarding the endangered status of salmon and other aquatic species in the Aura river, and given the concerns of the endangered status of salmon in Norway more widely, please explain what action, if any, the hydroelectric power plant operator is legally required to take to improve the Aura river as a natural habitat for wild salmon, and/or at least ensure minimum water flow, at any time before 2051.***

The Authority has asked if the hydropower operator is legally required to improve the Aura river at any time before 2051. The licence terms have been updated as a part of the revision in 2021, meaning that the licence contains modern terms such as standard environmental terms. Actions to take environmental improvements are described under question 10 b).

In addition, measures may be imposed pursuant to the standard environmental terms, cf. question 1a legal tool no. 3. If increased minimum water flow is required, this can be founded in the term for changing the rules of manoeuvring, cf. question 1a legal tool no. 5. These measures may be imposed at any time, also before 2051.

Should the Authority find that there are issues that need further clarification, the Ministry would suggest a meeting to address these issues.

Yours sincerely

Lindis Nerbø
Deputy Director General

Tor Simon Pedersen
Senior Adviser

This document is signed electronically and has therefore no handwritten signature