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The Ministry of Culture's reply to the EFTA Surveillance Authority's request for information on digitization of radio

The Ministry of Culture refers to the EFTA Surveillance Authority's communication of 11 July 2018 requesting clarification on issues regarding the migration from FM to DAB in Norway. Please find our answers to your questions (in italics) below:

Could you please explain how the Norwegian government's decision to switch off FM frequencies in the four big cities complies with the provisions of the Regulatory Framework for Electronic Communications, in particular Articles 8 and 9 of the Framework Directive (2002/19/EC), Article 5(2) and 7 of the Authorisation Directive (2002/20/EC) and the Radio Spectrum Decision (676/2002/EC)?

We would like to point out, initially, that the phrasing of the question does not reflect the actual decision or situation at hand. The Norwegian government has not decided "to switch off FM frequencies in the four big cities". As indicated in our previous correspondence with the EFTA Surveillance Authority, the decision taken by the national assembly was to maintain local radio in the FM band for a five-year period after the national FM services had been switched off, i.e. for the period 2017-2022. The decision, however, also excludes local commercial radio stations from holding FM licences in the major cities. The majority of local radio stations that held licences prior to 2017 therefore continue to broadcast on FM. The Ministry of Culture has provided elaborate justification in earlier correspondence with the EFTA Surveillance Authority for the decision not to issue licences to commercial radio stations in the FM band from 2017 onwards, and therefore refrains from commenting further on this decision here.

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As you are well aware, the regulation of audiovisual policy and content in general aims at achieving general interest objectives, such as the freedom of expression and information, media pluralism, impartiality, cultural and linguistic diversity, social inclusion, consumer protection and the protection of minors. The decision to digitize radio in Norway pursues such general interest objectives, namely to promote greater competition, and increased media pluralism, thereby providing greater choice. The Norwegian Ministry of Culture would argue that the decision not to issue licences to commercial local radio in four major cities was an integral part of the digitization decision, which was necessary and justified by the said general interest objectives.

Secondly, the decision in fact concerns the regulation of broadcasting licences, i.e. the content of services delivered over electronic communications networks using electronic communications services. The decision does not in fact constitute a direct limitation on the use of frequencies. The decision limits the granting of licences to provide content services, in accordance with section 2-1 of the Act on Broadcasting, and not the granting of spectrum licences in accordance with the Electronic Communications Act.

Thirdly, even if the EFTA Surveillance Authority should conclude that the decision not to renew radio licences to commercial local radio under the provisions of the Broadcasting Act constitutes an indirect limitation of the number of rights of use to be granted for radio frequencies, the Ministry of Culture would like to emphasise that the Regulatory Framework for Electronic Communications provides a strong legal basis for taking into account general interest objectives, in particular media pluralism, cultural diversity and consumer protection:

- The Framework Directive in Article 1 (3) on the scope and aim of the regulatory framework on electronic communication clearly states that "this Directive as well as the Specific Directives are without prejudice to measures taken at Community or national level, in compliance with Community law, to pursue general interest objectives, in particular relating to content regulation and audio-visual policy."
- The Framework Directive in Article 8 "Policy objectives and regulatory principles" as well as in Article 9 concerning the "Management of frequencies for electronic communication services" provides that the implementation of policies aimed at the promotion of cultural and linguistic diversity, as well as media pluralism may be taken into account in the fulfilment of the NRAs regulatory tasks as regards the promotion of technology neutrality, effective competition, development of the internal market, promotion of the citizens interests as well as the management of radio frequencies for electronic communications services. It should be noted that the Norwegian Communication Authority has awarded licences to electronic communication services to provide capacity in the FM band to radio services.
- The Authorisation Directive in Article 5 (2) explicitly states that the obligations following these provisions are without prejudice to specific criteria and procedures

adopted by Member States to grant rights of use of radio frequencies to providers of radio or television broadcast content services with a view to pursuing general interest objectives in conformity with Community law. This applies by extension also to Article 7 since the latter provision is subordinate to Article 5, in that it provides procedural rules for the event that Member States consider limiting the number of rights to radio frequencies in accordance with Article 5.

- The Radio Spectrum Decision in Article 1 (4) states that the decision is without prejudice to measures taken at Community or national level, in compliance with Community law, to pursue general interest objectives, in particular relating to content regulation and audio-visual policy (...)

The Ministry is therefore of the opinion that the Norwegian Government's decision to limit the number of licences for broadcasting in the FM band is consistent with the directives in this area and the general rules of the EEA Agreement. The Ministry of Culture has inter alia provided elaborate justification in earlier correspondence with the EFTA Surveillance Authority for the compatibility of the decision to digitize radio with the EEA Agreement's general rules on the right of establishment, the free movement of goods in the internal market, and therefore refrains on commenting further on this here.

The Ministry of Culture would also like point out that the EU has actively promoted the digitization of broadcasting services, notably in the European Commission's communication on the transition from analogue to digital broadcasting (from digital 'switchover' to analogue 'switch-off') [SEC (2003)992] of 17 September 2003: "Replacing analogue broadcasting with a system based on digital techniques presents huge advantages in terms of more efficient spectrum usage and increased transmission possibilities; these will lead to new services, wider consumer choice and enhanced competition. ... However, the Commission does not take any position on the timing of analogue switch-off, which is a matter to be decided at the level of the Member States or of the regional authorities." The Commission has also recently taken steps to promote the digitization of radio, notably in the recent proposal for a Directive of the European Parliament and of the Council establishing the European Electronic Communications Code, which introduces provisions requiring radio sets integrated in new passenger cars in the EU to at least be capable of digital terrestrial radio reception.

Could you please share with us advantages/shortcomings you observed after the FM switch off took place, also in terms of availability of radio services to consumers throughout Norway?

Media pluralism

The rationale behind the digitisation of radio was to enhance media pluralism by offering the entire population a wider range of radio services. Whereas the population in densely populated areas had access to a wide range of radio services, households in rural areas

previously only had access to 2-3 services. The population in rural areas is now being served by between 15-30 radio services.

Population coverage/universal access to services

The DAB network covers a larger percentage of the population than the FM network. In a report to the Ministry of Culture published in September 2016, the Norwegian Communications Authority determined that the NRK's 14 DAB services cover 99,7 per cent of the population, exceeding that of the NRK's P1 channel in FM, which covered approximately 98,6 per cent (FM stereo) and approximately 99,6 per cent (FM mono) of the population. DAB coverage for the 17 commercial radio stations exceeds 90 per cent of the population, and is thus at least equal to that of the FM service with the highest coverage prior to switchover (Radio Norge) and far exceeds that of the other commercial FM service (P4).

The NRK DAB network, comprising 1100 stations by 1 January 2018, is still being supplemented with new transmitters. In response to reports from the public, the NRK expects to supplement the DAB network with some 20 additional transmitters in 2018 in order to improve coverage.

Tunnels that previously had FM coverage are now equipped with DAB signals. In addition, some tunnels that did not have FM signals prior to switchover are now being equipped with DAB signals.

Competition

The digitization of radio replaced a licensing regime whereby three public service stations and two commercial stations were authorised to broadcast nationally, with a digital terrestrial network comprising upwards of 30 national services. The DAB network has capacity for several more commercial services in a second national block of frequencies. Equally, the local radio multiplex within the DAB network allows for upwards of 15 local radio stations in each region, whereas the limited bandwidth in the FM network allowed room only for a handful of radio stations in each area.

Consumption of radio has spread over a larger number of stations. New services, i.e. services that had negligible or no distribution on FM, are expanding at the expense of services, which previously dominated the market, and in January of 2018 enjoyed a 34 per cent market share.

Radio listening

Radio listening has declined in the last couple of years. Weekly listening was down by 44 000 listeners in January 2018 compared to January 2017 (3 670 000 vs. 3 714 000 listeners). However, daily listening was down by 463 000 listeners in January 2018 compared to January 2017 (2 565 000 vs. 3 028 000). Hence, although many services are experiencing growth, total listening, especially as measured by daily listening has shown a decline.

Although a decline in radio listening was underway also before the switchover occurred, some of the decline is clearly attributable to digital switchover. The discrepancy in the figures between daily and weekly listening may be due to the fact that digital radio sets have not replaced FM radio sets in all the spaces in which radio was consumed before switchover and due to the fact that digital listening habits have not yet been cemented.

Penetration of digital radio equipment

The Digital Radio Survey (carried out by Kantar Media) indicates that there were 5,6 million DAB radio sets in February of 2018 (and 4,7 million FM only radio sets). 83 per cent of households owned DAB receivers, and 76 per cent owned more than one DAB receiver. During the 15 months up to February 2018, 2,4 million DAB receivers were sold, i.e. more than one per household. Of the total number of 5,6 million DAB receivers 3,1 million were in homes, 1,6 million were installed in cars and the rest were to be found in holiday homes, boats etc. In addition to dedicated radio receivers, 19 per cent of the population listened to radio services on IP platforms in February of 2018.

In February 2018 54 per cent of private cars were equipped with a DAB receiver. Virtually all new cars come equipped with a DAB receiver. The majority of conversions consist of after-market solutions of so-called adapters.

Signal reception

The NRK receives on average some 200 complaints concerning reception from the public per month. In 2017, complaints on signal reception averaged 1100 per month. The sharp decrease in complaints suggests that the majority of challenges with respect to reception of DAB have been resolved.

A substantial amount of complaints concern in-car reception. In many cases problems arise due to faulty or incorrectly installed after-market DAB receivers or simply that a channel-search needs to be implemented. Quite a few consumers have also failed to realize that the fact that the NRK's network is regionalised entails that one needs to change frequency (or enable so-called automatic service following) when transferring from one region to the next. Some may also be unaware that commercial services have a lower coverage than the NRK. Other complaints are due to the fact that reception of DAB differs from FM. Whereas FM reception faded or became distorted when the signal became weak, DAB reception disappears entirely when signal reception becomes weak enough.

Possible signal interference as a consequence of military exercises

In June 2018 the major Norwegian newspaper Aftenposten published an article that alleged that there were conflicts between frequencies granted to the DAB network and the use of frequencies by NATO/for military purposes in connection with large exercises. As a consequence of this article, the Norwegian Communications Authority felt the need to publish a press release in order to correct these allegations underlining that:

- The Norwegian Communications Authority manages the Norwegian frequency spectrum. The Authority's mission is to ensure that this limited natural resource is being utilized effectively and to the benefit of society.
- Norway as a nation is entitled to decide unilaterally how spectrum is to be utilized, as long as the use of frequencies does not conflict with international agreements Norway is party to.
- The use of spectrum in Norway requires a licence granted by the Authority. This applies also to military use by the Norwegian Armed Forces and our allies in NATO.
- The Norwegian broadcasters hold valid spectrum licences, issued by the Norwegian Communications Authority.
- Norway does not act in conflict with our obligations to NATO. The use of spectrum for Norwegian DAB networks is coordinated internationally and agreed upon with more than 30 other European states.
- The Norwegian Communications Authority does not issue spectrum licences that interfere with Norwegian broadcasting signals.

The press release furthermore explains that when allied NATO forces partake in exercises on Norwegian territory, the Authority receives a large number of applications on the use of spectrum, prior to and during the exercise. This entails a huge jig-saw puzzle, with the objective of ensuring that the military should be able to exercise while not affecting civilian society unnecessarily. For instance, anyone using their mobile phone daily should be able to continue to do so even when military forces exercise.

During large exercises when various equipment and networks are in use simultaneously, there will always be a certain probability that local interference may occur. Interference may for instance occur as a result of incorrect use or faulty equipment. Such interference may affect civilian systems such as broadcasting and mobile networks. In order to reduce the probability of interference, the Authority is actively involved in the planning of this autumn's large exercise [i.e. Trident Juncture] and has allocated resources in the event that such interference should occur.

In your view, does the migration from FM to DAB entail a better national alert system via radio or are there weaknesses to the DAB system in regards to contingency and if so how you intend to remedy them?

Public security, contingency measures such as the national alert system have been important considerations throughout the digitization process. Radio, due to its superior reach, has traditionally played an important role in public security and preparedness. The

government therefore laid down strict conditions concerning the coverage of the DAB network as a prerequisite for switching off FM signals. The National Communications Authority has assessed coverage and determined that the government's coverage conditions have been fulfilled.

In December of 2016 the Directorate for Civil Protection published a report regarding possible consequences for public security of the planned migration from FM to DAB. The report initially points out that the key function broadcasting has played as alert system has diminished since the 1990's, while the Internet and mobile communications (smartphones) have become increasingly important for the dissemination of information. Radio however still plays a role as a medium for transmitting real-time information to cars (and boats).

The report furthermore concludes that:

- The DAB network is technically more robust than the FM network, primarily because each transmitter receives a separate signal-feed instead of a system consisting of main transmitters and relay transmitters as in the FM network.
- Measured coverage is determined to be satisfactory and meets the conditions set by Stortinget as a prerequisite for switching off the FM network.
- Coverage offshore was not part of the conditions imposed by government, but the network is designed so that it provides coverage at sea 50 km from the coast. Coverage measurements have been carried out that by and large confirm the theoretical coverage at sea, but further measurements will be needed to confirm full coverage.
- Coverage in tunnels will improve since all radio services and not only NRK P1 will be transmitted. DAB will allow the transport authorities to transmit emergency messages to every radio listener, regardless of which channel is being received.
- There is little doubt that a substantial number of cars will not be equipped with proper receivers in the medium term and this means that it will be more difficult to convey important information about road-safety and weather.

The Ministry of Culture would like to add that the NRK has provided all stations with transmitters covering more than 5 000 individuals with double sets of equipment. Each of these stations have also been equipped with a reserve power source and a reserve feed. These transmitters cover 90 per cent off the population. The NRK's distribution agreement with the provider Norkring specifies strict conditions concerning quality of service, with an uptime requirement in the DAB network of 99,90 per cent on a yearly basis (the corresponding requirement in the FM network was 99,80). Total uptime for the NRKs services in 2017 was at 99,97 per cent.

The Ministry of Culture is of the opinion that the DAB network has contributed positively to public security measures and improved the national alert system compared to that of the FM network.

Please elaborate how you intend to make efficient use of the freed radio frequencies (We understand that radio frequencies are currently reserved for broadcasting transmission through international agreements (ITU))

As you correctly observe, use of the entire FM band between 87.5 MHz and 108 MHz is reserved for FM broadcasting through international agreements. Since the vast majority of states that are party to these agreements do not plan to shut down FM in the near future, these frequencies will probably remain allocated to broadcasting services internationally.

As Norway is the first country in the world to switch off FM services, it will take some time before the frequency resources used by the FM network may be assigned to other services. Local radio will use the FM band until 2022, and it is not decided whether to renew licences or not. Neighbouring countries will also continue to use FM, and have powerful transmitters that can reach far into Norway. It is therefore difficult to indicate anything certain about the future use of FM in Europe and globally. In the meantime, the FM band may be used for test and temporary permissions. It is also possible that portions of the FM band may be used for other services than radio broadcasting. According to the Norwegian Communications Authority, there are several possible future uses of the FM band.

Could you please inform us whether there are plans for further FM switch off and if so could you please provide us with the possible timeline/scope?

The Norwegian National Assembly decided in 2016 that the majority of local radio stations should be allowed to continue broadcasts on FM for a five-year period after the digital switchover. Current licences for local radio in the FM band thus expire 31.12.2021. The government has, as yet, not taken any decision with respect to whether local radio may continue for a longer period.

Yours sincerely

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This document is signed electronically and has therefore no handwritten signature