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Folketingets Sundheds- og Forebyggelsesudvalg

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Som opfølgning på min besvarelse af spørgsmål nr. 561 og 562 stillet den 27. marts 2013, har Sundhedsstyrelsen via de danske ambassader i de respektive lande indhentet oplysninger om lovgivning m.v. vedrørende trådløs telekommunikation i Storbritannien, Frankrig, Rusland, Italien og Israel. Der er anmodet om oplysning i forhold til følgende, konkrete forhold:

- Relevant lovgivning vedr. trådløs telekommunikation
- Information om grænseværdier på området, eksempelvis grænser for udstråling fra mobilmaster, mobiltelefoner etc. Særlig interesse har information om lovbestemte grænseværdier, der afviger fra ICNIRPs (International Commission on Non-Ionizing Radiation Protection) anbefalinger med begrundelser for afvigelsen.
- Information om særlige foranstaltninger rettet mod børn og unge, eksempelvis i skoler, børnehaver.
- Information om særlige anbefalinger vedr. trådløs telekommunikation, der afviger fra ICNIRPs anbefalinger.

Sundhedsstyrelsen har på baggrund af de fremsendte oplysninger bemærket "at EU-medlemsstaterne Storbritannien, Italien og Frankrig følger de anbefalede grænseværdier fastsat af ICNIRP (International Commission on Non-Ionizing Radiation Protection) for eksponering fra radiofrekvent elektromagnetisk stråling. Italien opererer i tillæg til de fastsatte grænseværdier for eksponering med opmærksomhedsværdier og kvalitative målsætninger. Israel opererer med referenceniveauer for befolkningen på 10 % af ICNIRPs anbefalede grænseværdier ved kontinuert eksponering for radiofrekvent elektromagnetisk stråling. Rusland har fremsendt en oversigt over tekniske krav til sendeudstyr m.v., ligesom det oplyses, at det ikke har været muligt for Kommunikationsministeriet at indhente informationer om regulering af trådløs kommunikation.

Det fremgår desuden, at ud over Frankrig, der har lovfastsat forbud mod at bruge unge under 14 år til at reklamere for mobil salg, forbud mod brug af mobiltelefoner på skoler samt mulighed for at forbyde radioelektrisk udstyr tilegnet børn under seks år, har de øvrige fire lande ikke lovfastsatte krav om særlige foranstaltninger rettet mod børn og unge i skoler og børnehaver. Som i Danmark har samtlige fem lande anbefalinger til børns og unges brug af mobiltelefoner, ligesom det fremgår, at der i varierende grad er anbefalinger rettet mod børns og unges brug af mobiltelefoner og trådløse netværk i skoler og børnehaver.

Sundhedsstyrelsen vurderer samlet, at reguleringen og de generelle anbefalinger rettet mod befolkningens eksponering for radiofrekvent elektromagnetisk stråling, der refereres i de modtagne oplysninger fra de fem lande, i al væsent-

lighed er i overensstemmelse med den danske regulering og de danske anbefalinger på området.”

Sundhedsstyrelsen har modtaget følgende besvarelser på de stillede spørgsmål:

Storbritannien:

”1. Relevant lovgivning vedr. trådløs telekommunikation.

The UK has no specific legislation relating to wireless comms – Health and safety is the employers’ responsibility also for affected members of the public under the health and Safety at Work Act 1974.

2. Information om grænseværdier på området, eksempelvis grænser for udstråling fra mobilmaster, mobiltelefoner etc. Særlig interesse har information om lovbestemte grænseværdier, der afviger fra ICNIRPs (International Commission on Non-Ionizing Radiation Protection) anbefalinger med begrundelser for afvigelsen.

The UK adheres to ICNIRP Recommendations as set out in EU Recommendation 519/1999/EU

3. Information om særlige foranstaltninger rettet mod børn og unge, eksempelvis i skoler, børnehaver.

DH advice is that children should apply the precautionary principle and children should minimise use by texting and using hands free kit. DH also publish a leaflet with advice for children and young people.

See at:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/147418/dh_124899.pdf.pdf

4. Information om særlige anbefalinger vedr. trådløs telekommunikation, der afviger fra ICNIRPs anbefalinger.

The UK has no special recommendations.”

Frankrig:

”Den franske lovgivning på det trådløse telekommunikationsområde er baseret på EU-direktivet 1999/5/CE og efterfølgende overført til national lovgivning ved dekret no. 2002-775 af 3. maj 2002¹. Frankrig har parallelt tilsluttet sig de internationale retningslinjer, som er fastsat af Den internationale standardiseringskommission (ICNIRP).

På nationalt plan varetager ANSES, nationalt agentur for fødevare- og arbejdsmiljø sikkerhed, udformningen af anbefalinger, der danner fundamentet for de politiske overvejelser og den lovgivningsmæssige proces. Agenturet udfærdigede en rapport i 2009. Den bliver p.t. ajourført og forventes afleveret til regeringen til september.

Af specielle konkrete tiltag baseret på anbefalingerne fra ANSES og specielt rettet mod børn og unge tager artikel 183 og 184 i lov no. 2010-788 af 12. juli 2010² højde for følgende foranstaltninger:

- Forbud imod at bruge børn under 14 år til at reklamere for mobilsalg eller mobilbrug. I reklamer generelt skal SAR-værdien altid være oplyst i W/kg (Den specifikke absorptionshastighed)
- Forbud imod, at en elev bruger sin mobiltelefon i løbet af en undervisningstime og ligeledes forbud imod brug på andre steder på skolens areal i overensstemmelse med internt reglement
- Mulighed for at forbyde radioelektronisk udstyr tilegnet børn under seks år

Lov no. 2013-595 af 8. juli 2013³ om omdannelse af folkeskolen indeholder i annekset et afsnit om WIFI, hvor man under henvisning til de gængse bekymringer om skadelige effekter opfordrer til, at staten og de lokale myndigheder begunstiger bredbåndsforbindelser, når systemet er kompatibelt med pædagogisk brug og stedlige forhold.

Det er ydermere værd at bemærke, at et lovforslag blev præsenteret den 12. december 2012⁴ af partiet De Grønne. Udspillet var foranlediget af den kommende implementering af 4G-netværket i Paris.

Partiet stillede spørgsmål ved lovgivningen på området, som vurderedes uklar og utilstrækkelig, samt ved de radiofrekvente elektromagnetiske bølgers sundhedsmæssige virkning. Lovforslaget blev nedstemt.

1. <http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000226401>
2. http://www.legifrance.gouv.fr/affichTexteArticle.do;jsessionid=3BE6978495355AF99FBC3592C2C82F16.tpdjo02v_3?idArticle=JORFARTI000022471504&cidTexte=JORFTEXT000022470434&dateTexte=29990101&categorieLien=id & http://www.legifrance.gouv.fr/affichTexteArticle.do;jsessionid=F59ADCD4D5922CCED3AB7CBB74660AC7.tpdjo03v_3?idArticle=LEGIARTI000022473164&cidTexte=LEGITEXT000022472766&dateTexte=20130715
3. <http://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000027677984>
4. <http://www.assemblee-nationale.fr/14/propositions/pion0531.asp> ”

Italien:

”Relevant lovgivning vedr. trådløs telekommunikation:

Lovgivningen vedrørende eksponering for stråling fra trådløs telekommunikation blev fastsat i 2001 og ændret i 2003. Den opererer med tre grænseværdier for stråling fra trådløs telekommunikation, der er fastsat ud fra et forsigtighedsprincip.

Grænse for eksponering: Dette er den maksimale grænse, hvor ingen under

nogen omstændigheder bør udsættes for højere værdier.

Udover den maksimale grænse for eksponering opererer Italien med opmærksomhedsværdier og kvalitative målsætninger.

Opmærksomhedsværdien er den stråling, som ikke må overskrides i områder, hvor folk opholder sig i mere end fire timer ad gangen såsom beboelsesområder, arbejdspladser og skoler. Denne grænse er identisk med de kvalitative målsætninger for samtlige nyopførte bygninger.

Lovbestemte grænseværdier:

Grænsen for eksponering er den samme som ICNIRP's anbefaling på 60 V/m.

Opmærksomhedsværdien, som ikke må overskrides i områder, hvor folk opholder sig i mere end fire timer ad gangen, er en reduktion på cirka ti gange af den øvre grænse for eksponering og befinder sig på 6 V/m.

Grænsen for eksponering beskrives også i denne tabel, som blev tilsendt med svaret:

Frekvens	Elektrisk felt	Magnetisk felt	Effekttæthed
0,1 – 3 MHz	60 V/m	0,2 A/m	-
3 MHz – 3000 MHz	20 V/m	0,05 A/m	1 W/m ²
3000 MHz – 300 GHz	40 V/m	0,1 A/m	4 W/m ²

Opmærksomhedsværdien og de kvalitative målsætninger beskrives i denne tabel:

Frekvens	Elektrisk felt	Magnetisk felt	Effekttæthed
0,1 MHz – 300 GHz	6 V/m	0,016 A/m	0,1 W/m ²

Særlige foranstaltninger rettet mod børn og unge:

Der er ingen særlige foranstaltninger rettet mod børn og unge, da de i forvejen ganske lave opmærksomhedsværdier menes at være lave nok til også at beskytte dem.

Særlige anbefalinger, der afviger fra ICNIRPs anbefalinger:

Det italienske sundhedsministerium anbefaler at begrænse børns brug af mobiltelefoner. Denne anbefaling findes dog ikke at være i strid med ICNIRPs anbefalinger."

. / . Med svaret blev tilsendt en undersøgelse af forskellige europæiske landes lovgivning og grænseværdier for trådløs telekommunikation, som vedlægges til orientering.

Rusland:**“Reference data about the Russian law in sphere of wireless telecommunication network**

In the Russian Federation in 2003 there was passed a Federal law “On Communication” (further – the Law), which establishes the legal fundamentals for the activities in the sphere of communication on the territory of the Russian Federation and territories which are under the Russian Federation jurisdiction. The regulation of the activities in the sphere of communication, including the usage of the radio-frequency spectrum, is described in the 5th Chapter of the Law. The use of the radio-frequency spectrum is regulated by an interagency collegial body responsible on radio frequencies questions under the federal administration on Communications (further - the State Commission for Radio Frequencies), which has the full authority in the regulation of the radio-frequency spectrum. The State Commission for Radio Frequencies sets the rules and requirements for the engineering specifications of communication tools used networks of wireless mobile communication (for example, the Resolution dated by the 7th of May 2007 № 07-20-03-001 “On the detachment of radio frequency lines for short-range devices” establishes specifications for short-range devices such as radio microphones, data transferring devices, radio alarm). Generally the State Commission for Radio Frequencies provides the solutions for each particular band of radio frequencies and the used technology.

In the absence of a particular purpose of the request and without any references for the technologies used, it is not possible to make any complete list of the Resolutions made by the State Commission for Radio Frequencies, including the description of all the technologies and all the radio frequency ranges used. However, we decided to provide you with the specific data on the cellular radio technologies. Could you please find them below.

At the same time, the 41st article of the Law states that all the communication tools should have an assurance, that they comply with the technical regulations adopted in accordance with the laws of the Russian Federation on technical regulation, as well as with the requirements of the regulations made by the federal executive authority in the field of communication on the use of communication tools.

In accordance with the article in question, the Ministry of Communications has approved a number of orders that set the rules, how to use the base stations and subscriber terminals of mobile radio communication systems of different standards. Table I refers to the documents that establish the requirements for communication tools used in modern wireless networks. It also presents data on maximum power output power levels established for such equipment.

Table 1.

Requirements for communication tools used in modern networks of wireless mobile communication

Document	Reference to the used technology	Maximum power output
Order by the Ministry of Communications and Mass Media of the RF dated by the 27 th of Au-	“On approval of the Rules, how to use the subscriber terminals of mobile radiotelephone	up to 24 dBm

gust 2007 No 100	communication systems of the UMTS standard with frequency duplex separation and frequency-code division of radio channels, operating in the range of 2000 MHz”	
Order by the Ministry of Communications and Mass Media of the RF dated by the 6 th of June 2011 No 128	“On approval of the Rules, how to use the subscriber terminals of mobile radiotelephone communication systems of the LTE standard”	up to 23 dBm
Order by the Ministry of Communications and Mass Media of the RF dated by the 13 th of October 2011 No 257	“On approval of the Rules, how to use the subscriber terminals of mobile radiotelephone communication systems of the UMTS standard with frequency duplex separation and frequency-code division of radio channels, operating in the frequency range of 900 MHz”	up to 24 dBm
Order by the Ministry of Communications and Mass Media of the RF dated by the 22 th of October 2008 No 84	“On approval of the Rules, how to use the subscriber stations (the subscriber radio stations) of mobile radiotelephone communication network of the IMT-MC-2000 standard”	Up to 0 DBW (1,0 W)
Order by the Ministry of Communications and Mass Media of the RF dated by the 19 th of February 2008 No 21	“On approval of the Rules, how to use the subscriber stations (the subscriber radio stations) of mobile radiotelephone communication network of the GSM-900/1800 standard”	For the second class of power GSM-900 – up to 8 W (39 dBm); for the the third class of power GSM-1800 – up to 4 W (36 dBm)
The rules, how to use base stations and retranslating units of the mobile telecommunication networks	The Orders by the Ministry of Communications and Mass Media of the RF: dated by the 17 th of February 2010 No 31 (UMTS); dated by the 6 th of June 2011 No 129 (LTE); dated by the 12 th of April 2007 No 45 (GSM900/1800); dated by the 7 th of November 2007 No 127 (IMT-MC-2000);	For IMT-MC-450, IMT-MC-2000 – up to 33 dBm. For micro base stations GSM 1800 – up to 32 dBm. For UMTS – up to 43 dBm; Base station of local capacity of LTE standard – up to 24 dBm (for one translating aerial)

	dated by the 28 th of November 2005 No 134 (IMT-MC-450)	
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It should be noticed regarding the recommendations provided by the International Commission on Radiological Protection that there is currently no information on the use of these recommendations by the Ministry of Communications of Russia in sphere of regulating of usage of the wireless communications. In this connection the Ministry of Communications of Russia kindly asks you to provide us with the recommendations made by the organisation in question, which might reasonably be considered under the regulation in the field of wireless communications, as well as the experience of regulation of this matter by the Kingdom of Denmark.”

Israel:

“Following your request, please find below our replies to your queries:

In general, the Israeli Health Ministry’s recommendations regarding wireless communication are based on the "precautionary principle". When developing these guidelines, the Ministry of Health attempted to consider both the technological needs of Israeli society and the level of caution required on the basis of current scientific data, so that a balance between the population needs and the preservation of health could be achieved.

A. Israeli legislation regarding wireless telecommunication

1. The non-ionizing radiation law (2006)¹, and the non-ionizing radiation regulations (2009)

The non-ionizing radiation law incorporates the precautionary principle and sets the norms for handling and mounting radiation sources and measuring radiation emissions. It defines the measures to be taken in order to reduce the risks generated from the emission of non-ionizing radiation.

The law regulates:

- licensing of installation of non-ionizing radiation sources
- licensing of operation of non-ionizing radiation sources
- licensing of radiation measurement services

Each license/permit will be granted for a specific period of time and in accordance with specific conditions. These conditions include assessment of maximum levels of exposure of the public and the environment, and the measures that will be taken to limit exposure levels.

- Certification of appropriately trained public servants as inspectors of this law.
- Conditions for removal of radiation sources or for stopping installation of radiation sources.

The law mandates keeping detailed records concerning the radiation sources or radiation measurement services.

Offenders of this law will be subject to criminal penalties.

According to this law the public must be informed of the list of the permit holders and of the permits that have been revoked or suspended; location of the radiation sources requiring a permit; assessments of exposure levels; test results of the radiation sources requiring a permit; results of the measurements

¹ Please see attached law

of the radiation created during the operation of the radiation sources; and requests submitted for installation permits.

Within the framework of the Non-Ionizing Radiation Law, which came into force on January 1, 2007, the Minister for Environmental Protection is empowered to promulgate regulations pertaining to the law's implementation. The 2009 regulations relate to the validity period of construction and operation permits; the fees set for the submission of permit requests; requirements for annual radiation measurements and the reporting of their results; and conditions for the provision of service permits including tests, professional training and availability of equipment as well as publication of the information on the website of the Ministry for Environmental Protection.

2. Driving and using a cell phone

Regulation 28b of the traffic regulations issued in 2007 stipulates that:

"While a vehicle is in motion, the driver should not hold a permanent or mobile telephone, or use them in the vehicle, unless a hands-free device is used, and text messages should not be sent or read". According to this regulation, "A hands-free phone is a device that allows use of the phone without holding it, only if it is installed in the vehicle and placed in a stable position from which it cannot fall."

3. Labeling of cell phones with the SAR

The consumer protection regulations issued in 2002 (information regarding non-ionizing radiation from mobile telephones), requires that the level of radiation of the specific telephone, as well as the maximum amount of radiation permitted, be marked on the phone.

This regulation enables comparison of levels of radiation emitted from different devices, providing an additional factor that can be considered when purchasing a new cell phone.

B. Information about special actions directed towards children and youth, for instance, in schools and kindergartens

As in many other countries, the Israeli Ministry of Health defined infants, children & adolescents as a sub population which might be more sensitive to radiation exposure compared to the adult population.

1. Israeli recommendations for cell phone use

In 2008, the Ministry of Health published a set of simple measures aimed to reduce individual exposure from cellular and wireless phones.

In brief, the guidelines included recommendations such as using speakers, hands-free devices or earphones when speaking; limiting cell phone use in areas where reception is weak etc.

For the young population, the following recommendation was given: "It is highly recommended that these precautionary measures be implemented especially by children, who generally have been shown to have a greater susceptibility to cancer development following exposure to carcinogens. Since cell phone use among children began later than use among adults, the effects of their exposure (to cell phones) has not yet been assessed. In light of their increased sensitivity, the long life expectancy of young populations (which almost certainly includes a significant accumulation of exposure and a long pe-

riod of time before morbidity development), and ethical issues that are involved in the decision making process in minors, special precautions for this population is required. **Therefore, the Ministry of Health recommends that parents reduce exposure of children to cell phones as much as possible, carefully consider the age at which cell phone use should start, and in any case, ensure the use of (non-wireless) ear-phones or speakers when using a cell phone.**"

2. Exposure of children and adolescents to wireless technologies in schools and kindergartens

In 2010, in accordance with a request of the Israeli Parliament (the Knesset), a position paper on this issue, was formulated.

The position paper (approved in 2011) focused on:

1. Use of cell phones in schools
2. Wireless computer network systems, i.e., Wi-Fi, WLAN and laptops used by teachers and students.
3. Electric power, i.e. ELF (Extremely Low Frequency) from power lines, transformers, circuit breakers and other sources.

In general, it was agreed that the **precautionary principle** should also be applied in the educational institutions.

Cell phones - it was decided that a balance should be reached between the choice of the pupil and his parents to use a cell phone and any possible health and social consequences of this use. This balance should be achieved mainly by adopting educated cell phone use habits.

It was agreed that technological solutions that would disrupt cell phone reception in schools should not be used, for any such solution would cause higher exposure to radiation (a situation which is created in conditions of bad reception).

Educational program:

A program providing age appropriate knowledge, with the goal of enabling the adoption of proper and sensible cell phone use habits was established. The content of the program includes, amongst other topics, understanding of emitted radiation; the risks associated with cell phone use; and the precautionary principle.

Among the recommendations for educated use, are the following: shortening the duration of calls; preference to text messages over calls; use of headsets; proper use while driving; avoiding night use (due to the effects of lack of sleep). The program was planned in collaboration with the Cancer & Radiation Epidemiology Unit in the Gertner Institute and the Ministry of Education. The program is monitored by surveys before and after the intervention is carried out, in order to test its effectiveness.

The use of WLAN, Wi-Fi and Laptops by Teachers and Students – a Director General Statement was issued by the Ministry of Education in May 2013,

stating:

Educational institutes (i.e. schools grade 1 and above – age 6 years and above) should always prefer the installation of a wire network unless it entails a safety hazard emerging from its use and installation. In cases in which there is a technical justification for installing a Wifi network as well as a pedagogical justification for using internet at school (in accordance with the appendix – "using an internet network at school – pedagogical justification" and the appendix - "issues preventing installation of wire network at school – technical justification"), a wireless network may be installed with consideration to the following limitations:

1. The age group relates to first grade or above (6 years of age and above). [The use of wireless networks in kindergartens is prohibited]
2. In each class, a wire access point will be installed at the teacher's desk and the teacher will use the wire network as long as there is no need to use the wireless network.
3. The intensity of emission should be automatically decreased when not in use
4. Wifi access points will be turned off automatically when not in use
5. The Wifi mode of devices (cell phones, laptops, tablets, etc.) should be turned off inside the school when not in use.
6. Each room, corridor or classroom should have at least one router and there should be at least one Wifi router for every 150 m² not separated by walls.
7. The number of Wifi access points will be set by the number of users (not less than 25 users per point).
8. Devices that cannot connect to the wire network are not permitted
9. In grades 1-3 there is a weekly time limit for using the wireless network:
 Grades 1-2 (6-8 year olds) - up to one hour a day and not more than 3 hours per week.
 Grades 3 (8-9 year old) – up to 2 hours a day and not more than 4 days a week.

Information about special recommendations regarding wireless telecommunication, which deviate from ICNIRP's recommendations

Reference levels imposed are 10% of ICNIRP levels for continuous exposure of the general public to RF frequency."

Med venlig hilsen

Astrid Krag / Tove Kjeldsen