Governmental Activities of Japan (FY2024)

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Ministry of Economy, Trade and Industry (METI)

ELF-EMF (electric utility equipment only)

① collection of information on health effects by ELF-EMF including exposure mitigation measurement and precautionary approach
② information dissemination (website, symposia, pamphlets)
③ exposure measurement (near utility equipment)

Ministry of the Environment

EMF (residential)

① collection of findings
② information dissemination

Ministry of Internal Affairs and Communications (MIC)

RF-EMF

① setting guideline (RF: equivalent to ICNIRP)
② epidemiology, in-vivo/in-vitro study,
③ human volunteer study, dosimetry
④ information dissemination (website, symposia, pamphlets)

Ministry of Health, Labour and Welfare

EMF Occupational (or workplace)/indoor building (or room)

Ministry of Land, Infrastructure, Transport and Tourism

ELF-EMF (railway)

Actions of Ministry of Economy, Trade and Industry in connection with EMF produced by power facilities

Japan's regulations concerning power frequency EMF

The Ministry of Economy, Trade and Industry (METI) is responsible for electric power facilities.

a) Electric field

Regulation of 3 kV/m electric field strength beneath high-voltage power transmission lines was enacted in 1976 as the Ministerial Ordinance of Standards for Electrical Equipment. This clause is not intended to protect human health but to prevent electric shocks which might be caused by electric fields.

b) Magnetic field

METI organized a Working Group to review regulatory policy and related measures which should be taken for the general public, concerning EMF associated with electric transmission lines or other utility electric facilities. The 12-member Working Group, comprising well-informed persons from academia, industry and consumer groups, compiled a report on the issue on Dec. 20, 2007, based on review of WHO Fact Sheet No. 322, WHO ELF EHC Vol. 238, international guidelines, and scientific findings in and outside the country. The Working Group advising METI has proposed that Japan should adopt the ICNIRP exposure guidelines for power-frequency EMF.

In accordance with the Working Group's recommendation, METI amended the Ministerial Ordinance of Standards for Electrical Equipment to introduce a limit of magnetic flux density from electric power facilities at 200 μT in 2011, without any changes in electric field limit value though. This amendment was promulgated on March 31, 2011 and entered into force on October 1, 2011. This is aiming at protecting the general public from acute health effects of power frequency magnetic fields and is based on the ICNIRP ELF guidelines 2010, while it is the emission limit applicable only to electric power facilities. Examples of technical procedures used for checking compliance with this limit were also provided by METI together with the amendment of the Ordinance, referring to procedures described in IEC 62110.

METI concluded that scientific evidence suggesting the causal relationship between long-term exposure to magnetic fields and childhood leukemia was not strong enough to be the basis of any exposure or emission limits, which is in accordance with the Working Group's conclusion.

Actions of Ministry of The Environment

The Ministry of the Environment collects findings including the information on health effects by EMF and disseminates such information to the public.

Actions of Ministry of Internal Affairs and Communications to protect the human body from RF-EMF

1. Research Activities

The RRPG (Radio Radiation Protection Guidelines for Human Exposure to Electromagnetic Fields) that were set out in 1990 have been used as guidelines for radio station operations and the manufacture of radio equipment. The guidelines are renewed in 1997, 2011, 2015 to adopt latest scientific knowledge and further harmonize to international guidelines such as ICNIRP. The renewal in 2015 was to adopt ICNIRP's new guidelines for the frequency range 1 Hz to 100 kHz in 2010. In April 2024, RRPG was revised in order to introduce guideline regarding APD (Absorbed Power Density), and the report regarding measurement method for APD from 6GHz to 10GHz was published.

It has become common knowledge globally that radio waves which satisfy the RRPG do not have adverse effects. However, it is still important to continue to clarify the effects of radio waves scientifically, because it has been raised in view of human health. In order to pursue this issue, the MIC set up "Committee on the Possible Adverse Health Effects of RF Electromagnetic Fields", in 2008. This committee has comprised of specialists in medical, engineering and risk communication, and homemakers. The committee advises the MIC on implementing the research related to Epidemiology, Human Voluntary, Animal Studies, Cellular Studies and Dosimetry. A large comprehensive study on dosimetry from intermediate frequency region to millimeter-wave region has been conducted by National Institute of Information and Communications Technology. MIC has implemented contract researches on RF safety issues, some of which are related with the 5G –system, WPT(Wireless Power Transmission/Transfer) or other very advanced wireless technologies.

2. International Collaborations

The MIC collaborates with international organizations such as WHO.
The GLORE meeting is an annual multi-national meeting on RF safety of telecommunication authorities and expert researchers from Japan, Korea, EU, US, and so on.

3. Providing information to general public

The MIC has constructed a nationwide lecture on the safety of citizens and businesses with regard to radio waves in cooperation with local governments, and is committed to disseminating correct knowledge. Total participants in the seminars number more than 20,000 so far.

For mobile phone base station construction, the MIC has demanded of mobile operators that they inform local residents of their mobile phone base station and that they explain the safety of radio wave emitted from mobile phone base stations.

Furthermore, the MIC provides information on the safety of RF-EMF, as follows:

- Preparing and distributing brochures on the safety of RF-EMF to the general public.
- Providing information about possible health effects of RF-EMF through the MIC web site.
- Contact and consultation carrying out for the safety of RF-EMF at the MIC and Regional Bureau of Telecommunications.

4. Development of rules on radio equipment

The MIC enforced the amendment of its rules on radio equipment and other related rules concerning the limit of SAR in 1st. December 2015.

The outlines of the amendments are as below.

a. To add provision on measurement method of Head SAR (Specific Absorption Rate) when radio equipment transmit using multiple radio frequency bandwidths concurrently.
b. To add provision on measurement method of High Speed SAR.
c. To revise the provision on the upper limit of frequency bandwidth from 3GHz to 6GHz.

Additionally, according to the revised RRPG and the report regarding measurement in April 2024, MIC will introduce regulations regarding APD into rules on radio equipment.

Actions of Ministry of The Ministry of Health, Labour and Welfare in connection with IF-EMF

The Ministry of the Health, Labour & Welfare provides funding which is available for studies on possible health effects of electromagnetic fields upon request.

Actions of Ministry of Land, Infrastructure, Transport and Tourism in connection with ELF-EMF for railway

On August 1, 2012, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) amended the Ministerial Ordinance to Provide the Technical Standard on Railway about magnetic field generated by electric power facilities of railway, and introduced a regulation equivalent to electric transmission lines or other utility electric facilities.