

National activity report – ISRAEL 2015

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General Research Activities related to EMF

The Ministry for Environmental Protection and Hadassah Academic College conducted the following research works based on field measurements:

- Effect of transitions to LTE on RF exposure: It was found that the transition to LTE decreases the exposure in spite of an increase in the use in the volume of transferred data
- Effect of implementation of site sharing on RF exposure: It was found that the site sharing can bring a 40% decrease in the number of sites while reducing RF exposure
- The exposure to LF magnetic field in non-electrified train wagons: Our findings were that the electricity produced by the diesel generator placed in the locomotives supply electricity to the electric motors which operate the wagon's wheels and this results in exposure in excess of 6 μ T on the passenger's seats.

The ORCHID project, Hebrew abbreviation of "National Survey of MFs exposure in Israel", was initiated by SOREQ NRC. The Ministry of Energy and National Infrastructure is financing this research which Soreq performs with educational centers in which students majoring in Science perform guided research related to ELF EMFs. At this stage there are a few ongoing research projects concerning exposure from public transportation, adjustable electric beds and computer rooms/labs within schools.

An exposure assessment from hybrid cars has been performed and results are published in the scientific literature (Int. J. Environ. Res. Public Health 2015, 12, 1651-1666).

TransExpo: International Study of Childhood Leukemia and Residences near Electrical Transformer Rooms.

The Israeli branch of a multi-national study of childhood leukemia among children, who lived in apartment buildings with built-in transformers, is still ongoing but is in its final data analysis stage. Israeli results are expected within the next year, but since the study is multi-national it will take a few more years until the results from other countries will be combined and analyzed. Participating countries are Bulgaria, Finland, Hungary, Italy, the Netherlands and Switzerland. The study is funded by the Electric Power Research Institute (EPRI).

New Policies and Legislations Regarding EMF Exposure

The Ministry of Environmental Protection is supposed to present regulations regarding exposures to RF and ELF. Such regulations are stipulated in the NIR Law, 2006, but they need to be approved by the Ministry of Infrastructure, Ministry of Telecommunications and The Ministry of Finance. Since 2006, based on the retrofitting cost evaluation of the Israel Electric Company, the ministries of Infrastructure and Finance opposed such regulations stating that their implementation will be too costly for Israeli society as a whole.

Following an appeal to the High Court of Justice an agreement was achieved between the ministries that paved the way for regulations based on the recommendations that are in practice today:

- 10% of ICNIRP thresholds for RF exposures
- 100 μ T for short exposures to ELF magnetic field
- Precautionary Principle implementation for higher than 0.4 μ T chronic exposures to ELF magnetic field
- ICNIRP thresholds for ELF electric field

Supreme Court Debate on the Subject of Wi-Fi in Schools

In August 2012 the National Parents' Association, the Forum for Cellular Sanity and other groups filed a petition to the Israeli Supreme Court against the Minister of Education, the Deputy-Minister of Health, and the Minister of Environmental Protection. The petitioners demanded that the Ministry of Education will not be allowed to install or operate wireless networks in schools.

On April 29, 2015 the Supreme Court dismissed the petition against the Ministers of Education, Health and Environment Protection. In its decision, the Court stipulated that it could not find reasons to interfere with the Ministry of Education's policy on the use of wireless networks in schools, which is clearly a case of professional expertise, and it could not determine that the Ministry's policy as outlined in the Director General's Circular of 2013 was unreasonable to an extent necessitating the Court's intervention.

The purpose of the Director General's Circular "Introduction of Communications Equipment and end-user-devices at schools – Health and Safety Considerations", is to reduce and minimize as much as possible the exposure of students and teaching staff to non-ionizing radiation resulting from the use of communications equipment, end-user-devices or other appliances. Adherence to the guidelines will contribute to achieving a balance between the requirements of developing technologies and the protection of the health of students and staff. The circular stipulates that in educational institutions preference should be given to installing a wired network that will not create safety hazards resulting from its installation and use. Where installation of a wired network alone is not feasible, a wireless network could be installed, under several limitations among which are:

- Age limitation - the wireless network could be installed for grade 1 upwards but not in kindergartens or pre-schools settings. For grades 1-3, duration of use per day is limited.
- In each class, a wired access point at the teacher's post will be installed (to be used whenever only the teacher needs an internet access).

In addition:

- In every school where communications equipment and end-user-devices have been installed, radiation measurements (RF and ELF) must be made by an authorized person before and after installation, to ensure that the radiation levels are in accordance with the requirement of the Ministry of Environmental Protection. These measurements should be made when the equipment is in operation throughout the school.
- Each school must apply an age-adapted program to impart information on electromagnetic and radiofrequency radiation, to expand knowledge on this subject.

In its decision, the Supreme Court discussed the statements filed by experts in the fields of non-ionizing radiation and health, and stipulated that the Ministry of Education's policy to allow the use of a wireless infrastructure under the restrictions indicated above was based upon professional evaluations of the experts in these fields and other relevant professionals who formulated their recommendations regarding the degree of risk involved in the exposure of students to non-ionizing radiation in accordance with the required limitations and precautions.

Areas of Public Concern and National Responses

The wide use of WiFi in schools and the implementation of a program to change the mechanical water monitors with wireless smart meter monitors are of public concern. The Ministries of Health and Environmental Protection advise to use, where possible, wired internet and smart meter monitors connections and to present the consumers with information as to the pros and cons for the chosen technology.

New Public Information Activities

Following discussions with the association of real estate agents, courses are organized to provide the agents with the necessary knowledge to assess the effect of NIR exposures on the real estate prices.

Activities of Israeli National Information Center for Non-Ionizing Radiation (TNUDA)

Stakeholders Meeting - On June 18th, 2015, the TNUDA center convened a specialized conference on the subject of decision-making in the field of non-ionizing radiation. During the meeting, stakeholders in this field discussed the fundamental issues relating to the effect of communication technologies on various aspects of the lives of individuals and society. The conference was an outstanding, engrossing multidisciplinary meeting between different domains of interest (health, science, ethics, law, economics, communications, etc.) and various interest groups (the general public, policy-makers, the scientific community, the business sector, the public sector, etc).

Main topics discussed in the workshop:

- Broad behavioral and health consequences of communication technologies use (addiction, sleep disturbances, car accidents etc)
- Tension between individual & environmental exposure.
- Dealing with ever-changing technologies.
- Utilization of communication technologies in the school environment.