



## **Supplemental Information for the Vermont Senate Finance Committee: The WHO IARC Listing of RFR as a Possible Human Carcinogen and Implications for Vermont Wireless Utility Meters.**

By Cindy Sage, MA, Sage Associates  
Expert Testimony to the Committee on  
January 20 and January 26, 2012.

I am submitting supplemental information to the Committee in response to the testimony by Dr. Chen on the absence of health concerns with respect to wireless electric meter RFR exposures. It is inexplicable that any health officer who is knowledgeable about the recent classification of RFR as a Possible Human Carcinogen could issue a positive assertion of safety on wireless electric meters. Such an assertion is clearly not warranted.

Robert Baan, PhD, is the principal author of the 2011 IARC Monograph on the carcinogenicity of radiofrequency radiation. He provided this interpretation of the May 31, 2011 classification by IARC of RFR as a Possible Human Carcinogen (a 2B classification).

Baan says that the IARC RFR classification as a Possible Human Carcinogen applies to all types of RFR exposures including smart meters.

*"So the classification 2B, possibly carcinogenic, holds for all types of radiation within the radiofrequency part of the electromagnetic spectrum, including the radiation emitted by base-station antennas, radio/TV towers, radar, Wi-Fi, smart meters, etc."*

Baan also says that the RFR level matters.

*"An important point is the radiation level. The exposure from cellular phones (personal exposure) is substantially higher and much more focused (usually on the brain) than exposures from radio/tv towers, antennas, or Wi-Fi."*

Since smart meters can produce personal exposures in family homes at or above the FCC public safety limit as determined by FCC OET 65 rules for calculating compliance with those safety limits, the new IARC listing will certainly be applicable for smart meters,



depending on their location and manner of operation.

Smart meters at close proximity can produce several hundred microwatts per centimeter squared, and the FCC acknowledged that "where the public cannot be excluded" a duty cycle of 100% should be used to provide a safety margin. This 100% duty cycle, when used according to the FCC's own equations, shows that people who have smart meters close to where they spend time in their own homes, can have excessively high RFR exposure levels; and these levels can approach or exceed FCC public safety limits (<http://sagereports.com/smart-meter-rf>). Worse, these RFR exposures are constant; and they expose the entire body to elevated RFR levels during the day and night (not just a small portion of the body).

Cindy Sage, MA  
Sage Associates

-----Original Message-----

From: Robert Baan <BaanR@iarc.fr>  
Date: Mon, 29 Aug 2011 09:47:10  
To: connieahudson@yahoo.com<connieahudson@yahoo.com>  
Cc: COM (com@iarc.fr)<com@iarc.fr>  
Subject: EMF Class 2B Classification

Dear Dr Hudson,

Thank you for your message, which was forwarded to me, and to which I would like to respond as follows.

The IARC Working Group classified "Radiofrequency Electromagnetic Fields" (RF-EMF) as possibly carcinogenic to humans (Group 2B).

The information that formed the main basis for this evaluation was found in epidemiological studies on cell-phone use, where a slightly increased risk for glioma (a malignant form of brain cancer) and acoustic neuroma (a non-cancerous type) was reported among heavy users.

There were some indications of increased cancer among radar-maintenance workers (occupational exposure), but no reliable data from studies among, e.g., people living close to base-station antennas, radio/TV towers, etc (environmental exposure). Although the key information came from mobile telephone use, the Working Group considered that the three types of exposure entail basically the same type of radiation, and decided to make an overall evaluation on RF-EMF, covering the whole radiofrequency



region of the electromagnetic spectrum.

In support of this, information from studies with experimental animals showed that effects on cancer incidence and cancer latency were seen with exposures to different frequencies within the RF region.

So the classification 2B, possibly carcinogenic, holds for all types of radiation within the radiofrequency part of the electromagnetic spectrum, including the radiation emitted by base-station antennas, radio/TV towers, radar, Wi-Fi, smart meters, etc.

An important point is the radiation level. The exposure from cellular phones (personal exposure) is substantially higher and much more focused (usually on the brain) than exposures from radio/tv towers, antennas, or Wi-Fi.

I hope this is useful.

Thank you for your interest in our work.

Sincerely yours,

Robert A Baan PhD  
The IARC Monographs  
IARC, Lyon, FRANCE