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Madrid, October 8, 2026

U.S. Department of Health and Human Services (HHS)

Re: Support for the request to review the criteria used to evaluate and interpret electromagnetic hypersensitivity (EHS)

Dear Sir or Madam,

I am writing to you as a physician and as President of Fundación Alborada to join the request submitted by Mr. Joaquín Machado (EFEIA Foundation), Dr. Beverly Rubik and other specialists. We are requesting a comprehensive review of the criteria that have been used to date to evaluate and interpret studies on electromagnetic hypersensitivity.

1. My professional background

I hold a degree in Medicine and Surgery, with training in pediatrics, neonatology, stomatology and addiction medicine, and I have practiced environmental medicine for 25 years. Fundación Alborada, which I chair, has worked since 1998 on the prevention, diagnosis and treatment of illnesses related to environmental exposures. I also teach environmental medicine to healthcare professionals.

Over this time I have treated approximately thousands patients with Multiple Chemical Sensitivity (MCS), chronic fatigue syndrome, fibromyalgia and electromagnetic hypersensitivity. My clinical experience matches that of other colleagues: these conditions frequently overlap in the same patient, follow a course that can be documented, and cause real disability.

2. My position

I believe that electromagnetic hypersensitivity should not be reduced to a purely psychological phenomenon. Nor can research into it be considered closed on the basis of current evidence. My reasons are as follows.

a) Patients' suffering is real and recognized. The World Health Organization itself (2005) acknowledges that the symptoms are real and can be disabling. Sweden recognizes EHS as a functional impairment. When these patients are labeled as having a psychological condition without first investigating possible biological components, they lose access to appropriate medical care.

b) Provocation studies have design limitations. Systematic reviews (Rubin et al., 2005 and 2010) conclude that, under double-blind conditions, participants do not

detect fields better than chance. I acknowledge this finding. However, many of these studies:

- use exposures lasting minutes, whereas in clinical practice we observe delayed reactions and recovery periods of hours or days;
- do not include sufficient washout periods between exposures;
- group together highly heterogeneous participants, without clinical or biological phenotyping;
- conduct "sham" exposures in environments with background electromagnetic fields;
- use conscious perception of the field as the primary outcome, rather than objective physiological markers.

A person's inability to consciously perceive a field does not demonstrate that the field has no biological effect on them. The double-blind study by McCarty et al. (2011) documented physiological responses to a 60 Hz electric field in a patient who was unable to perceive it.

c) There are signs of biological components that warrant investigation. In a series of more than 700 cases, Belpomme et al. (2015) described alterations in markers such as histamine, nitrotyrosine and S100B protein. They also observed that around 30% of patients with EHS also had MCS. De Luca et al. (2014) found markers of oxidative stress and genetic variants in detoxification enzymes in patients with EHS and MCS. The EUROPAEM EMF Guideline 2016, developed by physicians specializing in environmental medicine, proposes diagnostic and treatment protocols. In addition, in 2011 the IARC classified radiofrequency electromagnetic fields as possibly carcinogenic to humans (Group 2B). Several of these findings require independent replication, and that is precisely why they should be investigated rather than dismissed.

d) EHS fits within the framework of central sensitivity syndromes. Its overlap with MCS, fibromyalgia and chronic fatigue syndrome points to shared mechanisms of nervous system sensitization, inflammation and oxidative stress. Understanding EHS as a sensitization disorder with a physiological basis, rather than as a patient's belief, opens concrete avenues for genotypic, phenotypic and genomic research.

e) Funding influences results. A review published in *Environmental Health Perspectives* (Huss et al., 2007) showed that studies on the effects of radiofrequency exposure funded exclusively by industry were the least likely to report statistically significant results. Any review of the evidence should take this bias into account.

3. My requests

1. That the criteria used to design and interpret studies on EHS be reviewed to include prolonged exposures, delayed responses, washout periods, participant phenotyping and objective biological markers.

2. That independent research, free from conflicts of interest, be promoted to study the physiological, genetic and genomic components of the condition and its relationship with MCS and central sensitivity syndromes.
3. That clinical protocols and medical training be developed so that these patients are properly diagnosed and treated, without a psychological origin being assigned to them by default.
4. That, while knowledge advances, the precautionary principle be applied, especially in hospitals, schools and settings where the most vulnerable people are present.

I remain at your disposal to expand on any aspect of this letter and to collaborate in any way you consider appropriate.

Sincerely,

Firmado por Dra Pilar Muñoz-Calero Peregrin
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