Public Comment

Docket: HHS-OASH-2026-0397

Re: Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure. FR Doc. 2026-19252, published September 21, 2026

Submitted by: Michael T. Wilson, Carson City, Nevada

Date: September 25, 2026

> ***Non-representation notice.*** *I submit this comment solely in my personal capacity. The offices listed below under Question 2 are stated as professional background and standing, nothing more. This comment is* ***not*** *submitted on behalf of, and does not represent the position of, the International Association of Fire Fighters, any IAFF local, the Washington State Council of Fire Fighters, the Washington State EMS Licensing and Certification Committee, any fire department or emergency medical service, any government office, or any other entity. I hold no authority to speak for any of them and I do not purport to do so here. Every position taken in this comment is my own.*

Summary

I want to begin by saying that I think this Request for Information is the right thing to do, and that the questions in it are the right questions. HHS has asked where the gaps are. I am writing to identify one.

This comment concerns a single population that the RFI touches but that the federal record has never properly examined: career fire service personnel who live, on duty, in stations that host commercial wireless base stations.

I am a retired paramedic and firefighter with over thirty years of service. I worked in fire stations with commercial antenna arrays mounted on the building.

I am **not** reporting an adverse health effect. I have no diagnosis I attribute to radiofrequency exposure and nothing of that kind to report. What I am submitting is an exposure characterization and a research gap. In my judgment this exposure scenario is not described accurately by the framework HHS has been asked to evaluate, and the federal government was formally asked to study it twenty-two years ago and has not done so.

I have based this on my own occupational experience, on federal government reports, on a federal appellate decision, and on peer-reviewed toxicology. Citations follow.

Question 2 — Perspective represented

My comment represents three of the perspectives listed in the RFI.

1. Healthcare professional. Licensed paramedic, Mobile Intensive Care Paramedic, University of Washington School of Medicine. Over thirty years in the fire service and emergency medical services.

2. Worker with elevated occupational exposure. Career fire service, including assignments in stations hosting commercial wireless base station equipment.

3. Former elected official and appointee with responsibility for fire service health, safety and regulatory standards. The offices I held were these:

- **President** of the IAFF local at SW Snohomish County Medic 7 / Edmonds Fire Department, Edmonds, Washington, from approximately 1996 until 2003. I served at that agency from May 1994 to June 2003 and was elected president about eighteen months in. The agency no longer exists.
- **President** of the King County Medic One Paramedics Association, IAFF Local 2595, Washington, from approximately 2005 until 2008. I was hired there in 2003 and was elected after completing paramedic training and probation.
- **Executive Board Member**, Washington State Council of Fire Fighters. I am the only Executive Board Member ever elected in two separate districts.
- **International Association of Fire Fighters State Representative**, including service as a delegate at IAFF conventions in Washington, D.C.
- **Negotiation Team Member**, Carson City Fire Fighters Association, Carson City, Nevada.
- **Washington State EMS Licensing and Certification Committee**, three years. This is the state body that governs licensure and certification standards for emergency medical providers, so I have also sat on the regulatory side of a licensed and inspected profession.

I list these offices for one reason. The central factual claim in this comment, set out under Questions 16 and 17, is that the organized fire service formally asked the federal government to study this exposure in 2004 and that the study was never performed. I held elected office in that organization before the request was made and again in the years after it, at both local and state level. I can therefore speak to it as a participant in the structure that made it, and not only as someone who has read the document.

Question 3 — Public experiences and reported potential adverse health effects

I report **no** adverse health effects that I attribute to RF/EMF exposure.

I include that statement deliberately. A docket of this kind will fill up with submissions from people reporting harm. A record made only of positive reports is a biased record. My exposure history is substantial and my own outcome, so far as I know, is unremarkable. That is a data point and HHS should have it alongside the others.

What follows under Question 4 is offered as exposure characterization.

Question 4 — Observations from occupational settings

(a) The exposure setting

Allow me to describe the setting, because I do not believe any existing federal exposure framework describes it accurately.

A career firefighter or firefighter-paramedic on a standard shift schedule does not visit the station. He or she lives there. You eat there, work there, and sleep there for shifts that commonly run twenty-four hours and in many departments forty-eight, and you do that across a career measured in decades. Sleeping quarters are in a fixed location. They are occupied unconscious, six to eight hours at a stretch, in the same spot, shift after shift, for years.

Install a commercial wireless base station on that building and what you have created is a continuous, fixed-geometry, decades-long exposure to a population that occupies the structure far more hours per year than the occupants of an ordinary workplace, and that is asleep for a large share of those hours.

(b) The other RF sources in the same environment

The base station is not the only source in that building, and any honest assessment has to count the rest of them. Over a fire service career you also take:

- Portable radio exposure at head level, from handheld transceivers operated close to the head and torso, repeatedly, on every shift.
- Apparatus-mounted mobile radios and antennas, with crew seating close to the antenna mounts.
- Station alerting and paging systems, some of them RF-based.
- Mobile data terminals and in-cab wireless equipment.

I raise this because you cannot assess exposure for this population by evaluating the rooftop base station by itself. The real question is aggregate occupational RF dose across a career, from several sources at once, in a workplace that is occupied for residential durations. I am not aware of any federal assessment that has tried to answer it.

(c) Why this group can be studied

The RFI asks for observations that may help identify patterns. My observation here is structural rather than clinical. **This cohort is unusually well suited to study, and it has never been studied.**

Fire departments keep personnel records, station assignment histories and shift schedules. Through workers' compensation and presumptive illness statutes in many states, long-term health records for this occupation are unusually complete. Station assignment is documented. Antenna installation dates and locations are documented in the municipal lease agreements. The exposed and unexposed groups come from the same occupation, the same employer, the same duty cycle and similar demographics, and they differ principally in whether the station they were assigned to carries an array.

I am not speaking here only as a former field paramedic. In 1997 I co-founded FireMedNet, a web-based fire and EMS incident reporting system that the State of Washington later adopted for statewide trauma and cardiac arrest data collection. I have built the kind of records infrastructure this study would draw on, and I know what it can and cannot support. It can support this.

In 1984 I was a founding board member of the EMS Advocacy Foundation, which conducted the first city-to-city EMS service delivery comparison performed in the United States. Comparative work across fire and EMS jurisdictions is difficult, but it is not novel and it is not beyond us.

This is close to an ideal retrospective cohort design. It has never been executed. That is the gap I am asking HHS to close.

Question 5 — Exposure standards and risk assessment

(a) The classification problem

Under the FCC framework, exposure limits divide into controlled or occupational limits and uncontrolled or general population limits. The occupational category covers people who know about their exposure and can exercise control over it. Firefighters in a station carrying a commercial array generally meet neither condition. The installation is a commercial lease they are not party to, and they cannot move their sleeping quarters.

So they fall under the general population limit, which was built around a public assumed to be passing through, not around a population that sleeps in a fixed position beneath the installation for a working lifetime.

This is documented in the U.S. Fire Administration's own Executive Fire Officer research on exactly this question, which observed that the more stringent general-public guideline "would be applicable to firefighters assigned to a station that has a cell tower co-located." [6]

The limit is being applied correctly. The exposure duration assumed by that limit simply does not describe these people.

(b) The structural problem, Section 704

Section 704 of the Telecommunications Act of 1996, codified at 47 U.S.C. § 332(c)(7)(B)(iv), bars state and local governments from regulating the placement of personal wireless service facilities on the basis of the health effects of RF emissions where the facility complies with FCC limits. [7]

The consequence for this workforce is specific. **The employer is legally barred from declining an installation on the grounds of employee health**, whatever the employer, the employees or the treating occupational physician may conclude. The USFA research identified that constraint directly. [6]

I raise it not as a telecommunications argument but because it bears on what the RFI asks: what regulatory changes would improve assessment and disclosure of wireless radiation exposure. Where a workplace exposure exists that the employer has no lawful power to refuse, the case for federal health surveillance of that workplace gets stronger, not weaker.

(c) What I am asking HHS to recommend

At a minimum, that RF survey results for any installation on an occupied emergency services facility be measured before and after activation and disclosed to the personnel assigned to that building.

The USFA research recommended precisely this in 2008 and compared it to a Material Safety Data Sheet. It also found that of the thirty-one departments among the hundred largest U.S. cities that hosted such installations, only three had any written protocol governing them. [6]

Three out of thirty-one. That is a disclosure gap HHS can address by recommendation without touching FCC siting authority at all.

Question 11 — Sensitive populations

(e) Workers with elevated occupational exposure. Yes, exposure assessment should differ for this population, for the reasons given under Question 4(a). They occupy a workplace for residential durations, including sleep, in a fixed position, across a career. Whatever averaging assumptions suit a general population do not suit this one.

(d) Individuals with implanted medical devices. In field emergency medical practice, patients with pacemakers and implantable cardioverter-defibrillators are encountered routinely, and they are managed inside an environment saturated with transmitting equipment: portable radios, apparatus radios, mobile data terminals, telemetry, and increasingly wireless monitoring and defibrillation devices, frequently within a metal ambulance compartment of under a hundred square feet.

I trained through the University of Washington School of Medicine Medic One program and spent a career in prehospital cardiac care. I am not aware of any current federal assessment of the aggregate RF field conditions in the patient compartment of a working ambulance, or of how that environment interacts with implanted cardiac devices. I recommend one.

Question 12 — Evidence of effects below current federal exposure limits

The RFI asks what scientific evidence exists of adverse health effects at levels below current federal limits. I would direct HHS to its own program.

The National Toxicology Program is an HHS program, administered at NIEHS. NTP Technical Report 595, November 2018, reported the following after two-year whole-body exposure to 900 MHz cell phone radiofrequency radiation:

> *"there was clear evidence of carcinogenic activity of GSM-modulated cell phone RFR at 900 MHz in male Hsd:Sprague Dawley SD rats based on the incidences of malignant schwannoma of the heart." [1]*

NTP reached the same finding of clear evidence independently for CDMA modulation. Malignant schwannoma of the heart appeared in exposed male groups under both modulations and in **zero** sham controls. Malignant glioma of the brain was also exposure-related. Exposures were 1.5, 3 and 6 W/kg whole body. [1]

This was not an outside study run by advocates. The Food and Drug Administration nominated cell phone RF emission for toxicology and carcinogenicity testing in 1999. HHS conducted the work and it was peer reviewed. [1]

It has been independently replicated at base station exposure levels. The Ramazzini Institute study, Falcioni and colleagues in *Environmental Research*, 2018, exposed 2,448 Sprague-Dawley rats from prenatal life until natural death to a 1.8 GHz GSM far field at 0, 5, 25 and 50 V/m, nineteen hours a day. The exposure model was built to represent environmental emission from a radio base station rather

than handset use. It found a statistically significant increase in heart schwannoma in treated male rats at the highest field strength. [2]

I want to draw attention to what that exposure model represents. The Ramazzini design is the closest published experimental analogue to the fire station scenario I described under Question 4: far field, continuous, base-station representative, lifelong. It found the same tumor type, in the same organ, in the same sex, as the handset-modeled NTP study.

International classification. IARC evaluated radiofrequency electromagnetic fields in May 2011 and classified them Group 2B, possibly carcinogenic to humans, across 30 kHz to 300 GHz. Monograph Volume 102 followed in 2013. [3]

A federal court has already found the FCC's position inadequately explained. In *Environmental Health Trust v. FCC*, No. 20-1025, decided August 13, 2021, the Court of Appeals for the D.C. Circuit held the Commission's decision to retain its 1996 exposure limits arbitrary and capricious and remanded. It directed the FCC to address, among other things, the impacts of RF radiation on children, **the health implications of long-term exposure**, the ubiquity of wireless devices, and environmental impacts. [4]

Let me set the chronology out plainly. The current federal exposure limits were set in 1996. The IARC classification came in 2011. The NTP and Ramazzini results came in 2018. The D.C. Circuit remand came in 2021. The limits have not changed.

Question 15 — Wireless infrastructure and proximity

The RFI asks what evidence should be weighed when evaluating RF exposure from wireless infrastructure, including proximity to workplaces.

Emergency services facilities deserve separate treatment inside that question. Fire stations, EMS stations and public safety communications facilities are workplaces, sleeping quarters, and commercially attractive antenna sites all at once, because they are municipally owned and centrally located. At the time of the USFA survey, thirty-one of the fire departments serving the hundred largest U.S. cities hosted at least one installation, and sixteen more had been approached about it. [6] That survey is eighteen years old. The number has almost certainly grown.

I recommend that HHS treat emergency services facilities as a distinct category in any wireless infrastructure exposure assessment.

Questions 16 and 17 — Federal research priorities and coordination

The gap

A retrospective cohort study of career fire service personnel assigned to stations hosting commercial wireless base stations, compared against personnel without that exposure, has been formally requested for more than twenty years and has never been conducted.

In August 2004 the International Association of Fire Fighters adopted Resolution No. 15, which resolved:

> *"That the IAFF shall seek funding for an initial U.S. and Canadian study with the highest scientific merit and integrity, contrasting firefighters with residence in stations with towers to firefighters without similar exposure" [5]*

and further resolved to oppose such installations "until such installations are proven not to be hazardous to the health of our members." [5] That position remains published by the IAFF today.

The study was never funded. I am aware of no federal agency that has conducted it.

Attestation

I will not tell you I was in the room in August 2004, because I was not. I was in my first years at King County Medic One then, working through paramedic training and probation, and had not yet been elected there. What I can tell you is that I was an elected official of this organization on both sides of that date, at local and at state level, and I sat on the Executive Board of the Washington State Council of Fire Fighters, elected in two separate districts. Those offices are listed under Question 2.

That vantage is worth something here, and I want to be precise about what it is worth. I cannot speak to the floor debate. I can speak to what came afterward, which is the part that matters for this docket.

Resolution No. 15 was not a gesture. It was adopted because the membership had a workplace exposure they did not choose, could not decline, and could not measure, and because the organization concluded that the responsible course was to go and get evidence rather than assume there was nothing to find. The resolution asked for a study "with the highest scientific merit and integrity." [5] It did not ask for a particular answer. It committed the organization to set protective policy **"in accordance with the results of the study."** [5] That is a request for evidence, made by people who were willing to be bound by whatever the evidence turned out to say.

Twenty-two years on, there are no results to be in accordance with.

I served as an elected local president and as a state-level official through the years immediately following that resolution, until I left the fire service in 2008. Across those years no study was funded, none was commissioned, and no federal agency came asking. The request did not fail because the organization dropped it or because the membership stopped caring. It simply went unanswered.

I raise this because in this subject area the absence of a study gets treated as though it were evidence that there is nothing to find. In this instance the record shows something different. The affected workforce asked for the study, in writing, through its formal governance process, and the federal research establishment did not produce it. Whatever the science finally shows, the gap is not there because anyone declined to look.

Why the existing federal assessment cannot close it

The most substantial federal fire service treatment of this question is the U.S. Fire Administration Executive Fire Officer research paper *Assessing the Danger of Radiofrequency Radiation to Firefighters Assigned to Fire Stations with Cell Towers*, 2008. [6] It concluded that typical installations do not approach exposure limits, and it recommended allowing installation with monitoring and disclosure.

We need to be clear about something here. I am not disputing that paper's reasoning on the evidence available to its author in 2008, and I think its disclosure recommendation was sound. I am pointing at

what that evidence was. Its literature review rests on the 2004 ICNIRP epidemiological review, IEEE COMAR guidance from 2000, FCC materials, and American Cancer Society material stating that animal studies "generally showed no carcinogenic effect of radio waves" and that RF is "not mutagenic and therefore unlikely to act as the initiator of carcinogenesis." [6]

Every one of those premises predates the following:

- the IARC Group 2B classification, 2011 [3]
- the NTP finding of clear evidence of carcinogenic activity, 2018 [1]
- the Ramazzini base-station-model replication, 2018 [2]
- the NTP finding of DNA damage in hippocampus cells of exposed male rats, 2018 [1]
- the D.C. Circuit holding that the FCC failed to justify its limits, 2021 [4]

The federal fire service's reference assessment on this question rests on an evidence base that has since been superseded, and nobody has revisited it in eighteen years. That is the concrete, documented gap I am asking HHS to address.

Recommendations

1 **Fund and conduct the cohort study.** The exposed and unexposed populations can be identified, the exposure is documented in municipal lease records, station assignment histories exist, and long-term health records for this occupation are unusually complete. NIOSH already maintains fire service cohort infrastructure this could be built onto.

2 **Characterize aggregate occupational RF dose across the fire and EMS environment**, counting base station, portable radio, apparatus-mounted, alerting and telemetry sources together rather than one at a time.

3 **Assess the ambulance patient compartment** as an RF environment, with attention to implanted cardiac devices, per Question 11(d).

4 **Recommend mandatory pre-activation and post-activation RF survey, with disclosure to assigned personnel**, for installations on occupied emergency services facilities. This was the USFA's own 2008 recommendation and it remains unimplemented in the overwhelming majority of departments surveyed. [6]

5 **Direct the U.S. Fire Administration to revisit its 2008 assessment** against the evidence that has accumulated since 2011.

On coordination, Question 17

This question sits across agency boundaries in a way that has let it go unanswered for two decades. The exposure limits belong to the FCC. The health evidence sits with NIEHS and the NTP. The occupational population belongs to NIOSH. The affected workforce sits under the U.S. Fire Administration at FEMA, outside HHS altogether. No single agency owns the question, which may go a long way toward explaining why a study formally requested in 2004 has still not been performed.

If the coordination contemplated in Question 17 is meant to be real, here is a concrete test case for it.

Closing

I have had this exposure. I am not claiming that it harmed me.

What I am telling HHS is that a well-defined American workforce has been living and sleeping underneath commercial transmitters for decades; that the organized fire service asked the federal government to study it in 2004; that the federal assessment answering that request is now eighteen years out of date; that HHS's own toxicology program has since reported clear evidence of carcinogenic activity; and that a federal appellate court has found the governing exposure limits inadequately justified.

For most of my working life my job was the health and safety of firefighters and paramedics, first on the apparatus and later in elected office and on a state licensing body. That is the whole of my reason for writing. The men and women who work in these buildings did not choose this exposure, cannot refuse it, are not told what it measures, and have never been studied.

Whatever conclusion the science finally supports, that study should have been done. I am asking that it be done now.

Respectfully submitted,

Michael T. Wilson Carson City, Nevada Retired Paramedic and Firefighter *Submitted in a personal capacity. See the non-representation notice on page 1.*

Sources

1 National Toxicology Program (NTP), 2018. *Toxicology and Carcinogenesis Studies in Hsd:Sprague Dawley SD Rats Exposed to Whole-body Radio Frequency Radiation at a Frequency (900 MHz) and Modulations (GSM and CDMA) Used by Cell Phones.* NTP Technical Report 595. Research Triangle Park, NC. DOI: 10.22427/NTP-TR-595. https://ntp.niehs.nih.gov/publications/reports/tr/tr595 · Full report: https://ntp.niehs.nih.gov/sites/default/files/ntp/htdocs/lt_rpts/tr595_508.pdf

2 Falcioni, L., et al., 2018. "Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission." *Environmental Research*, Vol. 165. Ramazzini Institute. https://www.sciencedirect.com/science/article/abs/pii/S0013935118300367

3 International Agency for Research on Cancer (IARC), World Health Organization. *IARC Monographs, Volume 102: Non-Ionizing Radiation, Part 2: Radiofrequency Electromagnetic Fields.* Evaluation May 2011; monograph published 2013. Classification: Group 2B, possibly carcinogenic to humans. https://publications.iarc.who.int/Book-And-Report-Series/Iarc-Monographs-On-The-Identification-Of-Carcinogenic-Hazards-To-Humans/Non-ionizing-Radiation-Part-2-Radiofrequency-Electromagnetic-Fields-2013 · Press release: https://www.iarc.who.int/wp-content/uploads/2018/07/pr208_E.pdf

4 *Environmental Health Trust, et al. v. Federal Communications Commission*, No. 20-1025 (D.C. Cir., decided August 13, 2021). https://law.justia.com/cases/federal/appellate-courts/cadc/20-1025/20-1025-2021-08-13.html · FCC posting: https://www.fcc.gov/document/dc-circuit-decision-environmental-health-trust-v-fcc

5 International Association of Fire Fighters. *Position on the Health Effects from Radiofrequency/Microwave (RF/MW) Radiation in Fire Department Facilities from Base Stations for Antennas and Towers for the Conduction of Cell Phone Transmissions*, incorporating Revised and Amended IAFF Resolution No. 15, August 2004. https://www.iaff.org/cell-tower-radiation/

6 Buck, P., 2008. *Assessing the Danger of Radiofrequency Radiation to Firefighters Assigned to Fire Stations with Cell Towers.* Executive Fire Officer Program, National Fire Academy, U.S. Fire Administration. Austin Fire Department, Austin, Texas. https://apps.usfa.fema.gov/pdf/efop/efo41717.pdf

7 Telecommunications Act of 1996, Section 704; codified at 47 U.S.C. § 332(c)(7)(B)(iv). https://www.law.cornell.edu/uscode/text/47/332

8 Federal Communications Commission, Office of Engineering and Technology. *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields.* OET Bulletin 65, Edition 97-01, 1997. https://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet65/oet65.pdf