

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
Proposed Changes in the Commission’s Rules)	
Regarding Human Exposure to Radiofrequency)	
Electromagnetic Fields)	
)	ET Docket No. 03-137
Reassessment of Federal Communications)	(Terminated)
Commission Radiofrequency Exposure Limits)	
and Policies)	ET Docket No. 13-84 (Terminated)
)	ET Docket No. 19-226
Targeted Changes to the Commission’s Rules)	
Regarding Human Exposure to Radiofrequency)	
Electromagnetic Fields))	
)	
)	

To: The Commission

**Petition for Reconsideration of the
National Spectrum Managers Association**

The National Spectrum Managers Association (“NSMA”) hereby submits, by counsel, this petition for reconsideration of several specific elements of the Commission’s December 4, 2019 *Resolution of Notice of Inquiry, Second Report and Order, Notice of Proposed Rulemaking, and Memorandum Opinion and Order* in the captioned Docket (the “*MO&O*”). The *MO&O* was published in the Federal Register on April 3, 2020 and this petition is therefore timely filed. The petition is filed pursuant to Section 1.429 of the Commission’s rules.

NSMA generally applauds the Commission’s decision, after lengthy consideration, to retain its current RF exposure standards. Though there has been plenty of concern – and much misinformation – about the potential for harm to people from RF radiation, the Commission has here taken a principled stance based solidly on the accumulated learning and expertise of the scientific and engineering communities that the current standards present no danger to humans when correctly identified and appropriately guarded against. The Commission’s

conclusions also comport with those of standards-making bodies in other countries and international communities. This compatibility will facilitate RF exposure compliance for equipment whose use increasingly transcends U.S. borders.

There are three areas where the MO&O can be improved, however. First, the 2-year timetable for implementation of site by site RF exposure evaluation is not realistically practical. Second, the evaluation calls for the aggregation of radiation from multiple highly directive fixed antennas that do not, by design and as operated, radiate in the same direction so as to present a risk to nearby humans. Aggregating these signals is therefore unnecessary to serve the protective function of the required evaluation. Finally, the rules adopted in the *MO&O* point to OET Bulletin 65 and OET's Knowledge Data Base (KDB) for guidance on the Commission's "policies regarding procedures" for evaluation of potential radiation risks. The text of the *MO&O* permits alternative evaluative methodologies to be used without reference to the KDB "if they can be shown to be valid." *MO&O* at p. 36, Para. 75. NSMA agrees that parties should not be required to rely solely on either OET 65 or on KDB-approved methodologies. Validity of alternative methodologies, however, should be established by reference to other published methodologies that have received FCC or peer review sufficient to substantiate the reliability of the alternative methodology. The Commission should clarify the rules to permit reliance on such alternatives as well.

The points raised herein are raised now because the specifics of the Commission's action requiring clarification or modification could not be known until the final *MO&O* was released.

A. Timing of the RF Hazard Evaluations

The MO&O requires licensees within two years of the effective date of the rules to "determine if evaluations are required, to perform them where necessary, and to comply with

the more specific mitigation requirements we adopt in this order as may be necessary.”

MO&O, page 53, Para. 116. The Commission based this timetable on its determination that “comparatively few facilities” will require evaluation under the new rules. *Id.* The Commission has seriously underestimated the scope of the undertaking posed by the new rules.

The vast majority of non-broadcast facilities and sites around the nation were previously categorically exempt from the need to do an RF exposure analysis. NSMA estimates that there are nearly 100,000 fixed microwave transmitters alone that will have to be evaluated for compliance. Compliance requires evaluation of ERP, which is straightforward. However, to claim an exemption, the licensee must also determine the worst-case distance R between the center of the antenna and a possible person. The evaluation process will involve determining the exact transmitting specifications and characteristics of not only a licensee’s own transmitters but those of nearby operators whom it does not control. Each site (and nearby unrelated sites) will have to be individually evaluated and in many cases physically visited. This will require an unprecedented commitment of manpower and money. We estimate that anywhere from 2 hours to two days per site will be necessary to perform the necessary evaluations. This will be a significant effort to accomplish for 100,000 transmitters within two years, especially since this would have to occur during the on-going expedited rollout of 5G networks.

Given that the RF hazard rules which have been in place for decades provide protection, and will continue to provide protection, to the public while the new evaluation process takes place, there is no pressing urgency about getting this vast project accomplished in a scant two year period. NSMA does not object to the new requirements per se, but it proposes that the Commission spread the burden over a longer period by simply requiring the evaluation to be accomplished by the later of two years from the effective date of the new rules or a

licensee's license renewal date. This would permit the evaluations to be done on an orderly, regular basis spread out over a period of years rather than on a crash basis involving a major redeployment of engineering resources.

B. Exclude focused fixed signals from aggregation of energy calculation

The new rules appear to require hazard evaluators to include the energy emitted by all transmitters at a given location regardless of their transmitting characteristics. For sites with multiple RF sources including multiple sources from a single device, the rules prescribe a summation formula that will determine whether multiple transmitters using the single transmitter formulas are collectively exempt from evaluation. *MO&O*, paragraph 59, page 30 and Section (ii) (B), page 78-79. This calculation would require including in the combined ERP calculation transmissions from different fixed wireless antennas whose highly focused beams virtually never converge on the same spot or person.

Unlike omnidirectional transmissions that do create a nearby field of potential energy exposure, fixed point to point microwave (MW) stations will not add to the local radiation profile because they do not present a hazard to humans in the vicinity. Each antenna produces highly compressed RF energy directly in front of the transmitting antenna. Energy from one MW antenna never mixes with the energy for another MW antenna. Although a person might be exposed to energy from multiple MW antennas, they would only be exposed to energy from a single antenna at any given instant. Simply adding their energy to the overall energy levels of other the sources transmitting from that location would create an inaccurate profile of any actual hazard posed. The Commission should therefore exclude multiple fixed point to point transmitters (different antennas) at a given location from the summation of energy calculation described in new Section 1.1131(b)(3)(ii)(B) of the rules.

C. Reliance on non-OET Bulletin 65 and KDB Sources

The text of the *MO&O* wisely permits licensees to rely on sources other than OET Bulletin 65 and the KDB for methodologies that predict potential hazardous radiation. *MO&O* at Para. 75, p.36 (“Like the OET Bulletins, the guidance in the KDB is not binding on the applicant of the Commission, and other evaluation methods may be used if they can be shown to be valid.”) However, the associated rule (1.1310(d)(4)) provides that the Commission’s policies regarding procedures for evaluating compliance with exposure limits are detailed in OET Bulletin 65 and the KDB. The rule therefore seems to require reliance on Bulletin 65 and the KDB to the exclusion of other valid evaluation methods not discussed in those sources. Assuming the Commission intended, as the text of the Order expressly states, to allow other methodologies to be allowed, that should be noted in the rule itself. To avoid controversy over what other methodologies will pass muster, it would be useful for the Commission to declare that published methodologies that have received FCC or peer review sufficient to substantiate the reliability of the alternative methodology will be deemed acceptable.

Respectfully submitted,

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