Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

NOV 20 1995

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	
	)	PR Docket No. 92-235
and	)	
	)	DOCKET FILE COPY ORIGINAL
Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Radio Services	)	

COMMENTS OF HEWLETT-PACKARD COMPANY

Hewlett-Packard Company ("HP"), by its attorneys, hereby comments on the Commission's Further Notice of Proposed Rulemaking[1] in the above-captioned proceeding (the "Further Notice"), as it relates to critical medical telemetry operations in the 450-470 MHz band. Quite simply, the proposals to create exclusivity and apply auctions and user fees are inapplicable to and incompatible with the continued viability of life-saving medical telemetry operations in the 450-470 MHz band.

The Commission's auction and related proposals, moreover, at least in regard to medical telemetry operations are authorized neither under current law (as is recognized in the Further Notice),[2] nor under pending legislation now under consideration by the Congress.[3] Accordingly, for the reasons set forth more fully

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[1] 10 FCC Rcd 10076 (1995).
[2] Id. at 10128-10129, 10136-10137.
[3] Both the pending Budget Reconciliation, and the Senate version of the pending telecommunications bill have provisions to expand auction authority but neither would permit auctioning in this circumstance. See H.R. 2491, 104th Cong. 1st Sess. Senate §4001(a)(i), House §3001(a)(i), (1995) S.652, 104 Cong., 1st Sess. §701(10)(b)(l), 141 CONG. REC. S8570 at S8592 (1995).

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below, the Commission should not adopt those proposals with respect to frequencies in the 450-470 MHz band that are used by medical telemetry or that are adjacent to such frequencies and, therefore, whose use would interfere with medical telemetry.[4]

I. CRITICAL MEDICAL TELEMETRY OPERATIONS IN THE 450-470 MHZ BAND MUST BE MAINTAINED

Hundreds of hospitals throughout the United States use low-power medical telemetry devices operating in the 450-470 MHz band to monitor electrocardiograph ("ECG") and other critical information the condition of cardiac patients. By transmitting this information over radio frequencies rather than over traditional ECG cables, these units play a vital role in allowing cardiac patients to walk within the hospital, which speeds their recovery, and reduces both length of hospital stay and healthcare costs. In some hospitals, over 200 channels may be in use at any given time and this number is increasing as changes in the healthcare industry force hospitals to consolidate.

The telemetry devices transmit at extremely low power (5 milliwatts or less); sensitive receivers, continuously monitored by hospital personnel, are able to pick up these signals. Unfortunately, the required sensitivity of these receive antennas also makes them highly susceptible to interference from outside sources. Further,

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[4] Under the current frequency use categories, this effectively means all of the old 12.5 kHz offset channels and new 6.25 kHz channels that have been created immediately adjacent thereto that are assigned to the Business Radio Service in the 450-470 MHz band. As reflected in HP's letter to the Commission regarding the consolidation of frequency categories that is being submitted contemporaneously with these comments ("HP Letter"), it is HP's hope that an area of the band can be set aside for critical medical telemetry and other compatible very low power use, which after a reasonable transition period, would free up additional spectrum in the band for other uses.

the nature of the use, for acutely ill patients, requires continuous error-free transmission and reception.

II. EXCLUSIVITY IS NEITHER REQUIRED FOR NOR COMPATIBLE WITH LOW POWER MEDICAL TELEMETRY.

The Commission believes that exclusive-use licensing in the private radio services will foster centralized, trunked, high powered systems, with exclusive rights to particular channels over broad geographic areas, serving hundreds of mobile units.[5] These are all relevant considerations for commercial mobile communications systems, but they have no relationship to low power medical telemetry operations. Unlike mobile telephone, paging, and other voice and data communication applications, medical telemetry cannot be served by the kind of commercial communications systems envisioned in the Further Notice nor can medical telemetry co-exist with such high powered operations on the same or adjacent frequencies.

At present, low power medical telemetry operations represent an extremely efficient use of spectrum; current state-of-the-art units simultaneously and continuously transmit two views of the heart (ECG leads) at 9600 baud. Further, because of their low power, the frequencies available for medical telemetry can be reused by several hospitals (and possibly for other compatible very low power functions located outside of hospital areas)[6] separately by as little as a mile. They are, therefore, far more efficient than higher powered systems, which preclude the reuse of a frequency over an entire metropolitan area.

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[5] Further Notice, at 10127-10129.

[6] As reflected in the HP Letter, HP has been trying to identify criteria that would allow compatible very low power operations, among what heretofore have been separate user categories, to share a portion of the 450-470 MHz that would be devoted to such very low power use.

To the extent the Commission determines to go forward with the exclusive use overlay (EUO) concept for other services, HP urges that EUO not apply in the 450-470 MHz band, at least until a sufficient number of frequencies have been cleared for shared use by medical telemetry and other compatible very low power operations and a reasonable period has been allowed for transition to such a "low power zone" are established. Otherwise, the presence of such EUO systems, particularly in the Business Radio Service where medical telemetry is located, would destroy the band for critical care medical telemetry.

Furthermore, "grandfathering" existing medical telemetry would not help. First, there is already destructive interference to medical telemetry from private radio systems operating under the existing rules. Hospitals have to use different frequencies at different locations and continually change them as new sources of interference arise. Grandfathering would lock hospitals into specific frequencies without preventing high-powered operations on the same or adjacent frequencies. This would result in the reduction, over time, of the frequencies available for medical telemetry, with units being forced out of operation as each new channel for high powered operation goes into service.

Second, the requirements for medical telemetry for ambulatory cardiac care are expanding as there is an even greater effort to get patients on their feet again quickly and reduce the length of their hospital stays. Finally, as hospitals continue to consolidate and grow more specialized in their services, the need for a greater number of channels at particular, sometimes new, hospital locations, devoted to cardiac patient care, has increased and is likely to increase even more.

III. FREQUENCIES ON , OR ADJACENT TO, FREQUENCIES ON WHICH, CRITICAL MEDICAL TELEMETRY UNITS OPERATE IN THE 450-470 MHZ BAND SHOULD NOT BE AUCTIONED

While it remains to be seen what form of new auction legislation will become law, the record associated with legislation that has been enacted,[7] as well as legislation currently under consideration,[8] make clear that Congress intends for the Commission to preserve and expand the availability of spectrum for life-saving medical telemetry technology. The pending budget reconciliation, for example, would preclude the Commission from auctioning spectrum that is licensed on a non-exclusive basis and spectrum for "public safety radio services, including non-Government uses that protect the safety of life, health and property..."[9]

It is clear that the legislation's exemption for auctions for certain services that serve public safety is not limited to those in the FCC - defined "Public Safety Radio Service." Specifically with respect to the 450-470 MHz band, it is the express intention of the Congress that medical telemetry, like other services that are essential to the public health and safety, continues to be licensed on a non-mutually exclusive, shared basis with other compatible uses, that is not subject to auctions or other excessive non-compensating regulatory fees that would be designed to achieve the purpose. Thus the House Committee Report to the 1995 Budget Reconciliation Act expressly states:

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[7] In the Conference Report to the original legislation that granted the FCC auction authority, it was noted that "biomedical telemetry systems may greatly improve the quality and significantly decrease the cost of certain health care services," and that; therefore, "NTIA and the FCC should carefully consider the needs of hospitals and other health care providers for interference-free radio spectrum in their respective allocation decisions made pursuant to this Act." See Conference Report on the Omnibus Budget Reconciliation Act of 1993, Rep. No. 213, 103rd Cong., 1st Sess., at 479 (1993) .

[8] See Note 3 supra.

[9] H.R. 2491, §4001(a)(i) (Senate version), H.R. 2491 §3001(a)(i) (House version)

> "The FCC is required to avoid situations of mutual exclusivity. An example is the 450-470 MHz band, which is shared by low powered medical telemetry devices.[10]

The House Committee Report goes on the state that the Committee intends the exemption of public safety radio services to include non-governmental entities "operating under codes or standards relating to public health" that fall outside the limits of the FCC - defined "Public Safety Radio Service."[11] Similarly, in a statement submitted before the Senate committee considering parallel legislation, Senator Burns specified the legislative intent in prohibiting auctions for spectrum necessary for the operation of heart monitors used in hospitals.[12]

Even if the Commission had the authority to auction spectrum used by hospitals for medical telemetry monitoring, the exercise of such authority would be contrary to the public interest. As with other public safety uses of the spectrum, radio-based medical telemetry protects life.[13] Furthermore, it must be frankly recognized that given the current crisis in healthcare costs, requiring hospitals to bid on frequencies necessary to operate ECG units, would be functionally no different than simply telling the hospitals to discontinue such care.

IV. USER FEES SHOULD NOT APPLY TO MEDICAL TELEMETRY OPERATIONS IN THE BAND

As recognized by the Commission in the Further Notice, the Commission also does not have the statutory authority to establish user fees other than those that compensate the Commission for its cost of application processing (no application is

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[10] See House Comm. on Budget, H.R. Rep. No. 280, 104th Cong. 1st Sess. 228 (1995).
[11] Id.
[12] See Balanced Budget Reconciliation Act of 1995: Hearings Before the Senate Comm. on Commerce, Science and Transportation, 104th Cong., 1st Sess. (September 28, 1995) (statement of Sen. Burns).
[13] Further Notice, 10 FCC Rcd at 10140.

required for low power medical telemetry devices, 47 C.F.R. §90.267(a)(5)) and applicable regulation.[14] Further, there does not appear to be even any pending legislation that would grant such authority.[15] . It seems quite premature to have a rulemaking on the hypothetical possibility of such authority being granted, without any statutory context.

Even if the Commission had the authority to impose market-based user fees, hospitals employing heart monitors and other medical telemetry devices should be exempt from such fees for the same reasons that the Commission has proposed to exempt other public safety users.[16] In this regard, the Commission should be guided by the same expanded view of public safety functions, discussed above, that is understood by the Congress in connection with auction authority issues and not limit a "public safety" exception solely to the governmental-type functions that presently fall within the ambit of the FCC - defined "Public Safety Radio Services." The benefits of keeping medical costs down, particularly for critically ill patients, is a matter as to which there can be no dispute. Hospitals should not be priced out of the use of highly beneficial medical telemetry technology by such user fees (a tax by any other name).

HP also urges that the suggestion that some "nominal" fee might be imposed to encourage efficient use of spectrum should be rejected. As discussed above, medical telemetry already uses spectrum efficiently. In fact, without any government requirement, over the last six years, HP has doubled the throughput of its telemetry systems to display two views of the heart to better enable hospital

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[14] Id. at 10136-10137. See 47 C.F.R. §§158 and 159.
[15] The Senate Budget Committee FY 1996 Budget Resolutions, Senate Committee on Budget, concurrent Resolution on Budget for FY1996, to accompany S. Con Res 13 S. Rep. No. 82, 104th Cong., 1st Sess. 198-200 (1995), referenced in the Further Notice, at 10137, does not appear to speak to this issue.
[16] Id. at 10138.

personnel to monitor vital signals in the same spectrum as earlier systems transmitted one. Further, because medical telemetry functions cannot be served by commercial service providers, the notion that somehow, by raising their costs, hospitals might be "encouraged" to use more "efficient" communications methods is meaningless. Imposing fees, however nominal, would have the effect only of increasing hospitals' costs and immersing their medical telemetry, which currently does not require specific Commission authorization, in unnecessary paperwork and further costs.

V. CONCLUSION

It is neither within the Commission's statutory authority nor would it serve the public interest for the Commission to force hospitals to bid or pay "market" rates for spectrum used for critical care medical telemetry units. To the extent the

Commission determines to apply these concepts to other users in the band, it is essential that first a place in the band be found to locate frequencies used for this life saving service.

Respectfully submitted,

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