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

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In the Matter of	)	
	)	
Guidlines for Evaluating the	)	
Environmental Effects of	)	ET Docket No. 93-62
Radiofrequency Radiation	)	

To: The Commission

COMMENTS OF
GLENAYRE ELECTRONICS, INC

Glenayre Electronics, Inc., a manufacturer of infrastructure equipment for the paging industry, in response to the *Notice of Proposed Rule Making (NPRM), FCC 93-142 (released April 8, 1993)*, hereby submits its comments in the above referenced proceeding.[1]

Regarding paragraph 19;

FCC Comments:
---, "the commission has exempted a number of transmitting facilities and operations from the NEPA requirements for routine evaluation.[23] These "categorical exclusions" were based on calculations and measurements data indicating that such facilities and transmitters would not cause RF exposures that would violate the 1982 ANSI guidelines under normal and routine conditions of use. Some of the current categorical exclusions may not be consistent with the provisions of the new 1992 ANSI/IEEE guidelines. This may be true with regard to certain currently excluded facilities and operations such as some amateur radio stations and some land-mobile services, both common carrier and private."

Glenayre Comments:

For paging operations, and the frequencies used for those operations, there has been no change between the requirements from 1982 and 1992 guidelines when referenced to power densities and when the paging facilities are viewed as "controlled environments". One must consider that most of the paging facilities are indeed "controlled environments" by the nature of the installations; that is in areas designated for use by the paging transmitting equipment. These

[1] The date for filing comments in this proceeding has been extended through November 12, 1993.
23 (See FCC proceeding for contents of this footnote)

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areas have controlled access for trained technical personnel and have provisions to restrict access by non-technical personnel. Additionally, due to the RF power levels in use, one does not have to move but a short distance away from a single transmitter or transmitting antenna before the power density is reduced to a level below the 1992 guideline.

Calculations have been made to show the RF field density in the vicinity of the antennas typically used in the paging industry. As a worst case example, omnidirectional antennas of up to 9 dB are in use. Using this antenna and assuming the maximum ERP allowed, it can be shown that the distance required in order to meet the ANSI/IEEE guidelines of 3 mW/cm^2 (900 MHz.), is conservatively 3 to 4 meters in the main beam of the antenna. More precise calculations can be made using the appropriate near field equations. The near field calculations will show that personnel could be in closer proximity to the antenna with out exceeding the guidelines as proposed in C95.1-1992. It can be seen that even with the very conservative far field calculation, personnel exposure in the uncontrolled environment, outside of the restricted areas, is well within the guidelines under normal and routine conditions of use.

The instances of having paging transmitters in an area so designated as "uncontrolled" is so small and the level of radiation from the transmitter so much less than the guidelines allow (according to present FCC cabinet radiation guidelines), that this should not cause concern.

Glenayre recommends that the FCC continue the use of a categorical exclusion for the paging industry and for transmitters up to and including RF power levels of 500 Watts or 3500 Watts ERP (which ever is greater).

Regarding paragraph 20;
FCC Comments:
--- "information and analysis relating to the existing categorical exclusions from our RF exposure rules. We intend to address in this proceeding whether it is appropriate to maintain the individual exclusions, particularity those indicated above, and whether we should re-define those exclusions. We request comment and proposals for any changes to our rules that may be necessary to ensure compliance with the RF exposure guidelines, e.g., general power reductions in a service or other restrictive measures. ---"

Glenayre Comments:

Glenayre supports the continued use of exclusions for the paging category of users.

Transmitters in the paging industry are presently available with power levels up to and including 500 Watts or system ERP of 3500 Watts. Transmitters of this power capability are available to provide operators the maximum in flexibility for the design of their systems. As previously excluded from filling an impact statement, paging operators have been able to build an infrastructure with the ability to serve their customers needs in a timely manner. Should the FCC chose to discontinue the exclusion for paging operators significant increases in expenditures or both time and money would be required for system completion.

Installations of paging transmitters and antennas supporting this service within restricted areas, are mounted sufficiently away from uncontrolled environments so as to not expose non-technical parties to RF exceeding the limits as specified. The distance to the antennas from uncontrolled areas is sufficiently far so as to limit the RF field to a safe value.

In controlled areas, exposure to technical personnel by the transmitter is sufficiently limited by the design, while operating, so as to not exceed the proposed limits for this controlled environment. Work in the vicinity of any antenna should be restricted. Knowledgeable technical personnel should be available where maintenance in the vicinity of an antenna is to be performed. The function of this person will be to evaluate the necessity of reducing transmitter power as required to prevent the power density from exceeding the guidelines during the maintenance period. In extreme cases, transmitting equipment should be disabled as is presently done where broadcast equipment is involved.

Regarding paragraph 21;
FCC Comments:
"With respect to occupational exposure, there may be situations where transmitters that have been categorically excluded previously would not cause excessive exposure to members of the general public, but might present the possibility of exposure of workers to fields in excess of the guidelines. An example might be a relatively high-powered land-mobile or cellular site where workers are in the immediate vicinity (i.e., within a few feet) of a transmitting antenna. How should such situations be dealt with? Should categorical exclusions only be limited to situations where there is no possibility of excessive worker exposure (for example, when work procedures have clearly been established that preclude working near high-powered, transmitting antennas)? Should certification of such procedures be required for previously excluded transmitters before granting a license or other FCC authorization?

Glenayre Comments:

Safety of technical personnel should always be of concern. Training of personnel regarding safety issues should be as important as the training required to repair the equipment or make adjustments for proper operation.

Proper safety awareness of the guidelines is a prerequisite for working around high powered RF equipment. What can be said of the RF equipment used by the paging industry is that it is not a sufficiently high power so as to cause the exclusion to be removed. Exposure threats can be handled in the industry by training and personnel awareness of specific actions required during test and maintenance functions. As a manufacturer with concern for the health and safety of our customers, Glenayre Electronics provides warning labels were necessary to alert users of possible dangers where that danger might exist.

Certification of procedures should not be required prior to any action by the FCC for the paging industry. Sufficient regulatory power presently resides with the FCC to oversee compliance with this policy.

Respectfully Submitted,

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