

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

NOV 5 1990

IN REPLY REFER TO:
31030/EQU/6-3-6
DOR - 9/17/90

Mr. Richard F. Feser
E. F. Johnson Company
1270 Fairfield Road
Suite 30
P. O. Box 4116
Gettysburg, Pennsylvania 17325

Dear Mr. Feser:

This is in reply to your letters of September 14, 1990, and October 1, 1990, in which, on behalf of EnScan, Inc., you request a waiver of Section 15.231(e).

As stated in your letters, EnScan is designing a transmitter, its Read One Pro Unit, that would be used with meters employed by electric, gas and water utilities. These meters are of the type that are read remotely for billing purposes. The Read One Pro Unit is used to program the meters with unique identification tags and to establish that the meters will transmit the proper information for billing and control purposes. The transmitter is designed to operate at 952 MHz under the provisions of Section 15.231(e).

You also state that over 700,000 meters operating at 952 MHz have already been installed, and 1.7 million additional meters have been manufactured and are ready for distribution. Thus, operation on a different frequency where continuous operation is permitted, such as the band 905-928 MHz under Section 15.249, is not practicable.

In accordance with Section 15.231(e), a transmitter must be provided with a means to automatically limit operation so that the duration of each transmission is not greater than one second with a silent period between transmissions of 30 times the duration of the transmission and at least 10 seconds. However, you indicate that the Read One Pro Unit requires a transmission period of 1.5 seconds. You add that transmission is required only when a meter is placed in operation with no need for reprogramming unless there is a technical problem or the meter is replaced. You also state that operation under other rules, such as Section 15.209, is not feasible. Accordingly, you request a waiver of the one second limit on transmission duration.

The transmission time limit in Section 15.231(e) was established to reduce the potential for interference to the authorized radio services. This is achieved by both limiting the time during which interference could occur and by restricting the types of devices that can be operated under this provision, thereby reducing proliferation.

As shown in your request, the Read One Pro Unit transmitter is employed only once for each meter that is installed, limiting transmission time per meter to only 1.5 seconds every 10 to 15 years. Thus, even though the Read One Pro Unit is designed to transmit for longer than one second, its operation would be infrequent, except in limited cases where several meters are replaced in a localized area. While the Commission could continue to maintain its timing requirement in Section 15.231(e), such a requirement probably would result in the Read One Pro Unit having to transmit one packet of information over a one second interval, followed by a second transmission 30 seconds later. This would be burdensome to the meter installer and could increase the interference potential.

As currently designed and used, the Read One Pro Unit would have a limited proliferation and should not have a high potential for causing interference to the authorized services. Accordingly, a waiver of the maximum transmission interval permitted under Section 15.231(e) appears to be warranted.

Under the authority contained in Sections 0.31 and 0.241 of our regulations, a waiver of the one second transmission interval in Section 15.231(e) is issued to EnScan, Inc. for its Read One Pro Unit. This waiver is subject to the following conditions:

1. The transmission interval shall not exceed 1.5 seconds. Due to the application of this transmitter, it does not appear that additional transmissions would occur on a frequent basis. Thus, no specific circuitry to ensure that transmission will not reoccur for 30 times the length of the transmission, i.e., 45 seconds is required to be incorporated in this equipment.
2. A grant of certification is obtained for the transmitter demonstrating compliance with the additional standards in Part 15.
3. The operation of the Read One Pro Unit continues to comply with the other applicable provisions in Part 15, including the non-interference requirement in Section 15.5.

The Commission is concerned about the proliferation of transmitters that exceed the duty cycle limits in Section 15.231(e). I would suggest for future equipment designs that you consider the use of alternative frequency bands that can be used without these time constraints, such as the bands shown in Section 15.249, or the use of other circuit designs that enable shorter transmission intervals.

I trust that the above responds to your inquiry. Additional questions should be directed to Mr. John Reed at Room 7122 at the address on the letterhead or at (202) 653-7313.

Sincerely,

A handwritten signature in cursive script that reads "Thomas P. Stanley". The signature is written in dark ink and is positioned above the typed name and title.

Thomas P. Stanley
Chief Engineer