To: Steve Behm
From: Martin Perrine mperrine@fcc.gov
FCC Equipment Authorization Branch

Re: FCC ID: NEOCCE-800N2

Applicant: Aerial Facilities Limited
Correspondence Reference Number: 8123
731 Confirmation Number: TC747981
Date of Original Email: 05/02/2003

Subject: Request for additional information

FYI Per April Telecon with TCB CKC it is understood that this device is considered an extender.

1) Please revise exhibits to remove non related entries such as additional units in the block diagrams and schematics. Only this unit should be included.
Please see uploaded Block Diagram. Schematics provided pertain to this device.

2) When connected together with other units the systems seems made up of 5 devices yet only 3 have grants. UHF 1, UHF 2, and 800 MHZ BPA have grants.
However, UNIT 1 and UNIT 2 do not appear to have grants. UNIT 1 and UNIT 2 are needed in all operating configurations mentioned in the user manual and should have associated grants.
Unit 1 and Unit 2 are used underground at the remote location. The downlink is into a confined space and not tested. The uplink signals injected at UHF 1 and UHF 2 are the maximum levels received from units 1 and 2. The UHF 1 and UHF 2 have ALC in the channel modules to keep the output power constant over a 30dB increase in input level.

3) Please update the Form 731 to include the "part of a system" selection/check box. An associated grant comment should be provided referring to the related components.
This unit is not "part of a system", it is located in the same area as units 1 and 2 but is not connected to them.

4) Clear details should be given of how power will be limited to the levels measured since the device appears to have the capability of much higher powers. Related to this please provide clear details of power levels for the tests provided. Particularly for intermodulation measurements it is important that signals at the highest possible input level are tested.
All uplink paths are fitted with channel modules to ensure only the wanted frequencies are amplified from the tunnel locations. Each channel module has it's own ALC, which has been set to ensure the wanted power is available at the antenna port. The ALC function ensures that the output power cannot exceed that requested by the customer or tested by Nemkona. The size of the amplifiers fitted ensures a good margin of spare overhead between the IMs generated and the FCC limits of -13dBm. Note: products of this type have been tested to meet ETSI requirements of -36dBm.

Also, please test intermodulation characteristics with at least 3 simultaneous signals as appropriate.
Not possible for UHF 1, there are only 2 channel paths passing through the 473MHz path and 1 channel passing through the 485MHz path. There can never be 3 carriers in either of these paths.

5) Please update grant comment. RF exposure evaluation at time of licensing is not appropriate for this device. RF exposure must be accounted for at certification.
ok

6) Please put gain of device on the grant comment.
UHF 1 gain 39dB, (-19dBm input to +20dBm output).
UHF 2 gain 37dB, (-19dBm input to +18dBm output).

7) Please detail if power measured is multiple channel or signal channel.
RF Power is composite (Multi-Channel)

8) Additional RT correspondence may be required based on review of the response to the above.
Agreed.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of the original e-mail date may result in application dismissal pursuant to Section 2.917(c).