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EX PARTE OR LATE FILED

December 18, 2001

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
445 12th Street, S.W., TW-A325
Washington, DC 20554

Re: ET Docket No. 00-258
Addendum to Notice of Ex Parte Communication

Dear Secretary Salas:

On December 5, 2001 representatives of ArrayComm met with staff members of the Commission's Office of Engineering and Telecommunications (OET) and of the Wireless Telecommunications Bureau (WTB). Two copies of an appropriate ex parte notice were filed on December 6, 2002.

This Addendum refers to a letter that Marc Goldburg of ArrayComm had proposed to be sent to NOAA. While FCC personnel who attended this meeting were given copies of this letter, it appears to have been inadvertently omitted from the December 6 Notice of Ex Parte Communication that I filed on behalf of ArrayComm. Thus, it has not yet been made part of the record in this proceeding.

This Addendum addresses that omission. We are submitting two copies of the original December 6, 2001 Notice plus two copies of the Goldburg letter. We are also furnishing the Commission attendees copies of the letter as well as to other Commission personnel who may be involved in the disposition of ET Docket No. 00-258.

Pursuant to Section 1.1206(b) of the Commission's Rules and Regulations, 47 CFR §1.1206(b), two copies of this Addendum are attached; two copies of the December 6, 2001

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ArrayComm Notice of Ex Parte Communication are attached, and two copies of Mr. Goldburg's "Proposed Coordination" letter to NOAA.

Respectfully,

Leonard S. Kolsky
Counsel for ArrayComm
1111 19th Street, N.W., Suite 1200
Washington, DC 20036

cc: Peter Tenhula, FCC, w/ attachments
Bryan Tramont, FCC, w/ attachments
Monica Desai, FCC, w/ attachments
Paul Margie, FCC, w/ attachments
Bruce Franca, OET, FCC, w/ attachments
Thomas Sugrue, WTB, FCC, w/ attachments
Kathleen Ham, WTB, FCC, w/ attachments
Julius Knapp, OET, FCC, w/ attachments
Lisa Gaisford, OET, FCC, w/ attachments
Ira Keltz, OET, FCC, w/ attachments
Fred Thomas, OET, FCC, w/ attachments
Tim Maguire, OET, FCC, w/ attachments
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Brian Marenco, WTB, FCC, w/ attachments
Nese Guendelsberger, WTB, FCC, w/ attachments
Zenji Nakazawa, WTB, FCC, w/ attachments
William Hatch, NTIA, w/ attachments
Marc Goldburg, ArrayComm, w/ attachments
Randall Coleman, ArrayComm, w/ attachments

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December 6, 2001

Ms. Magalia Roman Salas
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

RE: ET Docket No. 00-221
Notice of Ex Parte Communication

Dear Secretary Salas:

ArrayComm, Inc. (hereinafter "ArrayComm") has a vital interest in that part of the above-referenced docket that involves the disposition of the 1670-1675 MHz band. ArrayComm filed appropriate Comments and Reply Comments stressing, *inter alia*, a frequency coordination approach that would protect the NOAA facilities at Greenbelt, Maryland; Wallops Island, Virginia and Fairbanks, Alaska. Recently, however, ArrayComm became aware that NTIA had expressed concern about the protection necessary for these facilities, particularly the one at Greenbelt.

ArrayComm met with NOAA representatives to ascertain their concern. As a result of that session, ArrayComm developed a somewhat modified version of what it had submitted in its Reply Comments and conveyed that to the NOAA officials. On December 5, 2001, Marc Goldburg, Randall Coleman and Leonard Kolsky representing ArrayComm met with Julius Knapp, Ira Keltz and Fred Thomas from the Office of Engineering and Technology ("OET") and Nese Guendelsberger, Brian Marenco and Zenji Nakazawa of the Commission's Wireless Telecommunications Bureau ("WTB") to report what had transpired.

We furnished these attendees with copies of the letter that Mr. Goldburg had sent to NOAA setting forth the rationale for ArrayComm's approach to coordination between any Commission licensee authorized to operate at 1670-1675 MHz and the aforementioned United States Government facilities. We invited the Commission to use this letter as a basis for reaching agreement with NTIA which speaks for Government spectrum users in such matters.

ArrayComm requests that this information be inserted into the record of the above-referenced docket.

Pursuant to Section 1.1206(b) of the Commission's Rules and Regulations, 47 CFR §1.1206(b), two copies of this letter as well as two copies of the letter to NOAA are attached.

Respectfully submitted,

Leonard S. Kolsky
Counsel for ArrayComm, Inc.

cc: Julius Knapp, OET, FCC
Ira Keltz, OET, FCC
Fred Thomas, OET, FCC
Nese Guendelsberger, WTB, FCC
Brian Marenco, WTB, FCC
Zenji Nakazawa, WTB, FCC
Marc Goldburg
Randall Coleman
William Hatch, NTIA

Proposed Coordination Letter to NOAA

From: Marc Goldburg [marcg@arraycomm.com]
Sent: Tuesday, December 04, 2001 1:31 AM
To: randall; lkolsky@fcclaw.com
Cc: marcg
Subject: Proposed Coordination Letter to NOAA

Gentlemen,

Thank you again for meeting with us today regarding the protection of terrestrial GOES sensor data receivers from potential commercial systems operating in 1670-1675 MHz. As promised, here are proposed coordination procedures for your review.

This material would replace Section XX.19.d.3.ii of the service rules we proposed in Appendix A of our Reply Comments filed with the Commission in Docket ET 00-221 on 6 April 2001.

The basic principles underlying the proposal are as follows.

1) Limit commercial interference to GOES sensor data receivers at the Wallops Island, Greenbelt and Fairbanks sites during operational periods to less than those specified by NESDIS, specifically those of ITU-R SA.1161:

   less than -150.7 dB(W/2.6MHz) more than 80% of the time as measured at the receiver input

2) Employ interference quantities that can be practically measured in the field as well as estimated in simulation, specifically power spectral flux density.

3) Restrict protection of the Greenbelt site to those periods when it is operating, either for training, testing or as the primary CONUS GOES receiver site. Develop advance notification and coordination procedures for periods when such protection is required.

4) Provide the commercial operator with technical flexibility to meet the protection requirements, including, but not limited to, power control, antenna pattern control, disablement of certain carriers and filtering.

There are a few unresolved technical issues regarding the earth stations. Certain aspects of the proposal will have to be refined once the issues are resolved. Those aspects and their impact on the proposal below are as follows.

1) GOES terrestrial antenna pattern.

   We would request that the GOES antenna pattern displayed in Figure 2 of the "GSFC B/U Protection From Potential Environmental RF Transmitters," December 2001, white paper be reconfirmed as representative by the manufacturer. The pattern shown in the Figure indicates that the gain at 100 degrees off boresight is the same as the gain only 5 degrees from boresight, for example. Equivalently, that the gain from a direction behind the antenna is equivalent to a direction only 5 degrees away from boresight. This is extremely unusual for a dish antenna.

   For the present proposal, we have employed the model pattern given in ITU-R SA.509-2 and assumed an elevation angle of no less than 20 degrees, corresponding to a horizontal (0 degree elevation) gain of 0 dBi for the antenna. Incidentally, the ITU-R SA.509-2 recommendation closely matches Figure 2 of the white paper for angles up to eighty

degrees from boresight. After that, they diverge. Once the antenna pattern has been verified, the proposal can be appropriately modified by recalculating the effective area of the antenna leading to a modified power spectral flux density criterion.

2) GOES receiver adjacent channel selectivity/sensitivity.

   Figure 3 in the white paper displays the reduction of interference susceptibility of the GOES receiver as a function of a 2.6 MHz wide interferer's center frequency offset from 1676 MHz. It was not clear at the time of our meeting whether the plot included the effects of both the front-end and IF receiver filters. We ask that this be clarified. Ideally, specifications for first- and second- adjacent channel selectivity, including the effects of front-end and IF filters, would be provided. Next best would be the combined front-end and IF filter characteristics, and the IF bandwidth.

   The present proposal describes only the protection that must be afforded in the 2.6 MHz band centered at 1676 MHz. Once the adjacent channel selectivity/sensitivity has been established, the proposal can be extended in a straightforward fashion to 1670-1674.7 MHz.

The proposed coordination procedures/rules are the following.

1) The Wallops Island, Greenbelt and Fairbanks GOES receiver sites are to be protected during operational periods. The Wallops Island and Fairbanks sites are considered to be operational at all times. The Greenbelt site is considered to be operational in circumstances defined in item (2). The required level of protection is defined in item (3).

2) The Greenbelt site is considered operational in two instances: (a) when the Wallops Island site suffers an equipment failure that prevents it from operating as the CONUS GOES receiver site, and (b) when testing or personnel training at the Greenbelt site require it to be capable of receiving GOES data at nominal signal levels. In the event of (a), the commercial operator shall modify their operations in 1670-75 MHz to afford the required level of protection within 120 minutes of notification by NESDIS. NESDIS shall notify the commercial operator that (a) has occurred using a verifiable, mutually agreed-upon mechanism. In the event of (b), NESDIS and the operator shall negotiate a mutually agreed upon start time and duration for the testing or training. Such negotiation shall commence at least 30 days in advance of the desired testing or training period. Training or testing periods shall be selected with consideration of their interruption to commercial service. They shall also be selected with consideration of the importance of the GOES mission.

3) The level of protection to be afforded to operational GOES receiver sites by commercial operations in 1670-1675 MHz is a power spectral flux density (PSFD) of -125 dB(W/(m^2 * 2.6 MHz)) incident in the 2.6 MHz band centered at 1676 MHz. The level of protection shall be met at least 80% of the time within any 30 minute interval. The PSFD is measured in a vertical plane within 50 m of the GOES antenna at a height equal to the nominal antenna height. The stated level of protection must be provided for any such vertical plane.

4) NESDIS and the operator shall coordinate the evaluation and testing of new commercial sites with respect to the required level of protection using the following procedure which may be applied to individual sites or to collections of sites that the operator may propose. The procedure applies to additional base station sites proposed by the operator, as well as to the relocation of existing base station sites and to increases in EIRP proposed for existing base station sites. The

procedure only applies when the operator proposes changes or additions to base stations located within 45 km of a GOES receiver site. The procedure consists of two steps.

Step 1: Modeling

The operator shall create a model of the proposed network using an accepted cellular planning tool including local terrain data; base station antenna heights, patterns, and EIRP's; and GOES antenna siting. The model may assume that users are randomly distributed geographically within a cell to the extent that assumption is relevant to base station radiation directivity. The model shall include all base stations within 45 km of the protected site. The operator may propose an alternative modeling tool which may be used upon mutual agreement.

The operator shall create a model of the proposed network using an accepted cellular planning tool including local terrain data; user terminal antenna heights, patterns, and EIRP's; and GOES antenna siting. The model may assume that users are randomly distributed geographically within a cell to the extent that assumption is relevant to user terminal radiation directivity. The model shall include all user terminals that would be simultaneously active and served by base stations within 45 km of the protected site. The operator may propose an alternative modeling tool which may be used upon mutual agreement.

The result of the modeling shall demonstrate that the requisite level of protection is provided with both base stations and user terminals in operation at designed-for network capacity. If Step 1 is successful, the operator may deploy the proposed network.

Step 2: Validation

Within 30 days of the deployment of a network design according to Step 1 immediately above, NESDIS and the operator shall verify via direct measurement that the required level of protection is being provided to the protected GOES site. The measurement procedure shall be that of item (3), above. If the network design does not provide the required level of protection, the operator shall modify the network to provide the required level of protection within 30 days. If the operator fails to meet this requirement, the operator must revert its operational network configuration to a preceding network configuration that did provide the required level of protection within an additional 30 days.

5) At any time that NESDIS determines that the commercial operations in 1670-1675 MHz are not providing the required level of protection to GOES operations, such determination to be made through the direct measurements defined in item (3) and demonstrated to the operator, the operator shall, at NESDIS' request, repeat the two-step modeling and validation process detailed in item (4) above. In this instance, however, the operator must complete the entire two-step process including the modification of its network to provide the required protection within 60 days.

Please note that the 45 km figure appearing above comes from the analyses we submitted in Appendix C of our original Comments in Docket ET 00-221 on 8 March 2001. I look forward to your response.

Best Regards,