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April 29, 2011  
**VIA ECFS**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 Twelfth Street, S.W.  
Room TW-A325  
Washington, D.C. 20554

RE: *Ex Parte Presentation* WT Docket Nos. 10-153, 09-106 and 07-121

Dear Ms. Dortch,

This letter is submitted by Comsearch in reference to the April 5, 2011 *ex parte* filing of Wireless Strategies Inc. (“WSI”) in the above-captioned dockets. The April 5 WSI filing was in partial response to Comsearch’s *ex parte* submission dated March 11, 2011 in which Comsearch provided additional data to support Comsearch’s opposition to modifying the FCC Part 101 rules to allow auxiliary stations.

In the portions of its April 5 *ex parte* submission that focused on auxiliary stations, WSI addressed four main points: (1) “the myth” that applicants for auxiliary stations will have an incentive to use more transmitted power than necessary; (2) WSI’s claim that the focus by opponents of auxiliary stations on prior coordination notices filed by OEM Communications LLC is a “diversion”; (3) that currently-licensed Part 101 point-to-point microwave paths “inefficiently use spectrum and are choking the airwaves”; and (4) that auxiliary stations will not cause interference. Comsearch below will demonstrate that each of WSI’s points is false.

**I. CONTRARY TO WSI'S CLAIM, ADOPTION OF AUXILIARY STATIONS WILL PROVIDE AN INCENTIVE TO USE MORE POWER THAN NECESSARY**

As Comsearch previously has discussed,<sup>1</sup> applicants for primary links to support auxiliary stations would have a strong incentive to use the highest possible EIRP and minimally compliant antennas in order both to provide the largest coverage area to reach auxiliary stations and also to discourage later applicants from using the same frequencies in the area. Specifically applicants for primary links to support auxiliary stations would have the incentive to use the highest allowed EIRP, 85 dBm, or the highest EIRP they could successfully coordinate.<sup>2</sup>

WSI, however, claims the incentive to use more power than necessary is a “myth” in part because the interference potential into the receivers of the primary link does not depend on the link’s EIRP.<sup>3</sup> While it is true that interference received by a station does not depend on the EIRP of its transmitter, WSI erroneously disregards interference caused by the transmitter as a factor in frequency coordination. In fact, however, interference caused by such an existing primary link transmitter into the receivers of a new proposed link is also considered, as required by the FCC’s rules.<sup>4</sup> The potential for such interference directly depends on the EIRP and antenna pattern of the interfering primary link transmitters.

Another reason why WSI claims that the incentive to use more power than necessary is a “myth” is because high-power amplifiers are expensive or unavailable. Comsearch does not dispute the difficulty and expense of building high-power microwave amplifiers for digital radios, but an applicant nevertheless may find greater coverage and more exclusive use of the frequencies to be a net positive tradeoff versus the increased cost. We note that the expense or unavailability of high-power amplifiers did not deter WSI when it licensed stations near the maximum 85 dBm in 2007 (WQGH695, WQGH696, and WQGH697 each at 84.7 dBm EIRP); and WSI’s back-pedaling about these high EIRP values does not withstand scrutiny.<sup>5</sup>

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<sup>1</sup> Comments of Comsearch, WT Docket Nos. 10-153, 09-106, 07-121, October 25, 2010, at 10-12.

<sup>2</sup> Using excessive power limits the ability to re-use frequencies under point-to-point licensing whether an applicant uses the maximum 85 dBm, or an EIRP that is 15 dB more than necessary as Comsearch’s March 11, 2011 *ex parte* presentation showed for the Indianapolis – Southport link used in WSI’s December 8, 2010 *ex parte* presentation. See Comsearch *ex parte* presentation, March 11, 2011, pages 13-23.

<sup>3</sup> See April 5 WSI *ex parte* slides 7 and 8: “Authorization of a new application for FS has NOTHING to do with an Existing Station’s EIRP.”

<sup>4</sup> See 47 C.F.R. §101.103(d)(1). “Proposed frequency usage must be prior coordinated with existing licensees, permittees and applicants in the area, and other applicants with previously filed applications, whose facilities could affect or be affected by the new proposal....”

<sup>5</sup> In its reply comments dated November 22, 2010, at page 4, WSI tried to downplay the high EIRP values it licensed for these stations by stating “that due to recent advances in technology, WSI was able to upgrade the equipment to Exalt TDD radios, eliminate the need for high power amplifiers, *amend the licenses* and operate the paths with an EIRP of 60 dBm” (emphasis

## **II. THE OEM COMMUNICATIONS PCN DESERVES SCRUTINY AS AN EXAMPLE OF PROPOSED AUXILIARY STATIONS**

Comsearch as well as several other commenters took the OEM Communications, LLC prior coordination notice (“PCN”) of October 15, 2010 to be an example of a coordination for primary links with so-called “smart” antennas to support auxiliary stations.<sup>6</sup> WSI now declares that the assumption that OEM plans use of auxiliary stations with these links is “false” and, therefore, that discussion of the PCN is a “diversion” with “no place in this proceeding.”<sup>7</sup> In fact, however, the OEM web site continues to tout its “concurrently coordinated spectrum footprints,” which is a variation of the term previously used by WSI for auxiliary stations.<sup>8</sup> OEM also filed comments in support of auxiliary stations, and WSI’s relationship with OEM is a matter of record.<sup>9</sup>

Although WSI claims that any attention to OEM is erroneous, nevertheless WSI delves into the details, stating that the OEM PCNs show a maximum EIRP of 62 dBm. It is true that, although the data sheet of the OEM PCN states that the EIRP is 84.7 dBm, the mainbeam gain of the antenna is -23.1 dB, leaving an actual EIRP of 61.6 dBm. OEM apparently listed 84.7 dBm EIRP on the data sheet so it can use that as the zero reference for the §101.115(b) suppression requirements in order to make the specious claim that the “smart” antenna meets Category A requirements. In fact, the pattern of the “OEM-OC-1100A\_0001” antenna does not satisfy FCC Category A or Category B.<sup>10</sup> If OEM does not intend auxiliary stations, then there is no plausible reason for it to coordinate such an inefficient antenna pattern. Moreover, the OEM PCN also is relevant to the extent that it requests the same frequency pair in both directions, which indicates Time Division Duplex (“TDD”) operation is intended in a band traditionally used for Frequency Division Duplex (“FDD”) operations, a problem with auxiliary stations addressed by several commenters, including Comsearch.

## **III. CONTRARY TO WSI’S CLAIMS, CURRENT POINT-TO-POINT MICROWAVE OPERATIONS RE-USE SPECTRUM EFFICIENTLY**

WSI continues to rely upon highly exaggerated claims of interference from current point-to-point microwave operations:

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supplied). The ULS license records for WQGH695, WQGH696, and WQGH697 do not comport with WSI’s assertion. No new prior coordination was ever done for these paths, and no license amendments were ever filed for any of these call signs

<sup>6</sup> The OEM PCN was submitted in the record. *See* Comments of San Mateo County, WT Docket Nos. 10-153, 09-106, 07-121, October 25, 2010 (“San Mateo Initial Comments”). *See also* Comments of EIBASS, WT Docket Nos. 10-153, 09-106, 07-121, October 25, 2010, pages 8-10 (“EIBASS Initial Comments”).

<sup>7</sup> April 5 WSI *ex parte* at slides 24- 25.

<sup>8</sup> *See* <http://www.oemcomm.com/areas.htm> (visited April 26, 2011).

<sup>9</sup> *See* San Mateo Initial Comments at 2-3 (quoting email from the WSI Chairman on behalf of OEM).

<sup>10</sup> *See* EIBASS Initial Comments, pages 8-10 and attachment.

Slide 12: “Every one of the 308 stations within this boundary have the potential to block new applicant paths within 196,350 square miles of its receiver.”

Slide 13: “Every one of the 308 stations block and/or will block Millions of New Applicant Paths.”

Slide 16: “Computer Analysis of Over 1 Billion New Applicant Paths with the Potential to be Blocked by a Single Licensed FS Receiver System.”<sup>11</sup>

Comsearch already has demonstrated that WSI’s suggestion that a microwave link has a preclusive effect on other co-channel operations over a large area such as the 125 mile / 250 mile keyhole-shaped analysis area is untrue. In Comsearch’s March 11 *ex parte* submission, we showed that the keyhole area is not an exclusion zone but simply a coordination contour and that a high degree of frequency re-use is common within such areas. In its April 5 *Ex Parte*, however, WSI continues to draw huge circles and associate them with the blocking of new paths,<sup>12</sup> even though Comsearch showed that the interference distances are usually much shorter, depending on EIRP and antenna discrimination, and that co-channel operation is possible in very close proximity. Based upon the hundreds of thousands of frequencies licensed in the Commission’s databases and with new applications being submitted daily, it is clear that WSI’s claims of extensive preclusion zones are unfounded.

#### **IV. AUXILIARY STATIONS PRESENT SERIOUS INTERFERENCE CONCERNS**

In Comsearch’s March 11 *ex parte* presentation, we showed that auxiliary stations may be expected to be involved in cases of predicted interference when the associated primary link is not. WSI asks “So what was their point?”<sup>13</sup> The point is to provide a well-documented counter-example that refutes WSI’s statements that auxiliary statements will not cause interference. The fact is that auxiliary stations may well cause interference and that this potential would have to be managed through frequency coordination, as WSI

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<sup>11</sup> WSI also makes a number of unsubstantiated claims regarding the benefits of auxiliary stations in its Slide 29: “Networks Operating in the Time, Frequency and Space Domains with Smart Antennas and Auxiliary Stations can serve the market requirements with a channel payload increase of over 800%, prevent the blockage of millions of New Applicant paths and lower Backhaul and Access costs by 90%, ... the opportunity to rapidly bring broadband to 95% of the population will be lost.”

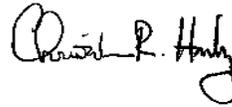
<sup>12</sup> WSI states in its Slide 11 that in the Los Angeles example on page 6 of the Comsearch March 11 *ex parte*, we have “misused” the keyhole areas and that our slide is “misleading,” apparently out of concern that the link for which the keyhole areas were drawn may not have been the last one coordinated. The point of the example is to compare the scale of the keyhole coordination contours to a much higher density of links that has actually been able to be successfully coordinated. The keyhole area of any of the Los Angeles links could have been used to illustrate this point. Nevertheless, although the order in which the paths were coordinated is irrelevant, we clarify that the referenced Mt. Wilson (WLC581) to Santiago Pk (WPON697) link was coordinated in December, 2010 (after all but ten of the 154 co-channel links) and filed in January, 2011.

<sup>13</sup> April 5 WSI *ex parte*, slide 17.

now admits. WSI still claims “auxiliary stations will not cause interference when deployed under the FCC’s proposed regime,”<sup>14</sup> but it is clear that adjusting and deleting secondary auxiliary links in response to subsequent path coordinations would be part of the regime. However, auxiliary station licensees and their customers, and in particular those providing critical services, are unlikely to lightly accept displacement of their operating service, even if the auxiliary link is secondary. The reality that frequency coordination will be expected to manage modifications and shutdowns of auxiliary links stands in stark contrast to WSI’s previous portrayal of auxiliary stations as being able to be considered “concurrently coordinated.”

Respectfully submitted,

**COMSEARCH**

A handwritten signature in black ink, appearing to read "Christopher R. Hardy". The signature is written in a cursive style with a large initial "C".

Christopher R. Hardy  
Vice President

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<sup>14</sup> *Id.*, slide 15.