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Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th St. S.W.
Washington, D.C. 20554

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Re: Promoting Expanded Opportunities for Radio Experimentation and Market Trials Under Part 5 of the Commission's Rules and Streamlining Other Related Rules - ET Docket 10-236

2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office of Engineering and Technology - ET Docket 06-155

Permitted Written *Ex Parte* Presentation

Dear Ms. Dortch:

BAE Systems Information and Electronic Systems Information Inc. ("BAE Systems"), through its counsel, respectfully submits this letter in reply to the issues raised by Clearwire Corporation ("Clearwire") in its ex parte presentations dated May 17, 2012,[1] and July 10, 2012,[2] and to reiterate some critical issues from BAE Systems' Initial Comments[3] and Reply Comments[4] in this proceeding.

I. Clearwire's Request for Pre-Filing ERS Coordination is Contrary to the Goals of this Proceeding and Would Stifle Innovation By Further Substantially Delaying the Processing and Implementation of Wireless Experiments

Clearwire requests that the Commission adopt a requirement for ERS applicants to conduct *pre filing* notice and coordination with *any* service licensee whose authorized spectrum

[1] Letter from Cathy Massey, Vice President Regulatory Affairs and Public Policy, Clearwire Corporation, ET Docket Nos. 10-236 and 06-155 (May 17, 2012) ("May 17 Clearwire Ex Parte").
[2] Letter (with attached slides) from Cathleen A. Massey, Vice President Regulatory Affairs and Public Policy, Clearwire Corporation, ET Docket Nos. 10-236 and 06-155 (July 10, 2012) ("July 10 Clearwire Ex Parte").
[3] Comments of BAE Systems Information and Electronic Systems Integration Inc., ET Docket Nos. 10-236 and 06-155 (March 10, 2011) ("BAE Systems Initial Comments").
[4] Reply Comments of BAE Systems Information and Electronic Systems Integration Inc., ET Docket Nos. 10-236 and 06-155 (April 11, 2011) ("BAE Systems Reply Comments").

overlaps with an experimental application.[5] For the reasons set forth below, this request should be denied:

- The goal of this proceeding is to accelerate and foster ERS licensing. In defining the goals of this proceeding, the Commission confirmed that ERS rules must be improved so as to "foster greater innovation",[6] accelerate the rate for testing innovative ideas that lead to new services and new devices,[7] and that to ensure the achievement of these goals, the "time and process for obtaining experimental authorizations [must not be] a roadblock to innovation."[8] Similarly, Recommendation 7.7 of the National Broadband Plan suggested that experimental transmissions be facilitated "without individual coordination of frequencies, conditioned on not causing harmful interference."[9]

- The existing post-filing/post-grant coordination system already results in substantial delay. The record demonstrates that the existing ERS regime – which involves the almost routine issuance of post-filing and post-grant coordination and consent conditions – already imposes substantial and costly delays on the ability of ERS licensees to deploy their experiments,[10] and ultimately can increase costs for government customers. The delays resulting from these existing post-filing and post-grant coordination and consent conditions are so great that commenters have opposed the implementation of such routine conditions as contrary to the goals of this proceeding.[11] For example, BAE Systems has demonstrated that every possible step be taken by the Commission to streamline the existing post-filing/post-grant coordination process for conventional experimental licenses, including the following:

    - Service licensees should be permitted to object to proposed conventional experimental operations after filing only if: (i) the objection is based on interference concerns to the licensee's actual current operations (i.e., if the service licensee is not actually operating under its license or has not yet constructed, the objection is not valid); and (ii) the objection is made in good faith and is accompanied by a fully

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[5] *May 17 Clearwire Ex Parte*, p.2-6.

[6] See Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission's Rules and Streamlining Other Related Rules, et Docket No. 10-326; 2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office Of Engineering and Technology (OET), ET Docket No. 06-105, FCC 10-197, para.84 (Rel. November 30, 2010) ("Notice").

[7] See *Notice*, para.1 (Rel. November 30, 2010) ("Notice"); BAE Systems Initial Comments, p.3.

[8] See *Notice* at para. 16; BAE Systems Initial Comments, p.3.

[9] Connecting America: The National Broadband Plan, Federal Communications Commission, Recommendation 7.7, March 2010.

[10] See, e.g., *BAE Systems Initial Comments*, p.17-19.; *Reply Comments of Boeing*, ET Docket Nos. 10-236 and 06-155, 4-8 (April 11, 2011) ("Boeing Reply Comments"); Comments of Lockheed Martin Corp., ET Docket No. 10-236, at 2 (filed March 10, 2011); See also Comments of Lockheed Martin Corp., GN Docket No. 09-157 and GN Docket No. 09-51, at 5 (filed September 30, 2009).

[11] See, e.g., *BAE Systems Initial Comments*, p.17-19; *Reply Comments of Boeing*, ET Docket Nos. 10-236 and 06-155, 4-8; Letter from Bruce A. Olcott, Esq., Squire Sanders, ET Docket Nos. 10-236 and 06-155. P.1-2 (July 23, 2012) ("July 23 Boeing Ex Parte"), corrected by letter from Bruce A. Olcott, Esq. dated July 25, 2012.

articulated technical demonstration as to why interference to the licensee's operations is predicted to occur (i.e., an unsupported and generalized allegation of interference is not a valid basis for an objection).

- The Commission should expressly clarify in its rules that that the only valid basis for a service licensee objection to a coordination request after filing is a fully articulated technical demonstration that interference will occur, and the failure to provide such showing within a specified timeframe will be deemed to constitute the licensee's consent or a waiver of the coordination requirement.[12]
- The Commission should adopt specific rules and procedures to allow for resolution of post-filing/post-grant coordination disputes between experimental applicants/licensees and service licensees on the issue of interference protection, where the issue cannot be resolved within a specified timeframe. If a valid objection is not resolved between the parties within ten (10) working days, the Commission should allow either party to promptly schedule a Commission-monitored settlement conference, similar to the procedure currently set forth in the Commission's rules at Section 1.956.

- Clearwire's pre-filing coordination proposal would substantially increase delay. Clearwire's proposal for pre-filing coordination would serve only to exacerbate an already problematic situation with respect to delay in the implementation of wireless experiments. As an initial matter, because ERS applications often overlap with a number of Commission-licensed bands in the proposed area of operation (e.g., broadcast, microwave, cellular/PCS, AWS), Clearwire's proposal for pre-filing could delay the filing of nearly every experimental application by several weeks or even months. In this regard, it is important to note that an experimental application may also include frequencies/bands that do not overlap with Commission-licensed bands in the proposed area of operation. Thus, Clearwire's proposal for pre-filing coordination would prevent the filing for these non-overlapping bands while the overlapping bands are coordinated for potentially several months.

  In any event, Clearwire's proposal for pre-filing coordination, if adopted, would allow licensees such as Clearwire to essentially hold an experimental applicant hostage to an indefinite and undefined "coordination" process before an application is even filed, and ultimately this procedure would be closer to a unilateral consent requirement than a coordination requirement. In this regard, although Clearwire proposes a 30 day "shot clock" within which a licensee would have to "respond" to a coordination notice, such requirement would not in any way ensure timely resolution and filing of ERS applications. For example, under this proposal, Clearwire could wait until the 29th day and then "respond" to a coordination notice with an acknowledgment of receipt and a promise to review. This accomplishes nothing. In addition, under this proposal, Clearwire could wait until the 29th day and then "respond" to a coordination notice with a

[12] *BAE Systems Initial Comments*, p.19.

blanket denial of coordination based on unspecified interference concerns rather than a fully articulated technical demonstration that interference will occur. Further, even if Clearwire were to "respond" on the 29th day with some technical rationale supporting a concern over interference, the Clearwire proposal would not require a timely resolution of good-faith discussions/disagreement between engineers as to the specific engineering issues or the details of such rationale, nor would the Clearwire proposal require Clearwire to timely address proposed solutions to resolve interference concerns. An experimental applicant's engineers may disagree in good faith as to whether an experiment will in fact pose a risk of interference, but Clearwire's proposal does not impose a deadline or procedure for formal resolution of such good-faith disagreement through, for example, a Commission-monitored settlement conference, similar to the procedure currently set forth in the Commission's rules at Section 1.956.

- ERS applicants need to file as soon as possible to meet contractual and customer timetables. Experimental applicants should be permitted to get their applications on file and allow the Commission and NTIA to commence processing while any critical coordination issues are addressed. In many cases, due to contractual and customer requirements particularly in the defense industry, there is very little time to waste in preparing, submitting and prosecuting these applications. The substantial pre-filing delay resulting from Clearwire's proposal could not only impact the ability to timely fulfill these contractual and customer requirements, it could also delay the initiation of processing that is necessary for NTIA and FAA and other federal stakeholders.

- Pre-filing coordination is not necessary to provide sufficient notice of ERS filings. Clearwire's reason for proposing this pre-filing coordination process is ostensibly to assure that licensees "will receive notice of proposed ERS use potentially affecting their operations" and to allow licensees to "assess the potential for interference" and to allow licensees "the ability to comment" on any experimental proposals of concern.[13] However, the existing conventional ERS process already allows for user-friendly and daily monitoring of submitted applications by licensees such as Clearwire. Indeed, Clearwire admits that it is aware of exactly how many ERS applications have been applied for in its band in the past year, and is even aware of the distances of such proposed experiments from Clearwire's licensed facilities.[14] Thus, Clearwire's claim that it needs better notice of filed applications is questionable, at best.

II. Clearwire's Suggestion Regarding the Imposition of Fees for the Review of Coordination Requests by Licensees Should be Rejected

With respect to Clearwire's statement that it has implemented a process for charging for reviewing coordination requests,[15] BAE Systems hereby reiterates its comments on the issue of

[13] *May 17 Clearwire Ex Parte*, p.5
[14] *Id*. at 3.
[15] *July 10 Clearwire Ex Parte*, Attachment, p.6.

coordination payments, namely, that the Commission should expressly clarify in its rules that service licensees are not permitted to require payments (i.e., payoffs) from experimental applicants nor may service licensees require the execution of spectrum leases or other similar instruments in response to a request for coordination (which are scenarios that BAE Systems has faced in the past when requesting coordination from service licensees).[16] In addition, BAE Systems agrees with the comments of Boeing on this issue, as follows:

> "Such fees, if widely imposed by wireless licensees, would rapidly escalate the cost of wireless experimentation beyond the capabilities of many research organizations, invariably stifling innovation. Even for those organizations that could absorb the additional costs, the significantly increased expenses would result in the development of fewer new products and higher prices for consumers for those new wireless products that are developed."[17]
>
> "Coordination with microwave licensees can require contacting 40-50 different users…Coordination approval fees of up to $4,000 per licensee (as proposed by one licensee) could rapidly become prohibitively expensive and burdensome."[18]
>
> "…[I]f the charging of coordination fees becomes the norm in the experimental service, such a "payment for approval" process would likely spread to other communications service, significantly harming those services that depend on rapid and efficient coordination to promote robust spectrum sharing, such as fixed microwave and satellite services, to name a few."[19]
>
> "The Commission clearly has the statutory authority to prohibit licensees from charging fees for reviewing and approving coordination requests. Licensees, even those taking their licenses through auction, do not acquire an ownership interest in their licensed spectrum."[20]

III. The Commission Should Ensure that Critical Issues Addressed in BAE Systems' Earlier Comments are Incorporated into its Order

In its earlier filings, BAE Systems raised a number of critical points which the Commission should ensure are addressed in any Order issued in this proceeding, including but not limited to the following:

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[16] See *BAE Systems Initial Comments*, p.18.
[17] *July 23 Boeing Ex Parte*, p.2.
[18] *Id*. at Attachment.
[19] *Id*. at 2.
[20] *Id*.

A. Research Licenses

- BAE Systems agrees with commenters that eligibility for research program experimental licenses ("Research Licenses") be extended to also include for-profit entities. At a minimum, eligibility should be extended to include "Qualified Homeland Security Applicants" as defined in BAE Systems' submittals. *BAE Systems Initial Comments* at 4.

- Research Licenses should allow experimentation on all frequencies, except "restricted bands" and frequencies specifically listed in footnote US246 of the Table of Frequency Allocations, and Research Licenses should be issued only in situations where the licensee intends to operate on its own campus. *Id*. at 7.

- Research Licenses should be granted on a statewide basis for all campuses operated by a licensee entity within each state. *Id*. at 7-8. BAE Systems agrees with Cisco that Research Licenses should be generally limited to "a specified campus bounded by geographic coordinates or civic addresses representing a physical property owned or under the control of the institution", with the additional comment that a radius of operation around a centerpoint might also be useful in defining the authorized area of operation. *BAE Systems Reply Comments* at 6. A single point of contact who is ultimately responsible for all experiments conducted under a Research License should be designated, on a per state basis. Licensees should be allowed to provide alternative contacts to the Commission in the event the primary POC is unexpectedly unavailable. *BAE Systems Initial Comments* at 8. In addition, as long as stop buzzer contacts are available "at all times during experimentation", and have the ability to cease operations in the event of interference, BAE Systems does not believe that such contacts should be required to, themselves, hold separate authority or licenses issued by the Commission. *BAE Systems Reply Comments* at 6-7.

- The Commission should address how existing conventional experimental licenses authorizing operations on certain campuses would be impacted by newly granted Research Licenses authorizing operations on those same campuses. *BAE Systems Initial Comments* at 8-9.

- The Commission should not prohibit the issuance of Research Licenses where proprietary information is part of the submittal. The very nature of next-generation radio research involves the testing of new systems and techniques which are often proprietary and which meet FOIA standards for non-disclosure. *Id*. at 10.

- A Research License experiment should be permitted to be postponed/delayed after the seven day assessment period only if: (i) the objection of a service licensee is

based on interference concerns to the licensee's actual current operations (i.e., if the service licensee is not actually operating under its license or has not yet constructed, the objection is not valid); and (ii) the objection is made in good faith and is accompanied by a fully articulated technical demonstration as to why interference to the licensee's operations is predicted to occur (i.e., an unsupported and generalized allegation of interference is not a valid basis for an objection). *Id.* at 12-13. Requiring Research Licensees to first obtain the consent of each and every CMRS carrier, or even to specifically require notices to be transmitted to each and every service licensee for each registration, would delay the Research License process substantially and thus be plainly contrary to the streamlining benefits that are at the core of the Commission's proposals in this proceeding. *BAE Systems Reply Comments* at 4-5.

- The Commission should adopt specific rules and procedures to allow for resolution of disputes between experimental applicants/licensees and service licensees on the issue of interference protection, where the issue cannot be resolved within a specified timeframe. In this regard, BAE Systems agrees that the parties must be obligated to work in good faith to resolve concerns raised in a valid interference objection of a service licensee under the standard proposed in the bullet point above. Beyond that, however, if the objection is not resolved between the parties within ten (10) working days, the Commission should allow either party to promptly schedule a Commission-monitored settlement conference, similar to the procedure currently set forth in the Commission's rules at Section 1.956. *BAE Systems Initial Comments* at 13.

- BAE Systems generally supports the Commission's proposal to require a Research Licensee to develop and submit a written plan to the Commission in conjunction with its web-based registration. Regarding such "plan", if all of an experiment's operational parameters are listed in the registration, emergency stop buzzers are identified, and a plan is submitted for interference mitigation, situations should not arise requiring "alternative means" of communications on commercial mobile service, emergency notification, or public safety frequencies. *Id.* at 13-14.

- Imposing a blanket two year limitation on the license term fails to recognize the varied circumstances underlying the need for program experimental licenses, including continuing research requirements specified under multi-year government contracts. Program experimental licensees should be permitted to justify five year initial terms, and renewals of such terms, at the time of registration. If the Commission requires the submission of experiment results as a part of a reporting requirement, the proprietary and sensitive nature of such experiment results dictates that this information should not be subject to public disclosure in any situation. *Id.* at 9, 14-15.

B. Innovation Licenses

- BAE Systems agrees with commenters that eligibility for innovation zone program experimental licenses ("Innovation Licenses") be extended to also include for-profit entities. At a minimum, eligibility should be extended to include "Qualified Homeland Security Applicants" as defined in BAE Systems' submittals. *BAE Systems Reply Comments* at 8.

- Innovation Zone Licenses should allow experimentation on all frequencies, except Section 15.205(a) "restricted bands" and those frequencies specifically listed in footnote US246 of the Table of Frequency Allocations. *Id*. at 9

- For stop buzzers, BAE Systems recommends that such points of contact and reporting institutions be designated on a per state basis, and that licensees should be allowed to provide alternative contacts to the Commission in the event the primary POC is unexpectedly unavailable. *Id*. at 10.

- BAE Systems supports a seven day web-based registration process for Innovation Zone Licenses, without a specific prior-coordination requirement, which would allow service licensees to object to any proposal based on interference only if: (i) the objection is based on interference concerns to the licensee's actual current operations; and (ii) the objection is made in good faith and is accompanied by a fully articulated technical demonstration as to why interference to the licensee's operations is predicted to occur. *Id*. at 12. Further, BAE Systems agrees that the parties must be obligated to work in good faith to resolve the concerns raised in the objection. Beyond that, however, if the objection is not resolved between the parties within ten (10) working days, BAE Systems strongly believes that the Commission should allow either party to promptly schedule a Commission-monitored settlement conference. *Id*. Finally, while it is critical to ensure that experimental operations do not cause interference to CMRS, public safety and other licensed services, blanket licensing prohibitions on these frequencies are not warranted. *Id*. at 14-15.

C. Streamlining of Rules for Conventional ERS Licenses

BAE Systems also hereby summarizes some of its comments regarding the streamlining of rules for conventional ERS licenses which include, but are not limited to, the following issues:

- As long as service licensees have the ability to object to applications based on actual predicted interference, there are sufficient safeguards to ensure that the operations of service licensees are protected, without the need for requiring the prior consent of such service licensees. *BAE Systems Initial Comments* at 16-17.

- Coordination conditions should be imposed only when absolutely necessary based on a prior substantive technical review of the proposed experiment. Where the technical parameters of a proposal demonstrate objectively that interference should not be a concern, coordination conditions should not be imposed even when the frequencies overlap with existing service licensee operations. *Id*. at 17.

- Service licensees should be permitted to object to proposed conventional experimental operations only if: the objection is based on interference concerns to the licensee's actual current operations; and the objection is made in good faith and is accompanied by a fully articulated technical demonstration as to why interference to the licensee's operations is predicted to occur. *Id*. at 18.

- The Commission should adopt specific rules and procedures to allow for resolution of disputes between experimental applicants/licensees and service licensees on the issue of interference protection, where the issue cannot be resolved within a specified timeframe. In this regard, if an objection is not resolved between the parties within ten (10) working days, the Commission should allow either party to promptly schedule a Commission-monitored settlement conference. *Id*. at 19.

- The Commission's rules should be revised to expressly provide conventional experimental applicants (for both STAs and regular licenses) an opportunity for the resolution of agency concerns, objections or proposed frequency carve-outs prior to grant. The applicant should be allowed to address any such objections directly with a technical representative from the objecting agency, for the sake of efficiency and to prevent inordinate delay. Such consultation should be made available promptly, and no later than seven calendar days after the concern or objection has been identified by the reviewing agency. *Id*. at 20.

- The Commission's processes should be revised to allow for greater real-time monitoring of the status of STA and regular license applications. The Commission should make available to conventional experimental license applicants greater access to application status details, which would ideally include descriptions of what processing steps have been concluded, where processing is occurring at the present time, and what concerns or objections have been raised to that point and by whom. A conventional experimental application (STA or regular license application) should not be granted with a carve-out or denial of a requested parameter, until the applicant has been advised of the issue and is first allowed to resolve the issue. *Id*. at 20-21.

- Frequency assignments on public safety frequencies and military frequencies are extremely critical to Qualified Homeland Security Applicants, whether for the purposes of implementing existing government contracts, or for the development of systems and techniques pursuant to IR&D. For Qualified Homeland Security Applicants who (i) file conventional experimental STA or regular license applications

that request public safety/military frequencies, and who also (ii) demonstrate a nexus between the proposed use of such frequencies and public safety/military priorities, use of the frequencies should be deemed to be in the public interest even if the experimental authority is requested under IR&D rather than pursuant to a government contract. Similarly, where Qualified Homeland Security Applicants demonstrate a nexus between the proposed use of public safety/military frequencies and public safety/military priorities, use of the frequencies by such applicants should be authorized unless actual interference is expected based on a substantive technical analysis conducted by the Commission or NTIA. *Id.* at 21-22.

- BAE Systems supports the Commission's proposed revisions to Section 5.69 which clarifies that an applicant may reject a grant by filing objections within 30 days of the proposed grant, and that the Commission will coordinate with the applicant in an attempt to resolve the issues. The Commission should clarify that the procedures specified in Section 5.69 apply to STA grants as well as to regular experimental license grants (including initial grants, modifications and renewals), and that upon the timely submission of an objection under this section, the STA or regular license filing will be placed back on pending status without losing its place in the processing queue. In addition, the Commission should further specify a mechanism for timely resolving these post-grant issues. *Id.* at 22-23.

- For each coordination condition, the Commission should expressly specify - in the language of that condition - which particular frequencies must be coordinated pursuant to that condition. In BAE Systems' experience, sometimes coordination conditions are imposed with respect to licensed services but in fact there is no overlap between the experiment and the licensed service. Such situations merely create confusion and delay deployment of experiments. Requiring each coordination condition to specify which particular frequencies must be coordinated pursuant to that condition is a reasonable and helpful way to streamline the coordination process. *Id.* at 18.

Respectfully submitted,

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