Tucson are misplaced.[88] Since the methodology describes the means of aggregating the power from multiple transmitters and the proposed Rules provide for interference analyses utilizing the total interference from all cells in a system, the applicability of the methodology proposed by the Petitioners to larger or multiple cells is inherent. As the size of a cell changes, the test for a uniform field as the qualification for the distribution of grid points in the analysis will force the number of of points to grow as the cell grows. The methodology will thereby compensate for varying cell sizes. Furthermore, the addition of multiple cells simply requires the summation of the powers predicted from all of the cells at any given receive site.

The DCCC Commenters' complaint that the Petitioners have failed to specify the software employed in validating the methodology is also off-base. As was stated in the *Two-Way Report*, "[t]hese studies can be performed using normal propagation and interference analysis tools."[89] The approach employed in validating the methodology for predicting interference was not novel, but rather represents a straight-forward application of traditional engineering practices.

Throughout the industry, the basic steps employed in the process for analyzing potential interference to MDS and ITFS stations are: (1) determine the amount of undesired signal from an interfering station at the desired receive site, incorporating the effects of terrain; (2) determine the amount of desired signal power from the desired station at the same receive site, incorporating the effects of terrain; (3) calculate the amount of antenna discrimination based on the appropriate receiving antenna pattern and the geometry between the receive site, the desired station and the undesired station; and (4) calculate the desired-to-undesired signal ratio ("D/U"). These same steps

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[88] *See* DCCC Comments, at 5.

[89] *Two-Way Report*, at 33.

were applied to calculating interference from response stations transmitting simultaneously with a response service area.

The technique for determining the level of interference from multiple response stations is the same as described in steps (1) through (4) with only two modifications. First, since there will be multiple "undesired" transmitters, the power level of the undesired signal must be the summation of the power levels from the individual response stations. Second, since the exact location of each response station is unknown at the time of the analysis, a methodology must be employed to create statistically representative analysis points which will be indicative of the radiated power levels of actual response station sites. Once a model is developed to achieve this goal, the process becomes one of performing the basic engineering steps to accumulate the power from each one of the representative transmitting points and proceeding with steps (2) through (4) above to calculate interference.

The purposes of the methodology are to provide a means to establish an easily replicatable grid of points to be used in the analysis of interference and to provide a means to predict the interfering signal levels that will result from a particular set of RSA and response station characteristics. The field testing was conducted to verify the prediction of aggregated signal levels from an RSA using the methodology.

The validation analysis undertaken by the Petitioners can be replicated by performing the steps outlined in the methodology and utilizing the technical parameters specified in the "Test System Design and Implementation" section of the field test report annexed to the *Two-Way Report*. The software packages referred to in the Petition are standard commercial software packages used to predict the received signal levels from desired or undesired transmitters at a specific location and

include the effects of terrain variations on these levels by utilizing a propagation model as defined in the Petition. Although other software is available to accomplish the task, the specific software package used in the analysis described in the Petition is produced by EDX Engineering and is a package known intimately by many engineers in the wireless industry and at the FCC. One limitation of the EDX package, however, is that it will not accumulate the power from multiple transmit sites at a particular receive site. Therefore, commercial spreadsheet software was utilized to process the EDX output data for individual transmitters and sum the levels at each common point in order to predict the accumulated power from the multiplicity of response transmitters. A commercial mapping software package, MapInfo, was utilized to display the results. Any commercially available software package could be utilized to perform the analyses and, in fact, manual calculations can be performed.

Finally, there is no merit to the assertion by the DCCC Commenter that "the measurement procedure for gathering field strength data is advanced in a vacuum" and that "[t]here is no discussion of why this procedure was selected over other procedures."[90] As explained in the "Measurement Techniques" section of the field test report accompanying the *Two-Way Report*, the field strength data were gathered on closely spaced radials around the cell and at several distances from the cell utilizing industry-standard techniques. A spectrum analyzer, receiving antenna and amplifier were utilized, which is a standard way of measuring field data in this industry. Again, no novel techniques were employed, and just standard engineering practices were utilized to collect field data. As is typical, the DCCC Commenters criticize, without advancing any indication of how the process was flawed or suggesting how the process could have been improved. Nonetheless, the

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[90] DCCC Comments, at 4.

Two-Way Report and the accompanying field test report establish beyond peradventure that the proposed methodology for studying potential interference is appropriate and valid.

III. CONCLUSION

Just last week, Chairman Hundt issued a reminder that:

> All our votes are intended to be pro-competition, not pro-competitor. Our decisions are not designed to select winners and losers. Winners and losers will be determined where they should be determined -- in the competitive marketplace, not in government.[91/]

The Petitioners wholeheartedly agree, and urge the Commission to reject the efforts of ISTA and WebCel to have the government consign wireless cable operators and educators to loser status. MDS and ITFS licenses are ready, willing and able to compete in the marketplace with IVDS and LMDS service providers, but cannot do so if they are hamstrung by obsolete technical rules that are based on 1970s technology. Therefore, the Petitioners reiterate their request that the Commission issue a notice of proposed rulemaking proposing to adopt the revisions to Parts 21 and 74 set forth

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[91/] Remarks of Chairman Reed Hundt Before The United States Telephone Association Inside Washington Telecommunication Roundtable Luncheon, at 1 (May 21, 1997).

in Appendix B of the Petition, as modified in accordance with the Petitioners prior comments and these reply comments.

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May 29, 1997

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I, Joy Griffiths, hereby certify that the foregoing Reply Comments were served this 29th day of May, 1997, by depositing a true copy thereof with the United States Postal Service, first-class postage prepaid, addressed to the following:

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