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Eiridge A. Stafford Executive Director-Federal Regulatory

April 4, 1997

Mr. H. John Morgan Office of Engineering and Technology Experimental Licensing Branch Federal Communications Commission 2000 M Street, NW, Room 230 Washington, DC 20554

RE: U S WEST Communications, Inc.

PCS Experimental License for Boulder, CO

Call Sign KK2XCC

File Numbers: 2148-EX-PL-91, 3306-EX-ML-92, 3630-EX-ML-93, 3630-EX-R-93, 4064-EX-ML-93 4506-EX-ML-94, 4970-EX-MR-95, 4970-EX-R-97

Twentieth Quarterly Report

Dear Mr. Morgan:

Enclosed, please find U S WEST Communications' (USWC) twentieth quarterly report addressing the above-referenced authorization for PCS field trials in Boulder, Colorado.

Should you have any questions or require additional information, please call me.

Sincerely, Cludge Stafford

Enclosure

U S WEST Communications, Inc.

Twentieth Quarterly Progress Report FCC Experimental License KK2XCC

April 4, 1997

Submitted to:

Federal Communications Commission Experimental Licensing Branch 2000 M Street, N.W., Room 230 Washington, DC 20554

Prepared By:

U S WEST Communications, Inc. Wireless Group 1999 Broadway, 10th Floor Denver, CO 80202

Introduction

This twentieth quarterly report summarizes the activities conducted by U S WEST Communications, Inc. ("USWC") under FCC Experimental License KK2XCC. This report covers activities during the period January 4, 1997 through April 4, 1997.

In-Building Coverage Improvements

The configuration of the leaky coaxial cable will allow testing with a variety of antennae as well as a comparison of a single strand of coaxial cable to two strands and a comparison of various cable locations within a building (perimeter wall, interior wall, etc.). Leaky coaxial cable was installed in a commercial building during the previous quarter. However, problems with the installation of cable connectors necessitated re-working the installation of the connectors four times. As a result, the in-building tests using the leaky coaxial cable system have not yet commenced.

Optimization Procedure Development

Testing for site optimization is still underway. Methods and procedures have been developed and are being evaluated in actual field applications. Hard and soft hand-offs, cell area coverage, and elimination of dropped calls are key aspects of the optimization.

Fixed Wireless Developments

USWC is also testing several wireless local loop technologies. Much of the equipment has gone through several upgrades since USWC began its testing. The units tested include an untethered desktop model that relies on wireless for both the local loop and the inside-the-home wiring, and a model that utilizes standard inside-the-home wiring and relies on wireless only for the local loop. In blind tests, participants rated the wireless voice quality as excellent, and often ranked it above landline quality.

Access to and operation of custom calling features (e.g. call forwarding, call waiting and three-way calling) were tested with all units. Caller ID was not available on the units tested. Some variances in access and operation were identified. USWC is working with the manufacturers to resolve these differences. For example, how the customer interacts with custom calling features (i.e., activation and deactivation of features) was not uniform and was not consistent with access to these features using a standard wireline tone telephone. These differences might be confusing to customers, particularly where the customer has two lines where one line is wireline and the other is wireless.

USWC plans to continue its testing and analysis in the catagories discussed in this report.