

Exhibit 1: Program of Research and Experimentation

Purpose

VoiceStream PCS I License LLC ("VoiceStream PCS") is a wholly-owned subsidiary of VoiceStream Wireless Corporation ("VoiceStream"), a leading provider of wireless telecommunications services in the United States. VoiceStream PCS seeks Radio Station Authorization under Part 5 of the Federal Communications Commission's ("FCC" or "Commission") rules to operate the below-listed equipment at its facilities in Snoqualmie, WA, for various testing and evaluation purposes.

Although VoiceStream proposes to operate in spectrum that may be licensed to unrelated entities, VoiceStream understands that it will be required to obtain permission from the licensee(s) prior to such operations. Because of the remoteness of the proposed operations, as well as the low power levels involved (30 watts erp or less), the proposed experimental operation poses a relatively low risk of harmful interference with licensed operators and, therefore, VoiceStream does not anticipate any difficulties in obtaining permission to operate from the relevant licensees. **All equipment listed for use and all operations described in this experimental license application will conform to the technical requirements set forth in the applicable service rules, to Part 5 of the Commission's rules, and any other condition the Commission deems proper.**

VoiceStream proposes to construct a wireless network technology laboratory at its facilities located in Snoqualmie, WA. The laboratory will essentially replicate a field deployable GSM wireless network infrastructure for various testing purposes, including:

- Operational equipment configuration, verification, testing and documentation;
- Prototype (pre-release) equipment testing;
- Vendor/network/technology/band interoperability testing, and system integration;
- Radio frequency ("RF") base station sub-systems integration testing;
- Development, testing and verification of new/advanced network features and subscriber applications;
- Hardware/software regression testing;
- Subscriber handset/terminal compatibility testing and feature verification;
- and
- Technology/application development platform.

Because of the rapid advances in applications and technology for wireless networks, prototyping, testing and integration of these advances cannot be accomplished in “live” networks without jeopardizing reliability and quality to existing customers. It is, therefore, necessary to have a non-critical, non-commercial network “model” in which to accomplish these objectives. In addition, VoiceStream is involved in various public organizations which address the development of advanced technology, standards and practices for the deployment of universal international global wireless networks and therefore must be able to produce environments which will facilitate compatibility testing for the subscriber devices that will be used in these international networks. Accordingly, there is a need to simulate conditions encountered in these networks in a controlled and isolated environment in the Snoqualmie Laboratory.

An experimental authorization will permit VoiceStream to fully test and develop the technical, equipment, engineering and operational parameters to support existing and future deployment of service in markets throughout the United States. The proposed operation, therefore, qualifies for an experimental authorization as “[d]evelopment of radio technique, equipment or engineering data related to an existing or proposed radio service.”¹ Authorization is not sought, however, for any market study purposes.²

Overview of Experimental Operations

As indicated above, VoiceStream proposes to build a wireless network technology laboratory at its facilities located in Snoqualmie, WA. The laboratory will initially consist of replicated configurations of field deployable Global System for Mobile Communications (“GSM”) wireless network infrastructure, including Mobile Switching Centers, radio base station systems, network transmission equipment, Advanced Intelligent Network systems, operations support systems and various ancillary equipment commonly used in wireless networks. Initially and primarily, this platform will be used to support network and vendor interoperability testing, configuration verification and best engineering practices, provide a network systems integration and testing environment, hardware and software development and regression testing, as well as new and improved network features development and testing.

¹ See 47 C.F.R. § 5.3(i). See also 47 C.F.R. § 5.3(d)(technical demonstrations of equipment or techniques), and 47 C.F.R. § 5.3(g)(testing of equipment in connection with production or regulatory approval of such equipment), and § 5.202(k) (other types of experiments not specifically listed in Section 5.202).

² Accordingly, the market study requirements set forth under 47 C.F.R. § 5.93 do not apply.

The RF environment will for the most part be a micro/pico-cellular environment using low-power, small coverage area cells. For the most part, the RF transmission will be fully contained within the confines of the building. However, VoiceStream proposes to deploy two external antenna arrays on the exterior of the building to facilitate testing in those instances where a truly mobile environment is necessary. The coverage area of these antennas will be limited (to a radius of 5 miles) along with the transmitter power levels (30 watts erp or less) so as to prevent any interference with licensed services. The antennas will be mounted below the level of the building parapet and will not be subject to antenna registration under Part 17 of the Commission's rules. The base stations and the wireless mobile units, and all operations undertaken pursuant to the VoiceStream PCS experimental license authorization will conform to the technical requirements set forth in the applicable service rules, to Part 5 of the Commission's rules, and any other condition the Commission deems proper.

Components of the Experimental System

The experimental operations will consist of base stations and wireless mobile units. The initial installation of equipment in the lab will be comprised of FCC type accepted/certified GSM RF base stations currently deployed in commercial service in the United States and elsewhere. It is anticipated that this equipment line will change as new versions and technologies become available. Accordingly, the equipment to be utilized is described by its general product line description, as follows:

Manufacturer:	Ericsson
Model:	RBS 2000 series
Max erp:	30 Watts (mean)
Emission:	G7W
Modulation:	GMSK
Number of units:	Six (approximately)

Manufacturer.	Nokia.
Model:	DF-34 series, DG-21 series, Metrosite series, Ultrasite series
Max erp:	30 Watts (mean)
Emission:	G7W
Modulation:	GMSK
Number of units:	Six (approximately)

Manufacturer.	Nortel Networks
Model:	S2000 and S8000
Max erp:	30 Watts (mean)
Emission:	G7W
Modulation:	GMSK
Number of units:	Three (approximately)

Manufacturer.	Lucent Technologies, Inc.
Model:	Flexent GSM 1900
Max erp:	30 Watts (mean)
Emission:	G7W
Modulation:	GMSK
Number of units:	Six (approximately)

Contribution to the Radio Art

VoiceStream is the largest provider of wireless services using spectrum-efficient GSM technology in the world, and one of the few carriers to utilize such technology in the United States. The accelerated implementation of this innovative technology throughout the United States will not only increase the range of service options to consumers (by more efficiently utilizing spectrum), but will also will make easier the introduction and deployment of Third Generation services in the future.