



United States of America  
**FEDERAL COMMUNICATIONS COMMISSION**  
**FM BROADCAST STATION CONSTRUCTION PERMIT**

Authorizing Official:

Official Mailing Address:

WASHINGTON STATE UNIVERSITY  
EDUCATIONAL TELECOMMUNICATIONS AND TECH.  
MURROW COMM CENTER, P.O. BOX 642530  
PULLMAN WA 99164

Penelope A. Dade  
Supervisory Analyst  
Audio Division  
Media Bureau

Facility ID: 49599

Grant Date: June 08, 1989

Call Sign: KZAZ

This permit expires 3:00 a.m.  
local time, December 08, 1990.

Permit File Number: BPED-19860811MJ

Subject to the provisions of the Communications Act of 1934, as amended, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this permit, the permittee is hereby authorized to construct the radio transmitting apparatus herein described. Installation and adjustment of equipment not specifically set forth herein shall be in accordance with representations contained in the permittee's application for construction permit except for such modifications as are presently permitted, without application, by the Commission's Rules.

Commission rules which became effective on February 16, 1999, have a bearing on this construction permit. See Report & Order, Streamlining of Mass Media Applications, MM Docket No. 98-43, 13 FCC RCD 23056, Para. 77-90 (November 25, 1998); 63 Fed. Reg. 70039 (December 18, 1998). Pursuant to these rules, this construction permit will be subject to automatic forfeiture unless construction is complete and an application for license to cover is filed prior to expiration. See Section 73.3598.

Equipment and program tests shall be conducted only pursuant to Sections 73.1610 and 73.1620 of the Commission's Rules.

Name of Permittee: WASHINGTON STATE UNIVERSITY

Station Location: WA-BELLINGHAM

Frequency (MHz): 91.7

Channel: 219

Class: A

Hours of Operation: Unlimited

Transmitter: Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Transmitter output power: As required to achieve authorized ERP.

Antenna type: Directional

Antenna Coordinates: North Latitude: 48 deg 48 min 04 sec  
West Longitude: 122 deg 27 min 40 sec

	Horizontally Polarized Antenna	Vertically Polarized Antenna
Effective radiated power in the Horizontal Plane (kW):	.120	.120
Height of radiation center above ground (Meters):	27	27
Height of radiation center above mean sea level (Meters):	189	189
Height of radiation center above average terrain (Meters):	102	102

Antenna structure registration number: Not Required

Overall height of antenna structure above ground: 31 Meters

Obstruction marking and lighting specifications for antenna structure:

It is to be expressly understood that the issuance of these specifications is in no way to be considered as precluding additional or modified marking or lighting as may hereafter be required under the provisions of Section 303(q) of the Communications Act of 1934, as amended.

None Required

Special operating conditions or restrictions:

- Neither the horizontally nor vertically polarized radiation component shall exceed the following value at any azimuth.  
0.120 KW
- Each component shall be restricted to the following values at the azimuths specified below.  
0.0081 KW @ 10 DEGREES TRUE      0.0066 KW @ 340 DEGREES TRUE  
0.0075 KW @ 52 DEGREES TRUE  
0.054 KW @ 110 DEGREES TRUE  
0.055 KW @ 270 DEGREES TRUE
- In addition, neither radiation component shall increase at a rate exceeding 0.2 dB per degree from the azimuths of restricted radiation specified above nor exceed a maximum-to-minimum ratio of 15 dB. The rms of the vertically polarized radiation pattern shall not exceed that of the horizontally polarized radiation pattern.

## Special operating conditions or restrictions:

- 4 The horizontal and vertical radiation patterns as submitted with the application for construction permit are authorized by this permit. Changes made to these patterns will require the filing of FCC Form 301 for commercial stations and FCC Form 340 for educational stations to modify this construction permit BEFORE PROGRAM TESTS ARE AUTHORIZED. BEFORE PROGRAM TESTS ARE AUTHORIZED, permittee shall submit the results of a complete proof-of-performance to establish the horizontal plane radiation patterns for both the horizontally and vertically polarized radiation components. This proof-of-performance may be accomplished using the complete full size antenna, or individual bays therefrom, mounted on a supporting structure of identical dimensions and configuration as the proposed structure, including all braces, ladders, conduits, coaxial lines, and other appurtenances; or using a carefully manufactured scale model of the entire antenna, or individual bays therefrom, mounted on an equally scaled model of the proposed supporting structure, including all appurtenances. Engineering exhibits should include a description of the antenna testing facilities and equipment employed, including appropriate photographs or sketches and a description of the testing procedures, including scale factor, measurements frequency, and equipment calibration. BEFORE PROGRAM TESTS ARE AUTHORIZED, permittee shall submit an affidavit from a licensed surveyor to establish that the directional antenna has been oriented at the proper azimuth.

\*\*\* END OF AUTHORIZATION \*\*\*