

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Petition for Rulemaking to Amend and	)	
Modernize Parts 25 and 101 of the	)	RM-11791
Commission’s Rules to Authorize and Facilitate	)	
the Deployment of Licensed Point-to-Multipoint	)	
Fixed Wireless Broadband Service in the 3700 –	)	
4200 MHz Band	)	

TO: The Commission

**COMMENTS OF PACIFICORP**

PacifiCorp, by its undersigned counsel, submits these comments on the above-referenced “Petition for Rulemaking” (the “Petition”) filed by the Broadband Access Coalition (the “Coalition”), seeking changes to the Part 25 and Part 101 rules to accommodate licensed point-to-multipoint (“P2MP”) systems in the 3700 – 4200 MHz (“4 GHz”) band.

PacifiCorp is an electric utility that provides electric service to approximately 1.6 million retail customers in service territories covering about 136,000 square miles in portions of six western states: Utah, Oregon, Wyoming, Washington, Idaho and California. The combined service territory’s diverse regional economy ranges from rural agricultural and mining areas to urbanized manufacturing and government service centers. PacifiCorp has more than 8,300 megawatts of generation capacity from coal, hydro, renewable wind power, gas-fired combustion turbines and geothermal, and delivers electricity through approximately 57,000 miles of distribution lines and 15,000 miles of transmission lines. PacifiCorp operates the largest non-governmental bulk power system west of the Mississippi River. PacifiCorp operates as Pacific

Power in Oregon, Washington, and California, and as Rocky Mountain Power in Utah, Idaho and Wyoming. The electricity provided through PacifiCorp's utility infrastructure is vital to all aspects of daily life throughout a significant portion of the Pacific Northwest.

PacifiCorp operates an extensive private point-to-point (“P2P”) Fixed Service (“FS”) microwave system throughout its service territory. The microwave system operates in several microwave bands, including the 6, 10, 11, and 18 GHz bands. Because of the vast distances between many of PacifiCorp’s facilities and the irregular terrain in the Pacific Northwest, most of the paths are in the 6 GHz band, with typical path lengths of 35-45 miles. PacifiCorp designs its microwave facilities for very high availability (*e.g.*, mere seconds of outage per year) due to the criticality of the communications carried on this network. PacifiCorp deploys microwave facilities in very rural areas where other communications facilities are not available and/or where it would be prohibitively expensive or problematic to install fiber optics.

PacifiCorp’s microwave facilities support a variety of utility applications, including protective relaying, voice, corporate data, and supervisory control and data acquisition (“SCADA”). Through protective relaying, PacifiCorp can continuously monitor power flows along its high voltage transmission lines, and the system can automatically interrupt power flows within milliseconds after detecting a change in operating parameters that could signify a fault on the electric system. Absent such real-time and instantaneous action, a fault condition could allow the damage to quickly cascade beyond the immediate area of the fault, causing outages and potentially millions of dollars of damage to the power grid and/or threaten other property or persons on or near the transmission system.

Although PacifiCorp does not operate any paths in the 4 GHz band, PacifiCorp has keen interest in the Coalition’s recommendations because of the larger implications for frequency coordination, licensing and use of microwave bands allocated for P2P operations. Specifically, PacifiCorp agrees that the coordination and licensing of Fixed Satellite Service (“FSS”) earth stations can and should be tightened in bands that are shared with terrestrial Fixed Services. However, PacifiCorp has serious concerns on the authorization of P2MP systems in bands shared with P2P systems, and with the Coalition’s suggestion that the coordination process could eventually be automated to provide “real-time, real-world” coordination between P2MP applicants and incumbent P2P and satellite licensees.

The Coalition points out that the “full-band, full-arc” coordination policy adopted in the 1960s for FSS earth stations has sharply limited the licensing of P2P systems in bands like 4 GHz that are shared with the FS. This over-protection of FSS was also described in the Petition for Rulemaking filed by the Fixed Wireless Communications Coalition (“FWCC”), in RM-11778, and confirmed by the comments filed on the FWCC Petition.<sup>1</sup> PacifiCorp therefore agrees with the Coalition that tightening the coordination and licensing requirements for FSS in bands shared with FS will go a long way toward optimizing the use of shared FSS/FS bands.

However, and for similar reasons, PacifiCorp has serious concerns with the Coalition’s request to allow licensing of P2MP systems in bands that are shared with P2P systems. First, the Coalition’s recommended licensing process for P2MP in the 4 GHz band would protect 40 – 160

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<sup>1</sup> “Petition for Rulemaking” of the Fixed Wireless Communications Coalition, Request for Modified Coordination Procedures in Bands Shared Between the Fixed Service and the Fixed Satellite Service, RM-11778 (filed October 11, 2016). See, *e.g.*, Comments of TeleVision, Inc., in RM-11778 (filed January 8, 2017), illustrating the very small number of P2P links in the 4 GHz band, as compared to the lower 6 GHz band, due to the authorization of 4 GHz FSS receive stations that are protected by full-band, full-arc coordination and licensing.

MHz of bandwidth for each P2MP licensee over large geographic areas -- anywhere from 314 square kilometers in densely-populated areas, to more than 1,000 square kilometers in rural areas -- on the licensee's certification that it has deployed at least a handful of client radios somewhere within the authorized service radius of the associated access point.<sup>2</sup> Thus, authorization of P2MP systems would greatly dilute the availability of spectrum for P2P operations, similar to full-band, full-arc coordination of FSS earth stations, and with the added wrinkle that client devices could be oriented along any azimuth toward the associated access point.

These concerns are heightened in PacifiCorp's expansive operating territory in the Pacific Northwest. PacifiCorp must transmit over large distances, into many remote areas, to ensure continuous communications with generating stations, substations, and along high voltage lines. Because of extremely rugged and hilly terrain, there are relatively few hilltops that are both accessible and equipped with commercial power for the operation of radio transmitting facilities. The sites that are available are used by many licensees, and P2P microwave paths tend to follow the same communications corridors between these limited hilltop facilities. As a result, it is very difficult to coordinate new P2P paths in these areas. PacifiCorp has a continual challenge coordinating new paths or expanding capacity on existing paths to meet its operational needs. Licensing of P2MP systems at or near any of the hilltop sites in these areas would make it even more difficult to build long-haul P2P systems needed to support the nation's critical infrastructure.

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<sup>2</sup> These service areas are based on the Coalition's recommendation that the sector radius of a P2MP system could be up to 10 kilometers in more densely populated areas or up to 18 kilometers in rural areas. Petition at 30.

Given the likely size of the coordination footprint for a P2MP system, PacifiCorp also questions the viability of the Coalition’s suggestion that an automated, real-time frequency coordination process could be developed to expedite the licensing of P2MP systems in the 4 GHz band.<sup>3</sup> Although the Coalition has not provided details on its automated coordination proposal, PacifiCorp would oppose a process that is in any way modeled after the proprietary self-coordination system for which Higher Ground LLC was granted a rule waiver to operate a mobile satellite service in the 5925 – 6425 MHz band.<sup>4</sup>

The Commission just recently adopted a *Notice of Inquiry* (“*NOI*”) inviting comment on whether more intensive use can be made of spectrum between 3.7 and 24 GHz without causing disruption to incumbent licensees, including FS licensees in the 6 GHz band that support “a variety of critical services such as public safety (including backhaul for police and fire vehicle dispatch), coordination of railroad train movements, control of natural gas and oil pipelines, regulation of electric grids, and backhaul for commercial wireless traffic.”<sup>5</sup> The *NOI* makes passing reference to the Coalition’s Petition and requests that parties submit comments on the *NOI* that incorporate by reference specific arguments that are filed in other proceedings. However, because the issues raised in the Coalition’s Petition are wholly encompassed by the issues in the *NOI*, PacifiCorp recommends that the Commission make clear, through Public

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<sup>3</sup> Petition at 34-35.

<sup>4</sup> In the Matter of Higher Ground LLC Application for Blanket Earth Station License, File No. SES-LIC-20150616-00357, *Order and Authorization*, DA 17-80 (IB, WTB & OET, rel. Jan. 18, 2017). On April 6, 2017, PacifiCorp submitted *ex parte* Comments in support of the Applications for Review of the *Order and Authorization*.

<sup>5</sup> Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, *Notice of Inquiry* in GN Docket No. 17-183, FCC 17-104 (rel. Aug. 3, 2017), para. 25. See also para. 35.

Notice or otherwise, that comments on the Coalition's Petition will be considered as part of the *NOI* proceeding without the need for separate filing in that docket.

**WHEREFORE, THE PREMISES CONSIDERED**, PacifiCorp respectfully requests that the Commission take these views into consideration in connection with the above-captioned matter.

Respectfully submitted,

**PACIFICORP**

By: /s/ Jeffrey L. Sheldon  
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August 7, 2017

## CERTIFICATE OF SERVICE

I, Michaeleen Terrana, hereby certify that on this 7<sup>th</sup> day of August, 2017, I caused a copy of the foregoing “Comments of PacifiCorp,” to be sent via first class mail, postage prepaid, to the following:

Robert S. Koppel  
Lukas LaFuria Gutierrez & Sachs, LLP  
8300 Greensboro Drive, Suite 1200  
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- Counsel to Co-Petitioner, Mimosa Networks, Inc.

A handwritten signature in black ink, appearing to read "Mich. Terrana", written in a cursive style.

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Michaeleen Terrana