

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

In the Matter of )  
)  
)  
**Establishment of an Interference** )  
**Temperature Metric to Quantify and** )  
**Manage Interference and to Expand** ) **ET Docket No. 03-237**  
**Available Unlicensed Operation in Certain** )  
**Fixed, Mobile and Satellite Frequency** )  
**Bands** )  
)

**TO: The Commission**

**COMMENTS OF PACIFICORP**

By:

Milt Patzkowski, P.E.  
PacifiCorp  
Manager of Telecomm Planning  
825 N.E. Multnomah, 1500 LCT  
Portland, OR 97232  
(503) 813-6916 (T)  
(503) 813-6892 (F)

Shirley S. Fujimoto  
Jeffrey L. Sheldon  
Erika E. Olsen  
McDermott, Will & Emery  
600 13th Street, N.W.  
Washington, D.C. 20005-3096  
(202) 756-8000 (T)  
(202) 756-8087 (F)

Steve Illias, P.E.  
PacifiCorp  
Telecomm Transport Planning  
825 N.E. Multnomah, 1500 LCT  
Portland, OR 97232  
(503) 813-6906 (T)  
(503) 813-6892 (F)

Attorneys for PacifiCorp

Dated: April 5, 2004

**TABLE OF CONTENTS**

- I. INTRODUCTION .....1
  - A. PacifiCorp Operates Extensive Facilities for the Provision of Electric Service in the Pacific Northwest.....2
  - B. PacifiCorp’s 6 GHz Frequencies are Integral to the Safety, Reliability and Efficiency of the Power Grid in the Western United States .....3
  
- II. IT IS PREMATURE TO ISSUE A NOTICE OF PROPOSED RULEMAKING ON INTERFERENCE TEMPERATURE.....5
  - A. An NPRM is Inappropriate and Counterproductive in Light of the Related NOI.....5
  - B. Fundamental Issues Must be Resolved in the NOI Before Implementation the Interference Temperature Metric is Considered .....6
  
- III. THE FCC SHOULD NOT USE 6 GHZ AS A “TEST BED” FOR THE INTERFERENCE TEMPERATURE CONCEPT .....10
  - A. The FCC Must Consider The Character Of The Operations In A Band In Determining Where To Implement Any New Interference Management Mechanisms .....11
  - B. It Is Inappropriate To Further Encumber The Spectrum That Was Specifically Earmarked For Relocation Of 2 GHz Microwave Systems To Clear That Band For PCS .....13
  
- IV. CONCLUSION.....14

## EXECUTIVE SUMMARY

PacifiCorp and many other Critical Infrastructure licensees rely on their private communications systems, and their microwave facilities in particular, to ensure the safety, reliability, and efficiency of their utility operations. PacifiCorp depends heavily on its microwave operations at 6 GHz, and cannot tolerate interference to these systems. In this proceeding, however, the Commission is moving forward into unproven territory in a Notice of Proposed Rulemaking that is rendered utterly premature by the ongoing Notice of Inquiry in the same docket. It is ill-advised and potentially dangerous for the FCC to “experiment” on the 6 GHz band in this manner.

There are a number of fundamental legal and technical issues that must be resolved before an NPRM in this docket is viable. Moreover, because so much of the technical queries are speculative and contained in the NOI, it is difficult, if not impossible to comment intelligently in an NPRM context as to the possible ramifications on existing 6 GHz and 12 GHz operations. These bands should not be “test beds” for the FCC’s interference temperature theories. The character of the utility operations in the band, their critical nature, and their status as former 2 GHz licensees relocated in the Emerging Technologies docket all counsel against further burdening the 6 GHz band. At the very least, the FCC must clearly complete its NOI and understand fully the scope of its proposal before seeking implementation of the interference temperature concept.

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

**In the Matter of** )  
 )  
 )  
**Establishment of an Interference** )  
**Temperature Metric to Quantify and** )  
**Manage Interference and to Expand** ) **ET Docket No. 03-237**  
**Available Unlicensed Operation in Certain** )  
**Fixed, Mobile and Satellite Frequency** )  
**Bands** )  
 )

**TO: The Commission**

**COMMENTS OF PACIFICORP**

**I. INTRODUCTION**

Pursuant to Section 1.415 of the FCC's Rules,<sup>1</sup> PacifiCorp hereby submits its Comments in above-captioned proceeding in response to the Federal Communications Commission's ("FCC's" or "Commission's") Notice of Inquiry ("NOI") and Notice of Proposed Rulemaking ("NPRM") in ET Docket No. 03-237.<sup>2</sup> In the NPRM, the FCC has proposed to use a new

---

<sup>1</sup> 47 C.F.R. § 1.415.

<sup>2</sup> *In re Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile and Satellite Frequency Bands*, ET Docket No. 03-237, 18 FCC Rcd 25309 (Nov. 28, 2003); 69 Fed. Reg. 2863 (Jan. 21, 2004) (establishing Comment deadline as April 5, 2004, and Reply Comment Deadline as May 5, 2004) (hereinafter, because of the bifurcation of this item,

(continued...)

“interference temperature” concept to allow significantly increased power limits for unlicensed devices operating in the bands relied upon by PacifiCorp and many other critical infrastructure and public safety licensees for point-to-point microwave service. For the reasons discussed herein, PacifiCorp urges the Commission to delay action on this NPRM regarding this untried concept, and to conclude its NOI to allow the Critical Infrastructure Industry (“CII”) licensees, including the electric utilities, as well as government licensees, manufacturers and others an opportunity to intelligently respond to a well defined NPRM.

**A. PacifiCorp Operates Extensive Facilities for the Provision of Electric Service in the Pacific Northwest**

PacifiCorp 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. 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 as Pacific Power in Oregon, Washington, Wyoming and California, and as Utah Power in Utah, Idaho and southwest Wyoming. Its transmission system has over 130 interconnection points to other electric utilities

---

paragraphs 1 to 28 will be referred to as the NOI, while paragraph 28 to the end will be referred to as the NPRM).

and generators including Bonneville Power Administration (“BPA”)<sup>3</sup> and Western Area Power Administration (“WAPA”).<sup>4</sup>

**B. PacifiCorp’s 6 GHz Frequencies are Integral to the Safety, Reliability and Efficiency of the Power Grid in the Western United States**

PacifiCorp is obligated to its employees, customers, and the general public to reliably maintain and repair its large electric system as safely and quickly as possible, and to operate its facilities on a day-to-day basis in a safe and efficient manner. This responsibility is heightened in time of natural disaster or man-made threat. In order to fulfill this obligation, PacifiCorp owns and operates an extensive private communications system made up of microwave and fiber optic systems, the integrity of which is vital to its electric operations. Moreover, these systems are integral to protecting power system infrastructure and operating the electric power system in the Western United States.

Beyond its immediate importance to PacifiCorp’s operations, PacifiCorp’s private communication system is also used to carry Special Protection Circuits (Remedial Action Schemes or “RAS”) and other circuits for both public and private agencies and utilities such as Western Electricity Coordinating Council (“WECC”),<sup>5</sup> Pacific Gas and Electric,<sup>6</sup> WAPA, and

---

<sup>3</sup> The Bonneville Power Administration operates markets electricity from 31 federally owned dams, one nuclear plant and a large wind energy program to Northwest utilities. *See*, Bonneville Power Administration, <http://www.bpa.gov/corporate/> (last visited March 26, 2004).

<sup>4</sup> Western Area Power Administration markets and delivers hydroelectric power and related services within a 15-state region of the central and western U.S. Its transmission system carries electricity from 55 hydropower plants operated by the Bureau of Reclamation, U.S. Army Corps of Engineers and the International Boundary and Water Commission. Together, these plants have a capacity of 10,600 megawatts. *See*, About Western, <http://www.wapa.gov/geninfo/whatwho.htm> (last visited March 26, 2004).

<sup>5</sup> WECC is a voluntary organization whose focus is coordinating and promoting electric system reliability. In addition to promoting a reliable electric power system in the Western Interconnection, WECC supports efficient competitive power markets, assure open and non-

(continued...)

BPA. The integrity of these systems is of the highest priority to the Nation's safety and the economy. For example, during the transition to the year 2000 ("Y2K") the national electric power grid ranked higher than the military in recovery priority ranking due to its essential nature. PacifiCorp relies on its extensive and complex private communications system every day, across its entire service area, to protect its employees while they are performing often-dangerous work and to maintain the safety and reliability of its electric network and each of the networks to which it is interconnected.

Military services, government, and public safety entities all depend on the efficient operation of the power system. PacifiCorp's communication system includes a total of 162 6 GHz microwave paths (324 redundant transmitters) and provides approximately 3,600 miles of power system protection and control circuits. These 6 GHz microwave paths carry transmission line protection and control circuits, and are critical to the overall stability of the electric power system in the Western United States. Such line protection and control circuits are designed to provide nearly instantaneous detection of electric faults or other abnormalities on the electric transmission system and to provide for automatic switching or isolation of the lines in fault condition, in order to limit the geographic scope of the outage, thereby preventing cascading

---

discriminatory transmission access among members, provide a forum for resolving transmission access disputes, and provide an environment for coordinating the operating and planning activities of its members. The WECC region encompasses a vast area of nearly 1.8 million square miles. It is the largest and most diverse of the ten regional councils of the North American Electric Reliability Council (NERC). *See*, About WECC, <http://www.wecc.biz/about.html> (last visited March 26, 2004).

<sup>6</sup> Pacific Gas and Electric Company is one of the largest combination natural gas and electric utilities in the United States. The company provides natural gas and electric service to approximately 13 million people throughout a 70,000-square-mile service area in northern and central California. *See*, Pacific Gas & Electric Company, [http://www.pge.com/about\\_us/company\\_profile/about\\_pge/index.html](http://www.pge.com/about_us/company_profile/about_pge/index.html) (last visited March 26, 2004).

blackouts and further damage to the electric grid. Any degradation to these microwave facilities could adversely impact the continued provision of high quality, safe and reliable electric service to the public.

## **II. IT IS PREMATURE TO ISSUE A NOTICE OF PROPOSED RULEMAKING ON INTERFERENCE TEMPERATURE**

### **A. An NPRM is Inappropriate and Counterproductive in Light of the Related NOI**

Although the interference temperature concept may have merit in addressing interference issues in certain bands, it is inappropriate and even counterproductive to implement an interference temperature metric in the 6 GHz band while the concept itself, and its value as an interference management tool, is still being vetted in the related NOI. The FCC is still seeking comment on a number of *fundamental* issues that render an NPRM premature and potentially disastrous. For example, the FCC has requested input in its NOI on whether or not the interference temperature approach is even *necessary*.<sup>7</sup> If this basic question has not been addressed, it is inappropriate to seek to implement an interference temperature metric at 6 GHz or elsewhere. As Commissioner Adelstein noted when the NPRM was adopted, it is “very clear that we are exploring an entirely new concept in the interference temperature model, and it is quite premature to actually discuss proposed rules when the Commission has not even engaged in a preliminary discussion on the interference temperature approach as a whole.”<sup>8</sup> PacifiCorp concurs.

---

<sup>7</sup> NOI at ¶ 8.

<sup>8</sup> Separate Statement of Commissioner Jonathan S. Adelstein Approving in Part, Concurring in Part, *In re Establishment of an Interference Temperature Metric to Quantify and Manage Interference and to Expand Available Unlicensed Operation in Certain Fixed, Mobile, and*  
(continued...)

**B. Fundamental Issues Must be Resolved in the NOI Before Implementation the Interference Temperature Metric is Considered**

The NOI poses a number of fundamental legal and technical questions that must be resolved before any attempt to implement the interference temperature metric should be considered. Because of the foundational nature of the issues pending in the NOI, including both the legal framework and technical parameters by which this would be accomplished, it is nearly impossible to comment intelligently on the NPRM's inquiry into the appropriate level at which to set the interference temperature. Moreover, by bifurcating this docket into a concurrent NOI and NPRM, the Commission runs the risk of duplicating its efforts, or, even worse, starting prematurely down a path in the NPRM that may prove to be imprudent according to the evidence gathered in the NOI. Again, as Commissioner Adelstein noted, the FCC clearly needs to proceed on an information gathering level through an NOI, and implementation through an NPRM is premature.<sup>9</sup> The procedural irregularity of issuing an NPRM while simultaneously issuing an NOI inquiring into the underlying issues that ostensibly form the basis of the NPRM will only serve to further confusion and inefficiency.

The FCC has recognized that measuring and monitoring the noise floor is “a substantial, time consuming, and ...resource intensive undertaking.”<sup>10</sup> It is inappropriate to impose these costs and burdens on licensees for speculative gain. At a minimum, technical criteria and transition from current interference management criteria to an interference temperature metric must be in place before implementation in any band.

---

*Satellite Frequency Bands*, ET Docket No. 03-237, Notice of Inquiry and Notice of Proposed Rulemaking, FCC 03-289 (rel. Nov. 28, 2003).

<sup>9</sup> *Id.*

<sup>10</sup> NOI at ¶ 26.

Some *basic* conceptual issues raised in the NOI related to the regulatory framework that would govern the use of the interference temperature metric that remain unresolved include evaluating of the likely costs and benefits to licensees, equipment manufacturers and potentially affected entities that could result from the use of the interference temperature approach or other interference management tools,<sup>11</sup> as well as how the interference temperature approach could change the current legal framework, regulatory process and general enforcement of rules designed to prevent harmful interference.<sup>12</sup> Critics of the interference temperature metric have noted, for example, that the policy determination of the appropriate level at which to set the interference cap must be made many times, and across many bands. To do this in a manner consistent with its statutory obligations under the Communications Act and the Administrative Procedure Act, critics have further suggested that the FCC must reexamine the adequacy of its current “harmful interference” standard,<sup>13</sup> and have advocated the establishment of a “permissible interference” definition to guide in setting interference temperature limits and to create a predictable, non-arbitrary standard by which these determinations may be made.<sup>14</sup> This analysis is absolutely necessary before implementation, particularly if the FCC is to achieve one of its stated goals: promoting certainty for licensees with respect to their interference protection rights.

---

<sup>11</sup> NOI at ¶17.

<sup>12</sup> *Id.*

<sup>13</sup> *See generally*, R. Paul Margie, *Can You Hear Me Now? Getting Better Reception from the FCC’s Spectrum Policy*, 2003 Stan. Tech. L. Rev. 5 (2003).

<sup>14</sup> *Id.* at ¶ 65 (Even if the Commission adopts the [Spectrum Policy] Task Force Report’s useful interference temperature metric, it will need an improved permissible interference standard to put the metric to work – just as in setting a speed limit the government must not only choose to measure miles per hour instead of kilometers per hour, but also must decide how it will determine whether 45 MPH, 55 MPH or 65 MPH is the permissible speed limit for each road.).

Extremely basic technological and implementation issues are also posed in the NOI, and require resolution prior to crafting rules for practical implementation. For example, the NOI asks for comments on how to determine interference temperature limits for particular bands, assessing cumulative noise and interference environment in particular bands, standard methodologies for making assessments to support the setting of these limits, the process for transitioning to this metric from the current interference management standard, and what parties should be involved in setting the interference temperature for a particular band.<sup>15</sup>

Commenters in the Spectrum Policy Task Force proceeding expressed concern over a number of these technical issues, and implored the Commission to more fully evaluate the ramifications of implementing an interference temperature metric before effecting such a fundamental shift in policy. For example, in its comments on the Spectrum Policy Task Force's initial recommendations, Motorola noted that the approach "presents many difficult technical problems"<sup>16</sup> and that the concept is "fraught with difficulty."<sup>17</sup> Motorola further stated that the "fundamental task of determining and controlling the influence of a transmitter's emissions upon a remotely located receiver is an enormously complex problem."<sup>18</sup> Motorola goes on to identify a substantial number of technical hurdles that must be overcome "before the potential benefits of the interference temperature concept can be realized,"<sup>19</sup> and concludes that further analysis and study of the concept is necessary. The interference temperature metric, Motorola

---

<sup>15</sup> NOI at ¶ 21.

<sup>16</sup> Comments of Motorola, Inc., *In re Spectrum Policy Task Force Report*, ET Docket NO. 02-135 (filed Jan. 27, 2003) ("SPTF Proceeding").

<sup>17</sup> *Id.* at 14.

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

stated, “is a long way from being ready for routine deployment in the real world as a reliable spectrum tool.”<sup>20</sup>

Similarly, implementation issues were flagged by commenters in the Spectrum Policy Task Force proceeding for further study and review before any attempt at implementation. For example, Motorola noted that funding and monitoring must be adequately addressed, stating “this burden should not be imposed on primary users and their customers/subscribers.”<sup>21</sup> Moreover, much of the “responsive” technology upon which the Commission premises its theory are not available for large scale deployment, and even if the technology was available the logistical problems of identifying who must remedy an interference temperature violation and effecting that resolution still loom large. As Arch Wireless noted in response to the SPTF’s report, it would be “difficult to identify when, where and by whom a particular interference temperature limit was violated...” resulting in an “untenable enforcement situation.”<sup>22</sup> Lockheed Martin concurred, stating that “[i]t is unclear that, as a practical matter, an entire category of unlicensed users can be identified and then made to remedy, as a group, the fact that the interference temperature was exceeded... The [Spectrum Policy] Task Force’s proposal avoids the fundamental question of how the Commission will police harmful interference...”<sup>23</sup> Again, without further exploration of the basic *concept* of enforcement of an interference temperature cap, implementation is incurably premature.

---

<sup>20</sup> *Id.*

<sup>21</sup> Comments of Motorola, SPTF Proceeding, at A-3.

<sup>22</sup> Comments of Arch Wireless Operating Company, Inc., SPTF Proceeding, at 4 (filed Jan. 27, 2003).

<sup>23</sup> Comments of Lockheed Martin Corp., SPTF Proceeding, at 7 (filed Jan. 27, 2003).

### **III. THE FCC SHOULD NOT USE 6 GHZ AS A “TEST BED” FOR THE INTERFERENCE TEMPERATURE CONCEPT**

The NOI asks for comment on steps that the FCC could take to establish a “test bed” for the interference temperature model that can be studied and evaluated. Instead of waiting for a response to its inquiry, however, the NPRM proceeds to establish that test bed. The NOI should necessarily be completed before an NPRM is issued, and information gained should then be used to develop specific proposals for the NPRM so that those affected can comment intelligently on the proposal.

Notwithstanding this fundamental flaw, the choice of the 6 GHz band to serve as a testing ground is inappropriate due to the sensitive and highly important systems currently operating in the band. The FCC’s arbitrary choice in this matter fails to take into account the character of the licensees in the band, and inappropriately and unjustly seeks to encumber services that have already been relocated once to accommodate emerging technologies. Moreover, PacifiCorp has been advised by one of leading microwave equipment manufacturers that its studies have shown that a *single* unlicensed device, operating at the +30 dBm power levels, as suggested in the NPRM, would be sufficient to reduce the fade margin of a typical 6 GHz microwave system, using a 6 foot parabolic antenna, by over 30 dB if the unlicensed device is present within a distance of 24 kilometers of the boresight of the microwave receive antenna.<sup>24</sup> This reduction in fade margin would be totally unacceptable to PacifiCorp, as it would render many microwave paths vulnerable to harmful interference. Accordingly, should the FCC choose to move forward with its intent to “test” the interference temperature metric in an occupied spectrum band, it

---

<sup>24</sup> PacifiCorp understands that further information regarding this analysis will be included in Comments of the Fixed Wireless Communications Coalition.

should select a band that will not endanger communications critical to the safety and efficiency of this Nation's electric system.

**A. The FCC Must Consider The Character Of The Operations In A Band In Determining Where To Implement Any New Interference Management Mechanisms**

Utilities generally use their fixed microwave facilities for transmission line protection, real-time control, monitoring, and dispatch of electric generation and transmission facilities, as well as intra-utility and inter-utility data and voice communications.<sup>25</sup> PacifiCorp's 6 GHz facilities fill these vital roles in support of its electric operations, and because of their critical role in securing the integrity of the electric system they can ill tolerate any unnecessary interruptions or interference. One can easily imagine a confluence of events whereby untraceable, sustained interference to a utility microwave transmission has disastrous consequences to the Nation's power grid. The FCC's NPRM has the potential to bring about this scenario, unless the Commission reconsiders its premature NPRM. At the very least, the nature of the incumbent licensee must be considered in establishing an interference temperature in a given band. Public

---

<sup>25</sup> See, e.g. Comments of the American Public Power Association, *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9, at 1 (filed June 8, 1992) (describing utility microwave uses in the 2 GHz band that were ultimately relocated to bands including 6 GHz to make spectrum available to PCS and other emerging technologies); see also, Marshall W. Ross & Jeng F. Mao, *Current and Future Spectrum Use by the Energy, Water & Railroad Industries*, NTIA, at 3-7, 3-10 (Jan. 2002) (noting that utility microwave systems are being utilized for multiple address telemetry applications, point-to-point microwave for data and voice communications, and special applications such as control of electric power and natural gas SCADA networks, and that as modern utility systems have increased in complexity, these systems, particularly SCADA systems, have become critical components of the utility command and control infrastructure. Further, these systems help to automate tasks like opening and closing circuit breakers, monitoring system stability, and monitoring alarms for overload conditions. They are also used for monitoring and controlling pumping stations and other critical components of water networks. Direct radio control of remote substations, gas compressor stations, and pole top switches aid in prompt customer service and restoration of service.).

Safety entities and Critical Infrastructure licensees have unique communications needs that must be preserved.

High quality, reliable electricity is essential to public health and safety. This is one of the primary reasons electric utilities maintain their own networks and need exceedingly high standards for guaranteed reliability that is not otherwise achievable. In this regard, the FCC has recognized that utilities' communications needs "tend to demand a reliability factor of 99.995 percent," which is higher than the level of reliability for most common carrier services.<sup>26</sup> Moreover, private users such as utilities need the ability to identify authorized users in the event of interference.<sup>27</sup> This is particularly true for utilities that utilize the 6 GHz microwave band, and this would be virtually impossible if the FCC proceeds with its interference temperature "experiment" at 6 GHz.

Others warned that the SPTF failed to address the fact that the Commission will have no information regarding the number of unlicensed devices in a given band, and has offered no recommendation on how to address this significant gap between theory and reality.<sup>28</sup> These gaps have not yet been bridged and cannot even begin to be assessed until the NOI is concluded. Utilities' heightened reliability requirements with respect to their operations, including those licenses held in the 6 GHz band, should not be jeopardized to test a theory. The Nation's electric

---

<sup>26</sup> *In re Amendment of Part 94 of the Commission's Rules to Authorize Private Carrier Systems in the Private Operational Fixed Microwave Service*, 57 Rad. Reg. 2d (P&F) 1486, ¶ 53 n. 35 (1985).

<sup>27</sup> *See generally*, Blooston Private Users' Reply Comments, SPTF Proceeding (filed Feb. 28, 2003).

<sup>28</sup> Lockheed Martin Comments, SPTF Proceeding, at 8 (filed Jan. 27, 2003).

system should not be experimented upon. As Commissioner Adelstein stated, the licensees in this band deserve better.<sup>29</sup>

**B. It Is Inappropriate To Further Encumber The Spectrum That Was Specifically Earmarked For Relocation Of 2 GHz Microwave Systems To Clear That Band For PCS**

A number of 6 GHz licensees previously held spectrum in the 2 GHz band and were relocated to 6 GHz in order to clear spectrum for “emerging technologies” including PCS.<sup>30</sup> Since the FCC’s 2 GHz relocation rules went into effect in 1995, PacifiCorp itself has had approximately 12 of its 2 GHz microwave hops relocated to the 6 GHz band, investing numerous hours and significant resources in negotiation with several carriers. Its negotiations, however, have not always been smooth, as a significant number of emerging technologies companies have been reluctant to relocate incumbent 2 GHz licensees. With the deadline for relocation looming and the prospect of being reduced to secondary status once the relocation time frame expires, it is likely that PacifiCorp may have to relocate its own 2 GHz facilities. In this situation, given its prior relocations to 6 GHz, the 6 GHz band would be a natural candidate for additional relocations. However, this proceeding has essentially placed a cloud over that spectrum band, and PacifiCorp’s 2 GHz operations have again been thrown into uncertainty.

Throughout the 2 GHz relocation proceeding, the FCC consistently professed to recognize “the essential functions, such as public safety and utility management

---

<sup>29</sup> Separate Statement of Commissioner Jonathan S. Adelstein Approving in Part, Concurring in Part, NOI and NPRM, ET Docket No. 02-237 (rel. Nov. 28, 2003).

<sup>30</sup> See generally, *In re Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies*, ET Docket No. 92-9, RM-8004.

communications, that 2 GHz fixed microwave operations now provide...”<sup>31</sup> In relocating these licensees, the Commission took note of their importance, and enacted various rules to help to ensure the uninterrupted continuance of their operations, proclaiming its intent to “minimize the impact of our spectrum redevelopment plan on those services.”<sup>32</sup> These vital services, however, are now slated to be the first to be subject to an experimental concept that could further encumber their operations and endanger the essential utility functions they support.

This is wholly inappropriate. PacifiCorp and other licensees relocated from 2 GHz have invested countless hours and endured significant inconvenience to migrate their systems to the 6 GHz and other higher bands. They relocated in good faith, and with the assurance that the facilities and spectrum they received and accepted would be comparable to the spectrum and facilities being replaced. Now, after fine-tuning their replacement systems and returning to the task of supporting their core electric business, the FCC has proposed to fundamentally alter the spectrum environment in which they have been re-established, and to diminish the viability of the 6 GHz band for any future 2 GHz relocations. The Commission should not compel these relocated licensees to once again devote resources to defending their vital communications systems from interference, particularly when the Commission itself concedes, through its NOI, that the interference temperature concept is not ready for “prime time.”

#### **IV. CONCLUSION**

PacifiCorp owns and operates an extensive microwave communications system including 162 6 GHz microwave paths across six Western states. PacifiCorp has no technologically

---

<sup>31</sup> See, First Report and Order and Third Notice of Proposed Rulemaking, 7 FCC Rcd 6886, at ¶ 21 (Oct. 16, 1992).

<sup>32</sup> *Id.*

comparable alternatives to the installation of 6 GHz microwave radios to cover the long rural lengths of communications circuits in its service territory, or other options that would be less susceptible to interference from unlicensed operations. These 6 GHz microwave paths are critical to the stability of the electric power system across the entire Western United States. By proceeding with the NPRM in advance of an exploration of the fundamental feasibility and technical questions posed in the NOI, the FCC is endangering the 6 GHz microwave systems employed by PacifiCorp and other utilities in support of their electric operations, which may directly impact the reliability of the electric power system as a whole. PacifiCorp recommends the FCC take a step back from this direction and conclude its NOI before proceeding with the NPRM to allow the critical infrastructure industries, including the electric utilities, manufacturers and others an opportunity to intelligently respond to a well defined NPRM.

For the foregoing reasons, PacifiCorp respectfully requests the Commission consider these comments and proceed in a manner consistent with the views expressed herein.

Respectfully submitted:

PACIFICORP

By:           /s/ Shirley S. Fujimoto          

Milt Patzkowski, P.E.  
PacifiCorp  
Manager of Telecomm Planning  
825 N.E. Multnomah, 1500 LCT  
Portland, OR 97232  
(503) 813-6916 (T)  
(503) 813-6892 (F)

Shirley S. Fujimoto  
Jeffrey L. Sheldon  
Erika E. Olsen  
McDermott, Will & Emery  
600 13th Street, N.W.  
Washington, D.C. 20005-3096  
(202) 756-8000 (T)  
(202) 756-8087 (F)

Steve Illias, P.E.  
PacifiCorp  
Telecomm Transport Planning  
825 N.E. Multnomah, 1500 LCT  
Portland, OR 97232  
(503) 813-6906 (T)  
(503) 813-6892 (F)

Attorneys for PacifiCorp

Dated: April 5, 2004