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BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C.

In Re:

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| Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies | ) ) ) ) | ET Docket No. 92-9; FCC 92-20 |

COMMENTS OF THE AMERICAN GAS ASSOCIATION

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## Introduction

The American Gas Association (A.G.A.) is a national trade association comprising some 250 natural gas distribution and transmission companies throughout the United States. A.G.A. files these comments in response to the Notice of Proposed Rulemaking (NPRM), FCC 92-20, released February 7, 1992, in the above captioned matter.

A.G.A. members account for approximately 90 percent of the nation's total annual gas utility sales and serve over 174 million consumers throughout the nation. This gas is transported and delivered for use by residential, commercial and industrial customers by means of an intricate pipeline network nearly 1.2 million miles in length. A.G.A. members make extensive use of radio spectrum to ensure the efficient and safe operation of this pipeline system. As a consequence, our members have a direct and substantial interest in the Commission's proposal to reallocate frequencies currently used by our industry for use in the development of new personal communications services (PCS).

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A.G.A. opposes the Commission's proposed reallocation of spectrum.

In its NPRM, the Commission spelled out its intention to establish a "spectrum reserve" for emerging technologies such as personal communication services (PCS). The spectrum chosen for these new services will come from the 1.8 - 2.2 GHz band, which contains frequencies widely used by the natural gas industry for SCADA, distribution automation and load management purposes. Although A.G.A. recognizes the potential value of developing these new and advanced technologies, we feel that the Commission's proposed methodology of providing spectrum in the 2 GHz band is unworkable.

Therefore, A.G.A. strongly opposes the Commission's proposal to reallocate this spectrum for PCS and believes that the Commission should target other less heavily utilized spectrum for PCS, as well as more fully consider the proposals recently put forth by the Utilities Telecommunications Council (UTC). Until such time as the Commission has adequately reviewed and considered the solutions put forth by A.G.A., its membership and the UTC, the Commission should not proceed with its rulemaking. In addition, should the Commission proceed with the proposal, which at this time we feel would be imprudent given the strong opposition within concerned industries and Congressional circles, it should devise a method of adequately compensating existing licensees for the costs of relocating to other spectrum.

A. The Natural Gas Industry Uses the Spectrum.

Almost every aspect of the gas industry, including both transmission and distribution, is intensely regulated at the federal, state and local levels. The manner in which natural gas is transported and delivered to end-users is subject to myriad

environmental and safety requirements. The gas industry takes pride in the fact that we deliver a high quality product in a very safe and efficient manner, due in large measure to the existence of microwave communication systems. Thus, gas pipelines and utilities have a strong personal interest, as well as a regulatory incentive in ensuring that they transport and deliver natural gas in a manner that is as environmentally acceptable and safe as possible.

Microwave networks use by gas utilities and pipelines are used for voice, telemetry, and control. Telemetry data provided by the microwave network allows operators to monitor pipeline pressures, temperatures, flow rates, and system loading. For natural gas transmission by pipeline, these frequencies are used for monitoring and controlling the flow of gas from point of delivery into the pipeline system to the point of ultimate delivery to pipeline customers, primarily utilities. Control data is used to monitor and control unmanned automated compressor stations as well as pipeline pressure and flow control valves. These systems carry vital real-time data and commands that are used to monitor and control high pressure pipelines and related facilities. This real time-information is critical to keeping pressures within safe limits and operating safety valves in the event of a pipeline rupture. These functions are vital in that a major gas incident could both disrupt major overland transportation avenues in the area of the incident and it could disrupt gas service to utility customers.

Enhancing the safe transmission of natural gas, although a non-economic benefit, is a tangible and important benefit to pipeline customers and, by extension, to their ratepayers. In addition, to the extent that this spectrum enhances operational efficiencies,

costs are minimized. This is a very significant concern, since pipelines are under tremendous competitive pressures to operate as efficiently as possible.

Natural gas utilities also make extensive use of radio spectrum for many of the same operational functions as do pipelines. Utilities use this spectrum for SCADA purposes, controlling the pressure and flow of gas into the supply points of their gas distribution systems. In addition, utilities use the frequencies to provide remote control and data acquisition for pressure valves that are used to deliver gas from high pressure pipelines to medium pressure main systems that are the principal source of supply for a gas utility's distribution system. This spectrum also provides enhanced flow and pressure data and controls the regulator pressure from remote control locations. All of these actions are necessary for utilities to meet their public service obligations to their customers. Utilities have no choice but to choose operational methods that promote the safe and efficient transmission and delivery of natural gas to utility customers. Any reallocation of the spectrum now used by natural gas utilities will compromise the way in which utilities meet their public service obligation by requiring a shift to other potentially less suitable frequencies. Such a shift will entail costs for new equipment, and utilities cannot willingly absorb such costs given extensive oversight by their state public utility regulators.

B. <u>The NPRM Does Not Propose Practical Alternatives to the Use of The 2 GHz Band by the Natural Gas Industry</u>.

The Commission has proposed that existing users of the 2 GHz band should relocate to higher bands or utilize common carrier services and fiber optics. These "solutions" ignore the gas industries critical need for reliable communication systems.

A.G.A. is concerned that services available on higher frequencies will not be suitable to our membership's particular needs. In reviewing the sufficiency of higher bands for dislocated users, the FCC has based its analysis on the average path lengths of utilities in the 2 GHz band. We believe that this analysis fails to consider the existence of communication networks with much longer paths that will not be easily assimilated into higher bands. Also, there is real concern that given the existing demand for the proposed alternative bands, plus the expected influx of licensing requests, there may not be sufficient room to accommodate displaced microwave users.

Therefore, we urge the Commission to delay action in this rulemaking until such time as a more adequate plan for relocation can be formalized. A.G.A. concurs with the UTC's "Petition for Rulemaking" filed on March 31, 1992. In its petition, the UTC wisely advocates that all action in the present rulemaking be suspended until the Commission opens the common carrier 4, 6 and 11 GHz microwave bands for use by private microwave users and rechannelizes these bands to accommodate microwave systems. Also, the Commission should develop specific technical rules that adequately address the technical as well as the legal eligibility problems that will face displaced 2 GHz users. Until such time as these real concerns are appropriately addressed, it is unwarranted to expect current 2 GHz users to begin clearing the band.

Similar concerns exist with respect to the reliability of common carrier services. While the overall reliability of such systems have arguably improved in recent years, they are still subject to outages that are unacceptable for such critical control information. The fact that these systems often become overloaded, or worse, inoperable during natural

disasters or civil unrest has been a major impetus for the gas industry to invest large amounts of capital to develop their own microwave systems. The reliance on common carriers as the sole source of communication would place access to critical data at an unreasonable risk at times when such data is needed most.

A.G.A., likewise, believes that the use of fiber optic technology would not address our concerns. A number of A.G.A. members have evaluated fiber optics as an alternative to the use of analog fixed microwave systems. Two factors have dictated the decision to retain existing technology: concerns about reliability of fiber optics and the cost of systems that use fiber optics.

As to the safety and reliability of fiber optics, the commission should recognize that any disruption in the flow of natural gas is a potentially dangerous situation. Thus, the concept of relying on fiber optic cable, which would be buried along the pipeline right-of-way, presents an unacceptable risk for pipeline communications and, by extension, for public safety. In the event of a pipeline rupture, the fiber optics cable would likely break as well. Thus, communications would be lost at a time when public safety would be most dependent upon the integrity of the pipeline telecommunications system.

Obviously, the pipeline operator would take great care when excavating near the pipeline for routine maintenance or necessary repair; nevertheless, a significant number of incidents would occur, and the severity of those incidents would be exacerbated by reliance on fiber optics rather than fixed microwave service. This is because of the level of outside excavation damage, also referred to as "third party" damage. A.G.A. data show that, over the last sixteen years, third party damage is the leading cause of pipeline

incidents, resulting in over 63 percent of all gas pipeline incidents. If a backhoe operator proceeds to dig without first ascertaining whether there is a natural gas pipeline or any other facility in the vicinity, the presence of fiber optic cable will be totally irrelevant in helping the pipeline operator respond to damage to the pipeline. Thus, fiber optics present operational difficulties for our industry and are not a suitable substitute for fixed analog microwave systems upon which the industry relies.

In addition to the natural gas industry's operational concerns with fiber optics, we are concerned with the cost of this technology. One A.G.A. member, Southern Natural Gas and its wholly owned subsidiary, South Georgia Natural Gas, recently installed a 128 tower microwave system, most of which operates in the 2 GHz band. The system cost approximately $12 million to install. Fiber optics were evaluated as an alternative and rejected as being too expensive for commercial and private use. Moreover, rights of way would have had to be renegotiated, and there was some resistance to the installation of fiber optics from landowners. Southern Natural estimates that the cost of fiber optics in lieu of the 128 tower microwave system would have been in excess of $25 million.

Finally, one of the most troubling aspects of the NOPR is that it would allow government emergency services to remain on the 2 GHz band as co-primary users. We feel that the Commission's decision wisely perceives the need to allow critical services to remain on the band, but the Commission has overlooked the fact that utilities require the same reliability in communication services and provide important support for government and private operations during emergencies. Therefore, we would urge the Commission to extend the same exception to the natural gas pipelines and utilities.

C. Recent Regulatory Changes Have Increased the Natural Gas Industries Dependence Upon Fixed Microwave Systems.

The natural gas industry is at a significant regulatory juncture, one that will inevitably require a more intense use of radio spectrum than is now the case. This is because of a recent regulatory actions currently being implemented by the Federal Energy Regulatory Commission (FERC). In brief, FERC is undertaking significant alterations in the manner in which natural gas is bought and transported. This initiative, dubbed the "mega-NOPR", is designed by FERC to ensure that pipeline transportation service is a meaningful alternative to the traditional merchant service provided by interstate pipelines.

To accomplish this objective, FERC is implementing sweeping regulatory changes that will increase the sales and transportation options now available to purchasers of natural gas by increasing the number of entities that can sell gas at the city-gate. If adopted, FERC's proposal will increase the importance of SCADA, since there will be many more entities involved in the transmission of natural gas from the wellhead to the burner-tip. Natural gas pipelines, which have traditionally offered sales service to utilities at the city-gate, may be required to divest themselves of this merchant function and transport gas on their pipeline systems for many other entities. Issues such as capacity on upstream pipelines, access to storage and brokering of unused pipeline capacity pose difficult operational considerations for pipelines and utilities under the current regulatory environment. However, by facilitating the involvement of many more entities than is the case now, the FERC's proposal has monumental operational implications for the natural gas industry. Obviously, SCADA will take on an increasingly vital operational importance

in ensuring system efficiency and reliability.

Since system reliability is a prime concern, neither gas pipelines nor gas utilities can afford a shift to other frequencies if reliability is compromised. Highlighting the need to ensure that the industry maintains its access to reliable communications systems, FERC Chairman Martin Allday recently wrote to FCC Chairman Alfred Sikes urging that the FCC take steps which will minimize any disruption or financial expense to the gas industry. Thus, if the Commission proceeds with its proposal, it must select an alternative spectrum that provides the natural gas industry with comparable reliability. This is especially crucial given the FERC-mandated regulatory changes that are taking place.

D. Other Options Should Be Pursued Before the FCC Undertakes this Rulemaking.

In addition to the comments made elsewhere in this filing, we urge the Commission to fully consider several other options before it implements the rulemaking at issue. A.G.A. urges the FCC and the National Telecommunications and Information Administration (NTIA) to commence discussions to open the 1710-1850 MHz Federal government spectrum for use by displaced 2 GHz users on a co-primary, non-interference basis.

Should relocation to other bands become necessary, A.G.A. strongly endorses a negotiated approach to compensating existing licensees for the costs of relocation. Under no circumstances should new services in the band be authorized on an unlicensed basis or any other basis where existing users would be unable to secure reimbursement for relocation or identify interference sources. Although we have not surveyed all of our members, A.G.A. believes that the cost of relocation could be substantial, particularly in

instances where radio towers will have to be relocated to accommodate new frequency requirements. Thus, it is vital that the existing spectrum user have sufficient leverage in negotiations to recover the damages incurred to purchase new equipment and relocate facilities. If the market potential for PCS operators is as great as the Commission believes, indeed great enough to justify relocating present spectrum licensees, then PCS operators should bear the cost of compensating existing licensees. Binding arbitration or an eminent domain concept should provide the necessary negotiating leverage for existing licensees.

Moreover, A.G.A. believes that if the 2 GHz band is reallocated for emerging technologies, the Commission should grant indefinite co-primary status for all existing 2 GHz microwave systems and should permit reasonable system modifications and expansions. If after reviewing the recommended options, the Commission decides that it still must clear the 2 GHz band, the Commission should adopt the most flexible approach available toward providing displaced users with reliable spectrum, and ensure that displaced users are adequately compensated for their expenses.

## CONCLUSION

In reaching a final determination on reallocating the spectrum in question, the Commission should consider carefully the impact of its proposed reallocation on the operations of the natural gas transmission and distribution industry. The immense and complex national network of transmission and distribution pipelines relies heavily on this spectrum to ensure system reliability and the safe and efficient transportation and delivery

of natural gas. With significant changes in store for our industry emanating from the Federal Energy Regulatory Commission, radio spectrum will be even more important to industry operations. At a minimum, existing licensees -- and their ratepayers -- must be adequately compensated for the costs incurred to relocate. We urge the Commission to proceed cautiously.

Respectfully submitted,

THE AMERICAN GAS ASSOCIATION

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