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

In the Matter of:	}	
	}	
Unlicensed Operation in the TV Broadcast Bands	}	ET Docket No. 04-186
	}	
Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band	}	ET Docket No. 02-380
	}	

To: Office of the Secretary
The Commission

COMMENTS OF

PAPPAS TELECASTING COMPANIES

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SUMMARY

Pappas Telecasting Companies ("Pappas"), by and through its attorneys, hereby submits these Comments in response to the Notice of Proposed Rulemaking requesting comments on the proposed authorization of unlicensed radio transmitters within the spectrum utilized by the broadcast television service.

As discussed herein, Pappas urges the Commission to postpone the consideration of authorizing new unlicensed wireless devices in the television service band until the transition from analog to digital transmission services is completed. The introduction of unlicensed wireless devices into the television service band at this time will likely have a significant impact on the DTV transition. Moreover, the proposed service relies upon untested technology that, thus far, has not been shown to avoid causing interference to the over-the-air reception of television signals. Finally, the Commission has failed to show that there is an overriding justification for the introduction of these unlicensed devices at this time, as there are several other spectrum bands that have been set aside for unlicensed use.

Therefore, Pappas urges the Commission to postpone opening the floodgates for these unlicensed devices until such time that the transition to digital television service has been completed, and that these unlicensed devices can be shown to not cause interference to the over-the-air reception of television services.

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Pappas Telecasting Companies ("Pappas"), by and through its attorneys, hereby submits the following comments in response to the Notice of Proposed Rulemaking, released on May 25, 2004, in the above-referenced proceeding.[1] The NPRM proposes to permit the operation of unlicensed radio transmitters within the spectrum currently utilized by broadcast television services, and seeks comment on the necessary service and technical rules to guide such operations.

As is discussed in more detail below, Pappas urges the Commission to postpone its consideration of authorizing new unlicensed wireless devices in the television service band[2] until at least the end of the transition of existing television stations from analog to digital transmission services. First, these unlicensed devices rely upon technology that has yet to be fully developed or adequately tested. Consequently, the introduction of such unlicensed devices into the broadcast spectrum poses a very real threat of interference to existing television operations.

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1 19 FCC Rcd 10018 (2004) ("NPRM").

2 The Commission is proposing to permit unlicensed operations on television channels 5-36 and 38-51 (the "TV Band"). *See NPRM*, ¶ 33.

Moreover, the very nature of the DTV transition, with all its inherent uncertainties as more fully outlined below, makes it impossible to accurately measure the full impact of these unlicensed wireless devices on the operation of a fully-digital television service.

Since the Commission does not know with any degree of certainty whether these devices can operate without causing harmful interference to over-the-air television reception, it would be reckless to allow the introduction of such devices in view of the potentially dire consequences for television viewers. This risk is magnified by that fact that, once unlicensed devices are introduced on a large scale, any actual interference to broadcast television services may be irremediable.

Second, this reality is compounded by the fact that the Commission has yet to determine what DTV channels would be available after the DTV transition, as the channel selection process will not be completed until 2006 at the earliest. In light of the continuing uncertainty as to the yet-untested propagation characteristics of a fully-digital television service, it is not possible at this time for the public to comment in any meaningful fashion on what technical properties these new unlicensed devices should include. Only after the DTV transition will it be clear what interference and spacing protections must be afforded to the operating DTV stations to ensure that the viewing public will not be adversely impacted by the operation of unlicensed devices in the DTV spectrum. The Commission should, therefore, be absolutely certain that the unlicensed operators would not cause interference to analog and digital television operations prior to authorizing these new devices.

Finally, the record developed to date does not demonstrate an overriding justification for taking the very serious, perhaps unprecedented, risks to television reception outlined herein. The Commission has three separate pending rulemaking proceedings to open up close to 900

MHz of new spectrum for unlicensed uses. While parties have stated their desire to utilize the TV Band for unlicensed services, no compelling evidence has been provided demonstrating that this mere expression of interest is more important than the overriding Congressional and Commission goal to have a fully-functioning digital television service in place as soon as possible. In view of all of the attendant and very real dangers of harmful interference to existing TV operations, and in the absence of a compelling overriding demonstration of this nature, the Commission simply can not find that the public interest would be served by adopting the proposed rules.

BACKGROUND

Through its affiliated entities, Pappas is the licensee or permittee of 16 full-power television stations, operates three additional full-power stations pursuant to local marketing agreements, and provides free over-the-air local television programming in 16 markets in 10 states across the country.[3]

Based on these holdings, Pappas and the millions of viewers of its stations, have a significant vested interest in the expeditious and fair transition to digital television. Pappas has

[3] Pappas operates the following full-power stations in the following markets: WSWS-TV, Opelika, Alabama (Columbus, Georgia Designated Market Area or "DMA"); KPWB-TV, Ames, Iowa (Des Moines, Iowa DMA); KMPH(TV), Visalia, California, and KFRE-TV, Sanger, California (Fresno, California DMA) WTWB-TV, Lexington, North Carolina (Greensboro-Winston-Salem-High Point, North Carolina DMA); KAZH(TV), Baytown, Texas (Houston, Texas DMA); KDBC-TV, El Paso, Texas (El Paso, Texas DMA); KTVG(TV), Grand Island, Nebraska, KHGI-TV, Kearney, Nebraska, KSNB-TV, Superior, Nebraska, and KWNB-TV, Hayes Center, Nebraska (Lincoln-Hastings-Kearney, Nebraska DMA); KAZA-TV, Avalon, California (Los Angeles, California DMA); WMMF-TV, Fond du Lac, Wisconsin (Green Bay, Wisconsin DMA); KPTM(TV) and KXVO(TV), Omaha, Nebraska (Omaha, Nebraska DMA); KREN-TV, Reno, Nevada (Reno, Nevada DMA); KTNC-TV, Concord, California, (San Francisco, San Jose and Sacramento-Modesto, California DMAs); KUNO-TV, Fort Bragg, California (San Francisco, California DMA), KPTH(TV), Sioux City, Iowa (Sioux City, Iowa DMA); KSWT(TV), Yuma, Arizona (Yuma, Arizona/El Centro, California DMA) KAZW-TV, Walla Walla, Washington (Yakima-Pasco-Richland-Kennewick, Washington DMA).

been active at every stage of the development of the new DTV rules, including its most recent proposal on channel election and the re-packing process.[4] In addition, Pappas filed detailed comments supporting the adoption of digital television receiver standards to ensure that the American public can reap the full benefits of the DTV transition.[5]

Pappas joined several other parties last year in filing joint comments in response to the Notice of Inquiry in this proceeding.[6] The NOI sought comment on the adoption of proposals contained in the Spectrum Policy Task Force Report, including rules that would utilize the still-undeveloped "interference temperature" concept in the TV Band.[7] In those comments, the Joint Parties urged the Commission not to proceed until such time that it was "absolutely certain that the unlicensed operators would not cause interference to analog and digital television operations."[8] The Joint Parties noted then that there were nearly 350 licensees with DTV allotments outside of the core DTV spectrum, and at least 100 television licensees that had not received their initial digital television allotment, and questioned the impact of the unlicensed devices on the repacking process.[9] Finally, the Joint Parties noted that most unlicensed operators preferred dedicated spectrum for unlicensed use, rather than the underlay proposal advanced by

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4 Comments of Pappas Telecasting Companies, MB Docket 03-15 (filed June 9, 2003).

5 Comments of Pappas Telecasting Companies, ET Docket 03-65, MM Docket 00-39 (filed July 21, 2003).

6 Comments of Alaska Broadcasters Association, Arkansas Broadcasters Association, Communications Corporation of America, Guenter Marksteiner, Mississippi Association of Broadcasters, New Mexico Broadcasters Association, and Pappas Telecasting Companies (the "Joint Parties"), ET Docket 02-380 (filed April 17, 2003) ("Joint Comments")(filed in response to *In the Matter of Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, Notice of Inquiry, 17 FCC Rcd 25,632 (2002) (the "NOI")).

7 *See Spectrum Task Force Report*, dated November 15, 2002, http://www.fcc.gov/sptf/reports.html (last visited July 19, 2004).

8 *Joint Comments*, pg. 2.

9 *Id.*

the Commission.[10]

The NPRM advances the proposals contained in the Spectrum Task Force Report and the NOI. In the NPRM, the Commission proposes the adoption of rules to permit both fixed and mobile unlicensed operations within the TV Band. The fixed unlicensed devices would operate with a maximum power of 1 watt,[11] and the mobile unlicensed devices would be authorized to operate with up to 100 milliwatts.[12]

To permit these devices to operate, the Commission proposes several different options for ascertaining what television spectrum is unused in the potential service area of an unlicensed device. Specifically, the Commission proposes that the yet-undeveloped unlicensed devices be installed by a professional installer, or be outfitted with "geo-location" technology, which would cross-reference the location of the unlicensed device with a database listing the unused television spectrum in the device's potential service area.[13] Alternatively, the Commission proposes a system of "control" signals that would identify vacant channels to unlicensed devices.[14] Finally, the Commission proposes that unlicensed devices be designed to "sense" whether a particular television channel is being used in its potential service area, and whether the unlicensed device would operate above a particular TV interference threshold.[15]

To define the "white areas" in which unlicensed devices could operate, the Commission proposes to protect co-channel and adjacent television channels from the 1 watt fixed unlicensed devices, and to protect only the co-channel television channels from the 100 milliwatt mobile

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10 *Id.*, pgs. 5-6.

11 *NPRM*, ¶ 22.

12 *Id.*, ¶ 25.

13 *Id.*, ¶ 20.

14 *Id.*

15 *Id.*

unlicensed devices.[16] Finally, the Commission proposes to limit the unlicensed devices to television channels 5-36 and 38-51[17] due to interference concerns on television channels 2-4 and 37. Tellingly, the Commission also proposes to exclude television channels 52-69, noting that these channels "are now available for new uses in areas where they are not used for television service," and an effort must be made "to avoid potential sharing difficulties between new uses and unlicensed operations"[18] -- apparently on the astounding assumption that unlicensed devices sharing this spectrum with unspecified and as-yet-undeployed new uses will be more difficult than sharing with ubiquitous and highly sensitive TV receivers.

As discussed below, Pappas believes that these proposals do not reflect the record as developed in response to the NOI, and furthermore, exceed the current state of technological development with respect to unlicensed devices. Particularly in light of the substantial regulatory flux in which the television industry finds itself, Pappas believes that the adoption of these proposed rules at this time would be potentially very harmful to the public interest.

DISCUSSION

A. The Introduction of Unlicensed Devices Should Be Postponed Until the End of the DTV Transition.

As it has stated previously on many occasions, Pappas is strongly opposed to the adoption of rules to permit the operation of any unlicensed devices in the TV Band while the

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16 *Id.*, ¶¶ 29-32.

17 *Id.*, ¶ 33.

18 *Id.*, ¶ 34. The Commission also proposes rules for the testing and security measures for the unlicensed devices. In light of Pappas' substantial concern that these devices not be authorized in the near term, Pappas does not intend to offer substantive comments on the Commission's proposals relating to these matters. As support for its position, Pappas suggests that establishing compliance rules now is, at best, premature. Once it is clear that the technology has been developed, that these devices are capable to operate in the TV Band without interference, and the DTV transition has concluded, the Commission should open a proceeding to accept critical comments on their technical accuracy.

DTV transition is still underway. The introduction of a new service to operate in the TV Band prior to the completion of the enormously costly DTV transition has the potential to wreak havoc on the television industry.

First, the Commission only recently adopted the final repacking and channel election rules. Under the new rules, DTV licensees with two in-core DTV channels (Channels 2-51) must make their DTV channel elections by December 2004, and the final DTV elections will not be made until January 2006.[19] Subsequently, all DTV stations will be required to operate their digital facilities at full power. Only then will the industry and the Commission be able to determine if the DTV separation and interference rules developed more than 10 years prior actually perform as anticipated.

Moreover, while the television industry is busy constructing their full power DTV facilities, the consumer electronic industry will be busy designing and marketing DTV television sets. The Commission recently adopted rules requiring that a DTV television set include a DTV tuner, but that mandate will not be fully implemented for three more years.[20] Similarly, while the Commission sought comments more than 12 months ago on the adoption of DTV receiver performance and related issues, final rules have yet to be adopted or released.[21]

Thus, the adoption of rules to permit the roll-out of unlicensed digital devices to operate on the same channels is clearly premature at this time. It is not yet clear how the digital

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19 *See Second Periodic Review of the Commission's Rules and Polices Affecting the Conversion to Digital Television*, Report and Order, FCC 04-192 (adopted Aug. 4, 2004).

20 *Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Second Report and Order and Second Memorandum Opinion and Order, 17 FCC Rcd 15,978 (2002). That Order required that by June 1, 2004, half of the large receivers (36" or greater) imported and sold in the United States contain a DTV tuner, and that by June 1, 2007, all television sets 13" or greater contain a DTV tuner.

21 *Interference Immunity Performance Specifications for Radio Receivers, Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television*, Notice of Inquiry, 18 FCC Rcd 6039 (2003).

television system will work once all stations have commenced full-power operation. Early results of maximized DTV facility operation reflect unanticipated interference concerns.[22] It is possible, if not probable, that such interference concerns will become more prevalent as more digital television stations simultaneously operate full-power facilities.

Moreover, the specific interference standards proposed in the NPRM are too limited to provide adequate protection to DTV stations. The Commission approaches the proposed standards from the perspective of protecting television licensees from "harmful interference."[23] Pappas, however, believes that the standards must require that such devices cause ***no*** detectable interference to existing television service. The public has enjoyed television service for over 50 years. Given the terrain and propagation differences in many different areas of the country, the Commission must establish standards that will prevent unlicensed device operation if the cost is the elimination of ***any*** existing television service to the public. By adopting interference protection standards for unlicensed services that are based on the same predictive contour protections applicable to full-power stations, rather than the more accurate "real-world" service predicted by the Longley-Rice method, the Commission likely will open the door to the loss of some existing service provided to the public by permitting unlicensed devices to operate even outside the periphery of the predicted service contours, where viewers with directional outdoor antennas can still pull in a viewable signal.

For example, as discussed *infra*, the adoption of "sensing" or "geo-location" devices has the great potential to undermine the service that the American public currently receives. In

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22 *See Joint Comments of the Association for Maximum Service Television, Inc. and the National Association of Broadcasters*, ET Docket 02-135, pg. 6 (filed January 27, 2003)(citing instances in Virginia, Maryland, Michigan, Wisconsin and New Jersey where fully-spaced DTV allotments have been found to cause interference to each other).

23 *NPRM*, ¶ 29.

addition, the proposed use of a "control signal" raises unresolved and troubling issues, discussed below. While some of these concerns will be relevant even after the DTV transition has ended, these concerns serve as especially important barriers to the adoption of effective rules ***during*** the DTV transition. Many variables that have yet to be resolved before the public can expect to receive the benefits of a fully-functional DTV service. Although these variables may be resolved in the near future, neither the Commission nor the DTV licensees can predict what new hurdles may develop as the DTV transition moves forward. The last thing that Commission or the public needs now is the introduction of new unlicensed transmitters that could undermine the DTV transition or impair the ability of over-the-air viewers to obtain clear reception. Instead, the public interest would best be served by a Commission decision postponing or delaying consideration of these rules until such time as the DTV transition is completed, and the technology in question is more fully developed and adequately and conclusively tested to ensure that no interference is caused to the analog or digital television service.

B. The Interference Protection Proposals are Insufficient and Unproven.

As noted above, the NPRM proposes to permit both fixed and mobile unlicensed devices to operate in the TV Band, and suggests three different models for determining whether the unlicensed devices could operate on a particular channel.

The first proposal would require devices to be either professionally installed or equipped with geo-location technology, that would integrate an internal or external database to be used by the device to locate an available TV Band channel on which to operate.[24] The Commission

[24] *Id.*, ¶ 20.

favors this approach in the NPRM for the proposed fixed unlicensed devices.[25] The second proposal would involve broadcasters or others providing a "control" signal that identifies vacant channels in the area.[26] This approach is favored in the NPRM for the proposed mobile unlicensed devices.[27] Perhaps recognizing the untested nature of its third proposed approach, the Commission did not specifically recommend the adoption of "sensing" devices that would determine if other transmitters were operating in the band, and then transmit only if no "signals were detected above [a certain] threshold."[28]

None of the three proposed approaches, however, have been tested in an "open" system such as a television broadcast where the transmitting party (i.e., the broadcaster) has no control over the location of the receiving party, and no control over the equipment used to receive the television signal. These factors introduce potentially insurmountable real life obstacles under all of the proposed approaches.

For example, in comments filed with the Commission responding to the NOI, several parties attempted to draw comparisons between the "listen first" technology developed for "U-NII" devices and technology that could be implemented in the television band.[29] However, even these parties accept that this technology would have to be tested in "real-world" circumstances before it could be adopted.[30] As noted above, though, no such real-world circumstances yet exist

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25 *Id.*, ¶ 26.

26 *Id.*, ¶ 20.

27 *Id.*, ¶ 21.

28 *Id.*, ¶ 20.

29 *See Reply Comments of the Consumer Electronic Association*, ET Docket 02-380 (filed May 16, 2003) at pgs. 3-4. *See also Comments of Intel Corporation*, ET Docket 02-380 (filed April 17, 2003) at pg. 10.

30 *See Reply Comments of the Consumer Electronic Association*, *supra* note 29, at pgs. 4-5 ("The technical implementation details, such as the specific protection method to be used and its threshold levels, do have to be studied and determined under real-world circumstances.").

within which testing could occur since the television industry has only partially completed the DTV transition. Moreover, in this proceeding and in others, the "sensing" approach has been rejected by most parties as not viable in the near future. These parties, like Pappas, in its response to the NOI, argue that the focus on the "sensing" *transmitter* is misplaced, since the only relevant consideration is the level of interference at the receiver.[31] The sensing circuitry in a mobile unlicensed device is certain to miss weak TV signals that are easily available to an outdoor directional antenna.

Similarly, the "control signal" approach has problems of its own. To illustrate this point, imagine someone taking a commuter bus from Fredericksburg, Virginia, to the FCC headquarters in downtown Washington, D.C. In Fredericksburg, it is likely that the unlicensed device will receive a control signal permitting operation on Channel 45, since Fredericksburg is outside of the service contour for Channel 45 in Baltimore, Maryland. That commuter intends, however, for the device to be operational until it reaches the FCC in Washington, D.C., which is well-within the Grade B signal of Channel 45. This example, though, illustrates several problems with the "control signal" plan. First, since the technology is untested thus far, even if the unlicensed devices will be capable of constantly (i.e., every 5 or 10 seconds) checking the control signal to ensure that the device's current location is still within the unserved area of a television station, there is a chance that such devices will fail to make such confirmations, and the impact will likely be great on television stations. In other cases, it is not clear whether the

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[31] *See Comments of Verizon Wireless*, ET Docket 03-237 (filed April 5, 2004) at pg. 10 (arguing that unlicensed transmission will be "a pure gamble"). *See also Reply Comments of AT&T Wireless Services, Inc.*, ET Docket No. 03-237 (May 5, 2004) at pg. 4 ("the simple fact is that no set of measurements taken outside the victim receiver can accurately capture the RF environment actually experienced by that receiver."). *See also Comments of Qualcomm Incorporated*, ET Docket 03-237 (filed April 5, 2004) at pg. iv ("an unlicensed transmitter can not possibly know the interference it will cause at all licensed receivers before it transmits since it would have to know both the noise temperature of the licensed receiver and the gain that each licensed receiver has in the direction of the unlicensed transmitter.").

unlicensed devices will be immune from control signals that are unintentionally received outside of the intended unused service area for a particular channel, due to unusual terrain or signal propagation characteristics, e.g., extremely flat land or over bodies of water.

In sum, each of the three proposed methods ignores the reality that, as a high-powered, point-to-multipoint transmission service, the delivery of the television signal is largely reliant upon the propagation of the signal over great distances. For example, in many portions of the country, television service is provided in rugged terrain that includes a multitude of peaks and valleys. Terrain shielding has been known to cause differing reception of television signals by receivers in close proximity. In fact, the Commission considered this factor in adopting the DTV Table of Allotments. Rather than solely utilizing the predictive contours developed in the analog television service rules, the Commission adopted the OET Bulletin 69 method which more accurately measures the reception of digital television signals.[32]

Not only will the unlicensed devices be unable to accurately discern whether television sets in its proximity are currently receiving a useable television signal, these unlicensed devices, both fixed and mobile, will be unable to determine whether the proximate television receivers are experiencing interference from other unlicensed devices in the surrounding area. Considering that television sets come in a wide-array of technical capabilities, operating unlicensed devices will be blind to each other, and to the effect that they have on the television receivers.

The potential impact of an unlicensed device operating on a channel that is otherwise received by a television set can be devastating. The NPRM proposes to allow both the fixed and mobile transmitters to operate with at least a 6 dBi gain antenna that would quadruple the output

[32] *See* Public Notice, DA 04-319 (rel. Feb. 06, 2004)("The Longley-Rice radio propagation model is used to make predictions of radio field strength at specific geographic points based on the elevation profile of terrain between the transmitter and each specific reception point.").

power of the devices.[33] In such circumstances, it is possible that a 400 milliwatt EIRP unlicensed device could cause harmful interference to an area of several city blocks, potentially affecting television reception for hundreds of people. Obviously, the higher-powered fixed-point unlicensed devices could cause substantially greater interference to the reception of a television signal, especially given the wide range of technical capabilities of television receivers.[34]

Thus, it is clear that there are many substantial issues, both technical and operating, that must be addressed prior to the adoption of any technological standard for fixed or mobile unlicensed devices. However, as noted by many parties, prior to the adoption of any technical standard, the Commission must conduct real-world tests to determine the impact on the television industry. These studies cannot be conducted at this time, since the DTV transition is far from complete. Until such time that the DTV transition is completed, the technological proposals made by the Commission will remain unproven.

C. The Commission has not Demonstrated a Pressing Need for These Services in the TV Band.

Finally, absent from the record developed in response to the Spectrum Task Force Report and the NOI is the showing of an immediate need for the adoption of rules to allow the operation

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[33] Intel submitted reply comments in response to the NOI whereby it supported the adoption of rules to permit unlicensed devices to operate in the TV Band. However, the conclusions reached from its various studies are substantially undermined by the fact that it presumed that these devices would operate with only 1 milliwatt, where the Commission has proposed to permit mobile unlicensed devices to operate with 100 milliwatts and fixed unlicensed devices to operate with 1 watt. *See Reply Comments of Intel Corporation*, ET Docket 02-380 (filed May 16, 2003) at pg. 9.

[34] Such concerns are reinforced by recent press accounts of a competition among Wi-Fi users to establish the longest link between two unlicensed devices. As noted therein, two users established a link of "55.1 miles using homebrewed antennas on both ends" utilizing two consumer-grade 32 milliwatt Wi-Fi devices. *SeeWi-Fi Shootout in the Desert*, Wired News (Aug. 3, 2004) (http://www.wired.com/news/culture/0,1284,64440,00.html?tw=wn_tophead_2, last visited August 25, 2004). Clearly, it is highly probable that the world-record established by these users will be shattered if the Commission moves forward with the adoption of rules permitting the operation of 100 milliwatt and 1 watt unlicensed devices, regardless of the impact that such operations would have on the television viewers.

of unlicensed devices in the TV Band.

While it may be understandable that certain parties desire to bring new uses to the TV Band, no one, including the FCC, has demonstrated an overriding need to authorize new services in the TV Band at this time, particularly in light of the outstanding technical and operating issues.[35] Pappas joins Commissioner Adelstein and Commissioner Martin in asking "what is the rush?"[36] In light of other efforts to open up close to 900 MHz of additional spectrum for unlicensed use,[37] it can not be said that the TV Band is the spectrum of last resort for unlicensed

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35 *NPRM*, ¶ 10.

36 *See Separate Statement of Commissioner Kevin J. Martin, NOI, supra* note 6, stating:

> [This] inquiry risks causing significant uncertainty, as licensees must consider the potential for additional interference as well as a new class of users with expectations for spectrum in these already crowded bands. In my view, we ought to concentrate on providing more – not less – certainty, so that licensees can develop rational business plans and move forward expeditiously with the digital transition. At the same time, I am somewhat skeptical of the benefits of opening this inquiry. As part of the digital transition, we have dramatically increased the number of broadcast licenses in the broadcast bands. Particularly in urban areas, such as along the east and west coasts, there is much less broadcast spectrum available within which unlicensed devices could operate effectively.

Commissioner Martin renewed his concern in his Concurring Statement to the NPRM ("I remain concerned about the proceeding's impact on the broadcasters and their transition to digital television."); *See also Statement of Commissioner Jonathan S. Adelstein*, *NPRM*, *supra* note 1, stating:

> Finally, it is worrisome that we are undertaking this proceeding right in the middle of our important digital television transition. I have lingering concerns about the wisdom of allowing unlicensed operations in the vacant television bands before the DTV transition is complete.

Id. (calling for comments on the impact of the timing the rulemaking on DTV transition).

37 *See 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*, 18 FCC Rcd 25,309 (2003)(proposing unlicensed use in the 6525-6700 MHZ, 12.75-13.15 GHz and 13.2125-13.25 GHz bands) . *See also Revision of Parts 2 and 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, Report and Order 18 FCC Rcd 24,484 (2003)(proposing unlicensed use in the 5.470-5.725 GHz band). *See also Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands*, Report and Order, 18 FCC Rcd 23318 (2003). The Commission also has pending a rulemaking to open up 50 MHz of spectrum. *See Unlicensed Operation in the Band 3650-3700 MHz, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band, Amendment of the Commission's Rules With Regard to the 3650-3700 MHz Government Transfer Band*, Notice of Proposed Rulemaking, 19 FCC Rcd 7545 (2004).

use.

The absence of such a demonstration is even more significant given the tenuous nature of the DTV transition. The next five years will be a critical period in the DTV transition. Stations will be selecting their final DTV allotments, constructing their authorized full power facilities, and, at some point in the future, turning off their analog stations. Any uncertainty in the implementation of interference-free DTV service likely will slow the adoption of DTV service by the public. Opening the TV Band to unlicensed devices could cause such uncertainty. The reclamation of analog channels is a high priority for both the Commission and Congress, and any delay caused by the optional licensing of unlicensed devices in the TV Band must be avoided.

CONCLUSION

As the operator of 16 full-power television stations, Pappas has spent much of the past ten years dedicated to the DTV transition. It has been an active participant in the rulemakings to develop the DTV rules, and has made an enormous capital investment in the planning and construction of its digital television facilities.

Pappas has grave concerns about the injection at this critical juncture in the DTV transition of thousands, if not millions, of unlicensed devices in the very spectrum on which it is licensed to operate. This concern is amplified by the undeveloped and untested nature of the technology on which the Commission proposes to rely to protect existing licensed television facilities.

The record developed thus far is devoid of any real-world studies of the efficacy of such technology, studies that must be completed before the Commission takes the next step to authorize unlicensed devices. Rather than adopting the rules proposed in the NPRM, the

Commission should wait until the DTV transition is completed, and then extensively study the real-world performance of the unlicensed devices prior to opening the flood gates to these new devices.

Therefore, Pappas Telecasting Companies urges to the Commission to postpone the consideration of rules to permit the operation of unlicensed devices until after the DTV transition has been concluded, and a reasoned analysis of the impact of unlicensed devices can be completed.

Respectfully submitted,

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