

## 2. Applications To Construct New NTSC Stations

The Commission has ordered that it will no longer accept the tender of applications for new NTSC stations filed after September 20, 1996. 11 FCC Rcd at 10992, 11013. As it processes applications that have been on file since October 24, 1991<sup>48/</sup> and those filed in the 30-day window after the publication of the Notice, the Commission will continue to review requests for waivers of its 1987 freeze order<sup>49/</sup> on a case-by-case basis. Id. at 10992. Not unlike its treatment of NTSC modification applications, the Commission expressly states that it will reserve the right to determine whether the public would be better served if applications are denied, “granted only if amended to specify reduced facilities, or granted only with a condition that limits interference” the new NTSC station could cause. Id.

The Broadcasters Caucus proposes some refinement of the Commission’s processing of applications for new NTSC stations. The Caucus urges the Commission to defer consideration of applications for new NTSC stations, regardless of when such applications were filed, until after the DTV table is adopted and a limited period has been permitted for the adjustment process described above to begin. Thereafter, the Commission should take up consideration of these NTSC applications. Grants of any NTSC applications should be conditioned on the DTV table -- that is to say, the new

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<sup>48/</sup> The Notice states that (the approximately ten) pending new-station applications that had been on file since before October 24, 1991, would be included in the DTV table. 11 FCC Rcd at 10992 n.60.

<sup>49/</sup> In 1987, the FCC implemented a “freeze” on applications to construct new NTSC stations. See Order, Advanced Television Systems and Their Impact on the Existing Television Broadcast Service, 52 Fed. Reg. 28346 (July 29, 1987). The order froze the TV Table of allotments in certain metropolitan areas. It was intended to preserve spectrum for digital television. Entities wishing to construct new stations in these areas have since applied for a “waiver” of that freeze.

NTSC stations should not be allowed to cause interference to the new DTV channels.

Moreover, the Commission should give due consideration to the new stations' potential impact on flexibility (such as the impact on bona fide requests for adjustments to DTV channels or facilities) and maximization in the DTV implementation process.<sup>50/</sup>

In the event a proposed NTSC allotment does impede the implementation of DTV, the Commission should consider whether another channel for the new NTSC station is available in the applicable market, subject to the same conditions.<sup>51/</sup>

In short, the launching of DTV and the refinement of the DTV table must take precedence over the processing of applications for new NTSC stations. Indeed, the Commission's express reservation of its right to deny or condition these applications reflects such a view. The task of processing all of the NTSC applications on file and finalizing the DTV table is a difficult one. The Caucus' proposal, however, will allow the Commission to evaluate NTSC applications efficiently and fairly while simultaneously permitting it to proceed with resolving other issues raised in the Notice and with finalizing the table.

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<sup>50/</sup> Between October 21, 1991, and July 25, 1996, 300 applications were filed for approximately 100 new stations, according to the Commission. 11 FCC Rcd at 10992. Our count indicates that between July 25 and September 20, 1996, 129 applications were filed for 104 new stations. In light of the tremendous volume of applications for new NTSC stations that were filed after the Notice was issued, we urge the Commission to be vigilant in its evaluation of applications and be wary of parties who filed simply to reserve spectrum (both NTSC and DTV), with no intention of constructing and operating an NTSC station.

<sup>51/</sup> The Caucus' proposal for the processing of applications for new NTSC stations assumes the adoption by the Commission of adequate interference specifications.

**IV. THE PUBLIC SAFETY COMMUNITY HAS NOT PRESENTED VIABLE PROPOSALS FOR USING BROADCAST SPECTRUM TO SOLVE PUBLIC SAFETY SPECTRUM NEEDS**

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**A. Summary of Public Safety's Perceived Needs Over the Next Two Decades**

The Commission and the National Telecommunications and Information Administration (“NTIA”) established the Public Safety Wireless Advisory Committee (“PSWAC”) in 1995, to study and provide recommendations regarding the wireless communication needs of public service agencies throughout the country. PSWAC submitted its Final Report to the Commission in September of 1996, identifying two primary problems in public safety’s spectrum allocation.

First, PSWAC asserts that there is a spectrum shortage for public safety operations, particularly in highly congested urban areas.<sup>52/</sup> Expressing concern about population growth and demographic changes,<sup>53/</sup> PSWAC requests an additional allocation of 2.5 MHz (requesting spectrum between 138 MHz and 512 MHz) now, an additional 25 MHz in five years (requesting use of broadcast channels 60-69), and an additional 70 MHz in 15 years.<sup>54/</sup>

Second, PSWAC expresses a concern over “hampered interoperability” among public safety operations and describes how public safety officials in different

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<sup>52/</sup> See Final Report of the Public Safety Wireless Advisory Committee to the Federal Communications Comm’n and the Nat’l Telecommunications and Info. Admin. (Sept. 11, 1996) (“PSWAC Report”), at 2.

<sup>53/</sup> *Id.* at 20.

<sup>54/</sup> *Id.* at 3, 21. In addition to arguing that public safety should be granted access to portions of the unused spectrum in channels 60-69, PSWAC wants increased “sharing” of unused TV channels nationwide below 512 MHz and argues that it should be allowed to share the 1710-1755 MHz band with federal users and then should be permanently allocated that band after the year 2004. In addition, PSWAC states that public safety should be allocated the portion of the spectrum between 4635 and 4685 MHz. *Id.* at 21-22.

agencies and different jurisdictions are limited in their ability to communicate with each other.<sup>55/</sup> PSWAC cites a variety of explanations for this problem, including “fragmentation” of the public service spectrum;<sup>56/</sup> the use of incompatible radio equipment;<sup>57/</sup> a failure of public safety agencies to implement available technological advancements;<sup>58/</sup> and inadequate funding.<sup>59/</sup> Among the solutions PSWAC urges to solve the interoperability problem are the concentration of public safety operations in fewer bands nationwide; the use of shared systems; and the construction of gateways between technologically incompatible systems.<sup>@</sup> PSWAC also argues strenuously for block allocations, arguing that narrow banding does not provide public safety agencies with the necessary flexibility to use spectrally efficient technology.<sup>61/</sup>

Although the heart of PSWAC’s recommendations is more spectrum and block allocations for public safety, the PSWAC Report also highlights other ways to approach the problems it sees facing the public safety community. Most significantly, PSWAC argues in several places that alternative methods of funding future public safety communications systems must be identified. It suggests, in particular, both matching

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<sup>55/</sup> See id. at 19.

<sup>56/</sup> Id. at 15, 19.

<sup>57/</sup> See id. at 2.

<sup>58/</sup> See id.

<sup>59/</sup> See id. at 4, 27.

<sup>60/</sup> See id. at 3, 23-24, 52.

<sup>61/</sup> See id. at 23, 52.

funds and block grants.<sup>62/</sup> The Report also notes the changing role of commercial services in the provision of public safety services and is optimistic that eventually many public safety requirements can be met by commercial mobile radio services companies.<sup>63/</sup> Finally, PSWAC recognizes the inefficiencies of some operations and encourages the public safety community to evaluate and explore technologies and procedures that will result in improved spectrum efficiency.<sup>64/</sup>

We are encouraged by PSWAC's support of alternative funding, increased use of commercial services, and, in particular, its goal to make public safety use of the present spectrum more efficient. Many broadcasters have long felt that the perceived problems facing the public safety community could and should be addressed through land mobile technological improvements and improved efficiency, as well as through spectrum allocations that share the burden for meeting public safety's needs among all the relevant industries.<sup>65/</sup> As discussed below, the Caucus believes that broadcasters should work with the public safety community and others to explore spectrum use and options to come to some kind of accommodation of public safety's needs. In the meantime, the proposals that the public safety commenters have proffered are not

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<sup>62/</sup> See id. at 4, 24.

<sup>63/</sup> See id. at 21, 25-26.

<sup>64/</sup> See id. at 19, 27

<sup>65/</sup> See, e.g., Reply Comments of the Association for Maximum Service Television, Inc., PR Docket No. 92-235 (Jan. 5, 1996); Reply Comments of MSTV, PR Docket No. 91-170 (Mar. 16, 1992). For example, New York area broadcasters reached agreements with public safety groups to permit the use of channel 16 for public safety operations, as long as the channel was used efficiently. Thus far, however, it appears that the public safety organizations in this area have failed to implement compression technologies that will make more efficient use of the channel.

technically viable and would, in fact, exacerbate many of the problems about which the public safety commenters complain.

**B. Proposals to Increase Public Safety Sharing/Spectrum**

Comments were filed by national and international public safety organizations as well as by public safety groups largely from seven states -- Arizona, California, Delaware, Illinois, New Jersey, New York, and Pennsylvania. In general, these comments advocate two proposals for accommodating public safety's needs in the short- and long-terms: (1) continued protection of operations within the broadcast spectrum (channels 14-20) combined with increased sharing of spectrum between broadcasters and public safety; and (2) additional spectrum allocations for public safety carved from broadcast operations. The proposal to increase interservice sharing would cause unacceptable interference to viewers during the DTV transition in the major markets, and would not, in fact, satisfy the critical needs of the public safety community. The second proposal for additional spectrum has not yet been fully studied and, as tentatively proposed, would stymie the ability of the Commission to roll out the DTV service as efficiently as possible and would result in less service for the public.

**1. Interservice Sharing**

The majority of public safety commenters advocate the protection of land mobile operations in the eleven major markets in which land mobile and broadcasters share channels 14-20,<sup>66/</sup> and many call for the Commission to consider expanding

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<sup>66/</sup> See, e.g., Comments of County of Los Angeles, at 9; California Dep't of Gen. Servs., Telecomms. Div., at 8-9; Ass'n of Public-Safety Communications Officials-Int'l, Inc. ("APCO"), at 17-18; Major Cities Chiefs, at 2; Int'l Assoc. of Chiefs of Police, at 3; New York Metro. Advisory Comm., at 10-11; see also Comments of UTC, at 8-11; Land Mobile Communications Council, at 12.

interservice sharing in order to accommodate growing public safety spectrum and interoperability demands.<sup>67/</sup> The commenters, in particular, take issue with a large number of the Notice's proposed DTV assignments in the 14-20 range. Proposed DTV assignments in and near congested areas, they argue, will cause unacceptable interference to land mobile operations due to, for example, violations of the Commission's co-channel and adjacent channel spacing requirements. These commenters therefore urge the Commission to protect land mobile operations by changing FCC DTV Table channel assignments in such congested areas as the San Francisco and Los Angeles metropolitan areas and the greater New York metropolitan area (including various locations in Connecticut, New Jersey, Rhode Island, and Pennsylvania).@ Not surprisingly, the commenters also support the continued use of channel 20 in Philadelphia for land mobile uses.@

As both Broadcasters and the Commission recognize, the unavoidable reality is that the use of channels 14-20 for DTV in certain areas is necessary to accommodate all eligible broadcasters and to minimize disruption to the public's television service during the transition. In fact, it is in the very regions where

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<sup>67/</sup> See, e.g., Comments of City of Mesa, Arizona, at 2-3; Int'l Assoc. of Chiefs of Police, at 3; APCO, at 16.

<sup>68/</sup> See, e.g., Comments of Int'l Assoc. of Chiefs of Police, at 3; Borough of Sayreville, at 2; APCO, at 17; California Dep't of Gen. Servs., Telecomms. Div., at 2-3; County of Los Angeles, at 9-10; Jackson Township Police Dep't, at 2; Uwchlan Township, at 2-3; Washington Township Fire Dist., at 1; Police Dep't, Township of Fairfield, at 1; Security Guards, Inc., at 2-3; New York Police Dep't, at 3-10.

<sup>69/</sup> See, e.g., Comments of APCO, at 18; Jackson Township Police, at 3; Borough of Wenonah, at 1; Borough of Sayreville, at 3; Security Guards, Inc., at 2-3. The Broadcasters Caucus continues to believe that Channel 20 in Philadelphia is vital for the transition to DTV, as more fully explained in the Broadcasters' Comments. See Broadcasters' Comments, at 45-46.

inter-service sharing occurs that broadcast channels are most scarce. Thus, out of necessity, the Modified Table, like the FCC DTV Table, includes in various markets DTV assignments on channels 14-20. The spacing requirements proposed by the Broadcasters and incorporated into the Modified Table are based on test data from the Commission's Advisory Committee on Advanced Television System ("ACATS") and should provide sufficient protection for both television stations and land mobile operations in channels 14-20. Further, as with other aspects of the DTV table, market-by-market adjustments can be made throughout the transition should real-world data show the need for fine-tuning.

With respect to increasing interservice sharing on channels 14-20, no public safety commenter provides any studied, viable way to accommodate such a feat during the DTV transition.<sup>3'</sup> This is not surprising. The effort to provide all existing broadcasters with DTV channels so that the public experiences minimal loss of service during the transition temporarily leaves, as a practical matter, no room to increase land mobile operations in the already congested spectrum below 512 MHz. Interservice sharing on channels 14-20, a spectrum solution which was originally intended only as a temporary measure, is an inefficient merging of two incompatible services. Indeed, the inefficiency of such sharing is evidenced by the very complaints in the above-described public safety comments, as well as in some broadcasters' comments. Increasing such

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<sup>30/</sup> It is worth noting as well, that, although the public safety commenters seek greater protection for their operations in the broadcast spectrum than what was provided in the FCC DTV Table and alternative DTV channel assignments for certain stations they believe will cause land mobile interference, the commenters provide no specific adjustments.

sharing during this critical and highly stressed DTV transition period would only increase, not improve, interference problems.

By contrast, as suggested in part by the PSWAC Report, reducing further fragmentation of public safety spectrum and new block allocations would lead to significant reductions in public safety's interoperability problems. Once the transition is completed, and broadcast channels repacked, blocks of spectrum can be released and made available for public safety and other uses.<sup>71/</sup> In the meantime, as noted in the Broadcasters' Comments, the Caucus urges the Commission to consider moving commercial land mobile operations out of channels 14-20 during the transition, particularly from those channels that are lightly used. One of the two channels now allocated for land mobile use in various markets could be made available solely to public safety services; the other could be used to increase channel flexibility during the transition. Land mobile services not related to public safety could make use of the allocated frequencies in the 800 and 900 MHz bands and in the newly allocated PCS spectrum.<sup>72/</sup>

## **2. Transferring Spectrum to Public Safety Operations**

Repeating the calls of the PSWAC Report, the public safety community commenters favor reallocating UHF broadcast television channels in 60-69 and making

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<sup>71/</sup> In addition, the 2.3 GHz auction may provide further spectrum to meet some of public safety's needs. See, e.g., In Re Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service, 1996 FCC Lexis 6302 (Nov. 12, 1996).

<sup>72/</sup> See, e.g., Broadcasters' Comments, at 45-46.

all or portions of this spectrum available for public safety operations as soon as possible.<sup>73/</sup> This spectrum, many assert, would be “ideal” for land mobile operations. They argue that proposed DTV allotments in channels 60-69 must therefore be completely eliminated or at least reduced.<sup>74/</sup> Furthermore, they argue, LPTV and translator stations operating in this spectrum should be required to cease operations or relocate.<sup>2</sup>

The call for more spectrum does not end with proposals to make use of channels 60-69. Some public safety commenters also advocate additional spectrum for land mobile operations in the high VHF and/or low UHF channels. Specifically, the commenters urge the Commission to condense the core spectrum even further by allotting VHF channels 7 and/or 8 to public safety operations and/or by reallocating to public safety all or some of channels 14-20.<sup>76/</sup>

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<sup>73/</sup> See, e.g., Comments of City of Mesa, at 1; Carlstadt Police Dep’t, at 1; Major Cities Chiefs, at 2; Int’l Municipal Sign Ass’n; at 3-4, 6-7; County of Gloucester, at 1; County of Los Angeles, at 6; New Providence Police Dep’t, at 1; APCO, at 11-12; Int’l Ass’n of Chiefs of Police, at 3; Illinois State Toll Highway Authority, at 1; Uwchlan Township, at 1-2 see also Comments of The Forestry-Conservation Communications Ass’n, at 2-3 (Nov. 26, 1996) (supporting reallocation of portions of 60-69 to public safety but noting that 60-69 will not satisfy forestry conservation needs due to poor propagation characteristics in heavy foliage).

<sup>74/</sup> APCO urges that, to the extent DTV allotments must be placed in 60-69, the Commission should enforce “strict deadlines” by which stations must commence DTV or surrender their DTV channel and should attempt to concentrate DTV allotments on particular channels within 60-69. See Comments of APCO, at 12.

<sup>75/</sup> See, e.g., Comments of APCO, at 13 (urging cessation of LPTV operations in metropolitan areas in particular; County of Los Angeles, at 8. Some commenters also vigorously oppose any requirement that public safety organizations be required to compensate displaced LPTVs or translators. See, e.g., Comments of APCO, at 13-14; County of Los Angeles, at 8.

<sup>76/</sup> See, e.g., Comments of California Dep’t of Gen. Servs., Telecomms. Div., at 8-9 (urging that the core spectrum be defined as channels 2-5, 9-13, and 21-56); City of Mesa, Arizona, at 2; APCO, at 16 (favoring exclusion of channel 7 from the core plan); County of Los Angeles, at 2; Forestry-Conservation Communications Ass’n, at 2-3; see also Comments of Ericsson Inc., at 11-13 (seeking the use of channels 7 and 8 and 14-18 for land mobile operations).

Although the growing need for more public safety spectrum cannot be dismissed, proposals that would displace broadcasters and move public safety operations into channels 60-69, and even into high VHF or low UHF channels, before the transition is complete have not been technically supported and would greatly diminish the ability of the Commission and broadcasters to provide DTV service with minimal interference to the public.

First, it simply is not technically feasible to eliminate all DTV and NTSC assignments in the 60-69 range, as well as in the upper VHF and lower UHF band, at this time. Under both the Modified Table and the FCC DTV Table, these channels must be used to accommodate eligible broadcasters and to maintain free over-the-air service to the public. Even under the core plan, for example, channels 60-69 must be used for at least 37 DTV assignments (increasing to 51 with the non-core channel corrections Broadcasters proposed),<sup>77/</sup> as well existing NTSC stations.

Second, it appears from the PSWAC Report that the public safety community does not need the entire 60-69 spectrum in the near-term in any case. Citing the need for 25 MHz of new spectrum in five years (as opposed to as much as an additional 70 MHz in the long term), the Report only calls for taking over *portions* of the 60-69 spectrum.<sup>78/</sup>

Third, and of greatest import, the loss of channels 60-69 for broadcasting (not to mention channels in the upper VHF and lower UHF band) would seriously injure

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<sup>77/</sup> See Broadcasters' Comments, at 41 n.95.

<sup>78/</sup> See PSWAC Report, at 3, 21-23. In fact, at one point in the Report, the key recommendations include granting public safety access to "portions of the unused spectrum" in channels 60-69. *Id.* at 2 1.

the nation's television service and impede the transition to DTV. For example, Broadcasters' Comments, supported by many LPTV and translator stations,<sup>79/</sup> indicate that 1732 of the approximately 1850 LPTV and translator stations in channels 60-69 would be eliminated if these channels were reallocated to other uses. By contrast, the Modified Table would displace 63% fewer LPTV and translator stations than would a plan which eliminates 60-69.<sup>80/</sup> In addition, as described in detail in Part II and in the Broadcasters' Comments, the core plan as proposed in the Notice would lead to significant interference to full power stations and would reduce replication and flexibility.<sup>81/</sup> If the Modified Table were adopted and the full broadcasting spectrum used, new interference to NTSC service areas would decrease by 18 % as compared to the Baseline FCC DTV Table (that is, the table based on the FCC DTV Table but corrected to use the same planning factors as the Broadcasters' Modified Table without altering the core channel concept) ("Baseline FCC DTV Table").<sup>82/</sup> DTV interference would be reduced by 28% .<sup>83/</sup> Interference and loss of flexibility would be greatly exaggerated if the Commission further reduced and/or eliminated before the transition is complete broadcasting assignments in channels 60-69 and in the upper VHF and lower UHF band in order to accommodate public safety.

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<sup>79/</sup> See, e.g., Comments of Abacus, at 13; Eagle Communications, at 2; Trinity Broad., at 2.

<sup>80/</sup> See Broadcasters' Comments, at 33-34.

<sup>81/</sup> Id. at 27.

<sup>82/</sup> Id. 17, 26-27.

<sup>83/</sup> Id.

The Broadcasters Caucus recognizes that the need for more spectrum for public safety is a serious and pressing issue. As stated above, it will continue to examine the issue of spectrum efficiency and public safety allocations within and beyond the broadcast spectrum and will make every effort to provide the Commission with spectrum proposals that support public safety but do not impede the DTV transition.

**V. LAND MOBILE INDUSTRY PROPOSALS WOULD RESULT IN A VAST INCREASE OF INTERFERENCE TO EXISTING AND DTV SERVICE**

A number of commercial land mobile commenters echo the proposals of public safety, which are addressed above.<sup>84/</sup> Among these entities, Motorola submitted the most developed proposal for constricting the core band and reallocating channels 60-69 for land mobile use. However, this proposal is unsupported by any interference studies and would have a disastrous effect on the broadcast system. Moreover, the allotment/assignment plan Motorola proposes would, by its own admission, do very little to free up spectrum for land mobile operations unless existing stations were also displaced from channels 60-69<sup>85/</sup> -- a prospect that is beyond the scope of this proceeding and, as set forth in more detail in Part IV, would significantly impair both existing service and the transition to DTV.

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<sup>84/</sup> See Comments of Ericsson, Inc., at 3-13; Land Mobile Communications Council, at 6-10, 12-16; Motorola, at 7-14; Tu-Way Mobile Communication, Inc., at 1-3; UTC, at 5-11; AC Transit, at 2-3. Some commenters, however, point out that the use of channels 60-69 may not solve critical needs of all land mobile operations. See Comments of California Dep't of Gen. Servs., Telecomms. Div., at 7 (seeing no value in channels 60-69 for meeting California land mobile needs); University of Pennsylvania, at 2 (not supporting reallocation of its facilities to channels 60-69 because such channels fail to provide same degree of signal intensity and reliability).

Motorola proposes DTV assignments that “better protect land mobile and TV operations” in the eleven major markets in which the services share channels 14-20.<sup>86</sup> In doing so, however, Motorola proposes no reasoned land mobile protection criteria nor does it present any data to justify the proposals. Although, as noted in Part IV, it may be desirable to revisit the TV-land mobile protection criteria in the DTV environment, such exploration should not delay the DTV licensing proceeding. This is especially true given the large number of changes that will have to be made to any “final” DTV table. Motorola’s concerns with channels 14-20, moreover, further support the contention that interservice sharing does not work and does not foster efficient spectrum management. As discussed in Part IV, rather than reducing television service in the major markets and further aggravating a sharing arrangement which does not work, land mobile should begin to migrate out of channels 14-20 so that this spectrum may be devoted to DTV or public safety services during the transition.

Motorola also proposes to reduce DTV assignments in channels 60-69 in order to free these channels for land mobile use. It asserts that, according to its analyses, the number of DTV allotments in channels 60-69 can be reduced by allowing short-spacing between co-channel DTV allotments.<sup>87</sup> Again, Motorola provides no interference or coverage analyses to support this plan. It is difficult to compare Motorola’s “Solution I” plan with Broadcasters’ Modified Table because Motorola’s table contains violations of basic channel assignment principles that would have to be

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<sup>86/</sup> Id. at 13.

<sup>87/</sup> See id. at 8-12.

corrected even if its channel 60-69 proposal were adopted.<sup>88/</sup> This limitation aside, a preliminary assessment of Motorola's "Solution I" plan suggests that adoption of Motorola's plan would have the following effects:

- 23 violations of Mexican and Canadian co-channel and adjacent channel spacing requirements;
- 3 violations of the prohibition against assigning channels 3 and 4 in the same market;
- 32 violations of Broadcasters' adjacent channel assignment requirement (that is, the requirement that DTV channels assigned adjacent to NTSC channels in the same market be collocated and assigned to the same licensee) ;<sup>89/</sup>
- New interference to NTSC stations would increase from 324,003 sq. km under the Modified Table to 434,080 sq. km under Motorola's table. This is a 35% increase over the Modified Table and a 14 % increase over the Baseline FCC DTV Table;
- 6 million more people would experience new NTSC interference under Motorola's proposed approach than under the Modified Table approach;&'
- New DTV interference would increase from 370,600 sq. km under the Modified Table to 504,732 sq. km under the Motorola Table. This is a 36% increase over the Modified Table and a 10% increase over the Baseline FCC DTV Table;
- 29 million more people would experience DTV interference under Motorola's proposed approach than under the Modified Table approach;

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<sup>88/</sup> As noted before, to enable a valid comparison with the FCC DTV Table, Broadcasters created a Baseline Table using the FCC DTV Table's approach but conforming certain basic channel assignment assumptions. See Broadcasters' Comments, at 17, 26-27.

<sup>89/</sup> See id. at 21-23.

<sup>90/</sup> See id. at 27 n.54.

Contrary to its unsupported assertions, Motorola's proposal would in fact impose "materially higher costs for broadcasters."<sup>91/</sup> Furthermore, it would impose higher costs on the American public that would see its existing service interfered with and the new DTV service significantly reduced.

**VI. THE PLANNING FACTORS UNDERLYING THE MODIFIED TABLE REFLECT BEST PRACTICES AND NINE YEARS OF TESTING**

The Association of Federal Communications Consulting Engineers ("AFCCE") submitted comments reviewing the engineering and scientific foundations of the FCC DTV Table. In addition to summarizing the planning factors recommended by ACATS,<sup>92/</sup> AFCCE submits a detailed proposal of alternative planning factors<sup>93/</sup> and recommends the reestablishment of the Television Allocations Study Organization (i.e., a "TASO II") to refine the planning factors it proposes.

The Caucus continues to urge that the licensing of the DTV service go forward without further delay on the basis of the detailed knowledge that exists today so that the transition can begin. The Caucus does anticipate further refinement of the principles underlying the Modified Table and has agreed to interim adjustments until more data can be gathered (see Section C of Part II). It also supports the efforts of AFCCE and others to continue to review and examine the factors underlying the DTV table and will be working on improving the prediction methodology with the help of AFCCE. The Commission may find it appropriate to revisit some of its planning

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<sup>91/</sup> Comments of Motorola, at 16.

<sup>92/</sup> Comments of AFCCE, at 3-6.

<sup>93/</sup> See *id.* at 7-10 and Attachment.

principles in several years (particularly the adequacy of predicted power levels and service reliability) when stations have implemented DTV and more data are available. The Commission should not, however, delay adoption of the table and the transition in order to study further foundational assumptions which have been under consideration for years.

**VII. THE COMMISSION SHOULD PROMPTLY REVISIT THE PROPOSED EMISSION MASK UPON COMPLETION OF ATSC TESTS**

As discussed in the Broadcasters' Comments, ATSC has not yet completed its investigation of the proposed RF mask for DTV stations. Tests conducted last year, however, suggest that the mask proposed by the Commission will not be stringent enough to provide sufficient protection to adjacent NTSC channels.<sup>94</sup> While ongoing testing of the effect of DTV transmitters on NTSC reception and the measurement of DTV spectral shape has shown that adjacent channel operation is practical, testing still has not confirmed what the appropriate frequency mask for all DTV transmitters should be. The Caucus urges the Commission to proceed with the assignment of DTV channels while the ATSC continues its work to define the appropriate protection criteria for DTV. At such time as the ATSC completes its work, the Commission should then revisit its transmitter mask proposal.

**CONCLUSION**

For the reasons set forth above, the Commission should proceed forward with finalizing and releasing a DTV table so that the transition can begin. Specifically, the Commission should adopt the Broadcasters' DTV planning principles underlying the

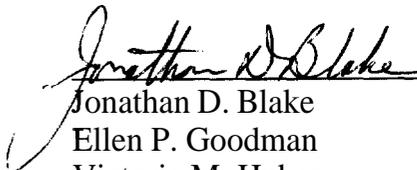
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<sup>94</sup> See Broadcasters' Comments, at 60.

Modified Table, recognizing the need for flexibility, as well as the industry-supported proposal concerning DTV power levels. To facilitate finalizing the DTV table, the Caucus further urges the Commission (1) to adopt the proposals set forth above for processing applications to modify existing NTSC stations and to construct new ones and (2) to act swiftly on the Caucus Petition for Further Notice of Proposed Rulemaking so that a coordination process is established prior to the release of the final DTV table.

Respectfully submitted,

ASSOCIATION FOR MAXIMUM SERVICE  
TELEVISION, INC.

  
Jonathan D. Blake  
Ellen P. Goodman  
Victoria M. Huber  
Erika F. King  
Covington & Burling  
120 1 Pennsylvania Avenue, NW  
Post Office Box 7566  
Washington, DC 20044  
Phone: (202) 662-6000  
Fax: (202) 662-6291

  
Victor Tawil *JDS*  
Senior Vice President  
Association for Maximum Service  
Television, Inc.  
1776 Massachusetts Avenue, NW,  
Suite 310  
Washington, DC 20036  
Phone: (202) 861-0344  
Fax: (202) 861-0342

Its Attorneys

ASSOCIATION OF AMERICA'S  
PUBLIC TELEVISION STATIONS

/s/ Marilyn Mohrman-Gillis

Marilyn Mohrman-Gillis  
Vice President, Policy and  
Legal Affairs  
1350 Connecticut Avenue, NW  
Washington, DC 20036  
Phone: (202) 887-1700  
Fax: (202) 293-2422

ABC, INC.

/s/ Sam Antar

Vice President, Law and Regulation  
77 West 66th Street  
16th Floor  
New York, New York 10023  
Phone: (2 12) 456-6222  
Fax: (212) 456-6202

CHRIS-CRAFT INDUSTRIES, INC.

/s/ John C. Siegal

John C. Siegal  
Senior Vice President  
650 California Street  
San Francisco, CA 94108  
Phone : (4 15) 249-4405  
Fax: (415) 397-1924

ASSOCIATION OF LOCAL  
TELEVISION STATIONS, INC.

/s/ James J. Popham

James J. Popham  
Vice President & General Counsel  
1320 19th Street, NW  
Suite 300  
Washington, DC 20036  
Phone: (202) 887- 1970  
Fax: (202) 887-0950

CBS, INC.

/s/ Mark W. Johnson

Mark W. Johnson  
Associate General Counsel  
600 New Hampshire Ave., NW  
Suite 1200  
Washington, DC 20037  
Phone: (202) 457-45 13  
Fax: (202) 457-46 11

NATIONAL ASSOCIATION OF  
BROADCASTERS

/s/ Henry L. Baumann

Henry L. Baumann  
Executive Vice President &  
General Counsel  
1771 N Street, NW  
Washington, DC 20036-2891  
Phone: (202) 429-5458  
Fax: (202) 429-3526

NATIONAL BROADCASTING  
COMPANY, INC.

/s/ Michael J. Sherlock  
Michael J. Sherlock  
Executive Vice President,  
Technology  
30 Rockefeller Plaza  
Suite 1022  
New York, New York 10112  
Phone: (212) 664-4444  
Fax: (212) 664-7070

PUBLIC BROADCASTING SERVICE

/s/ Paula A. Jameson  
Paula A. Jameson  
Senior Vice President  
General Counsel and Secretary  
1320 Braddock Place  
Alexandria, VA 22314  
Phone: (703) 739-5464  
Fax: (703) 739-5358

TRIBUNE BROADCASTING COMPANY

/s/ Dennis FitzSimons  
Dennis FitzSimons  
Executive Vice President  
435 N. Michigan Avenue  
Chicago, IL 60611  
Phone: (312) 222-9100  
Fax: (312) 222-4206

January 24, 1997

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, DC 20554

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Federal Communications Commission  
Office of Secretary

Cost Models in )  
Universal Service Notice ) CC Docket No. 96-45  
of Proposed Rulemaking ) DA 97-98

**COMMENTS OF SPRINT CORPORATION ON STAFF WORKSHOPS**

I. INTRODUCTION

On January 14 and 15, 1997, the staff of the Federal-State Joint Board on universal service (“Staff”) conducted workshops relating to the selection of a proxy cost model for determining the cost of providing the service supported by the universal service support mechanism. The focus of the workshops was the three proxy cost models that were submitted for consideration at the workshops. Sprint appreciates the effort expended by the FCC, its staff, and panel participants in enabling an exchange of information in this critical aspect of implementing the Telecommunications Act of 1996.

By Notice dated January 17, 1997,<sup>1</sup> the Commission provided that interested parties may comment on the discussions conducted through the workshops or supplement the record developed with regard to issues raised at the workshops. Comments are to be filed by January 24, 1997. Sprint Corporation (“Sprint”) hereby submits its comments in this regard.

II. MODEL ALGORITHMS

Although model inputs may constitute the greatest differences, in terms of cost estimates, between the models put on the record, it is critical that the Commission not lose sight of the fundamental differences between the models in terms of network design.

As evidenced by all four panels, it is clear that any model must be subjected to a rigorous validation by a neutral, third party. First and foremost, that validation must assess the model’s claims and determine if the model actually produces the network that it claims to produce. Does the network “built” by the model actually produce the services required by section 254 of the Act? Does the network actually meet the quality of service standards now demanded by the American public? Does the network “built” by the model replicate the appropriate portions of the existing public switched network? Does the model address the data of all local exchange carriers in the country?

<sup>1</sup>Federal-State Joint Board on Universal Service, Staff Workshoos on Proxv Cost Models, CC Docket No. 96-45, DA-97-98 (released January 15, 1997).

*OHY*

Sensitivity analyses should also be performed on the competing models. Care should be exercised to insure that changes in critical inputs cause reasonable and directionally correct changes in the outputs. If not, the algorithms of the model must immediately become suspect.

There are many ways in which input can be requested to assist in the validation of the networks created by the model. The FCC may choose to request input **from** incumbent local exchange carriers, new entrants, interexchange carriers, and/or engineering firms that design networks for all types of firms. The upcoming opportunity for comment on the FCC staff analysis of proxy models may provide a forum for gathering such input.

One can have the most accurate inputs possible, but without the appropriate treatment of those inputs by the chosen model, perfect input will still yield incorrect outputs. It is critical that the models be subjected to stringent tests prior to one being chosen.

### III. MODEL INPUTS

Although **often** spoken of in the same breath as model algorithms, model inputs are indeed different. All input should be made public and **fully** documented. The BCPM used the best available input, but is certainly open to suggestions for improvement.

Much has been said about switch prices, fill factors, forward-looking economic depreciation lives, cost of capital, and sharing percentages. It is now time for the FCC to become more directly involved and place some boundaries on those critical inputs. Sprint would suggest the FCC seek price data from switch vendors, offering them assurances the data will remain proprietary. Without this information, the incumbents, new entrants, and creators of models are hamstrung in their ability to accurately reflect switching costs -- a key component in any model.

It is also time for the FCC to come forward and give some guidance about the acceptable levels of economic depreciation lives, fill factors, and structure sharing percentages. To move the debate forward on some of the debates on inputs, the FCC must now provide some guidelines.

### IV. CONCLUSION

Sprint feels strongly the BCPM is the far superior model. BCPM is much more rigorous in its investment logic; it is much more precise in its treatment of variable conditions (e.g. terrain, soil, density, et al.); it is much more realistic in its approach to the cost of capital; it is much more flexible; and it is much more granular in its approach to units of geography. To reiterate, we will place the model, all of its inputs, and all of its formulae on the record. Everything is available to

all for review. We are eager to have such scrutiny and look forward to public validation of the model.

Respectfully submitted,

SPRINT CORPORATION

By 

Jay C. Keithley  
1850 M Street N.W.  
su. 1100  
Washington, DC 20036-5807  
(202) 857-1030

Joseph P. Cowin  
P. O. Box 11315  
Kansas City, MO 64 112  
(913) 624-8680

Its Attorneys

January 24, 1997

## **CERTIFICATE OF SERVICE**

I, Melinda L. Mills, hereby certify that I have on this **24<sup>th</sup>** day of January, 1997, sent via U.S. First Class Mail, postage prepaid, or Hand Delivery, a **copy** of the foregoing "Comments of Sprint Corporation, in the Matter of Federal-State Joint Board on Universal Service - Proxy Model Workshops on January 14-15, 1997, CC Docket No. 96-45, filed this date with the Acting Secretary, Federal Communications Commission, to the persons on the attached service list.

  
Melinda L. Mills

The Honorable Reed Hundt  
Chairman  
Federal Communications Commission  
2919 M Street, NW--Room 814  
Washington, DC 20554

The Honorable Rachelle Chong  
Commissioner  
Federal Communications Commission  
1919 M Street, NW -- Room 844  
Washington, DC 20554

The Honorable Susan Ness  
Commissioner  
Federal Communications Commission  
1919 M Street, NW --Room 832  
Washington, DC 20554

The Honorable Julia Johnson  
Commissioner  
Florida Public Service Commission  
Capital Circle Office Center  
2540 **Shumard** Oak Blvd.  
Tallahassee, FL 32399-0850

The Honorable Kenneth McClure  
Vice Chairman  
Missouri Public Service Commission  
301 W. High Street, Suite 530  
Jefferson City, MO 65 102

The Honorable Sharon L. Nelson  
Chairman  
Washington Utilities and Transportation **Comm.**  
P.O. Box 47250  
Olympia, WA 98504-7250

The Honorable **Laska Schoenfelder**  
Commissioner  
South Dakota Public Utilities Commission  
500 E Capital Avenue  
Pierre, SD 57501

Martha Hogerty  
Public Counsel for the State of Missouri  
P.O. Box 7800  
Harry S. Truman Building, Room 250  
Jefferson City, MO 65 102

Paul Pederson  
State **Staff** Chair  
Missouri Public Service Commission  
P.O. Box 360  
Truman State Office Bldg.  
Jefferson City, MO 65 102

Charles Bolle  
South Dakota Public Utilities Commission  
State Capital, 500 E. Capital Avenue  
Pierre, SD 57501-5070