

modifications. For example, frequency coordination of the 2 GHz BAS band has long been entrusted to private coordinators, such as SBE. The Commission also notes that the band 1990–2110 MHz supports a mix of mobile TV pickup (TVPU) stations and fixed links and that BAS stations are currently transitioning to narrower channels in the band 2025–2110 MHz, to accommodate new services in the 1990–2025 MHz segment. In addition, because each local TV market may transition to a new BAS channel plan at different times, local frequency coordinators may be in the best position to assess requests that affect local operating conditions. Thus, the Commission proposes to require that, prior to submitting applications for the authorization of the 11 earth stations to the Commission through the FAS, DOD frequency coordinators and technical representatives work with the local frequency coordinator (in most cases, this would be SBE) and the affected BAS licensees to ensure that the DOD operations not cause interference to incumbent non-Federal Government operations. Further, the Commission proposes that operation of these earth stations in the band 2025–2110 MHz not be authorized in the absence of successful coordination between the affected parties. The Commission expects that it may be necessary to jointly establish with NTIA other non-standard coordination procedures during the course of this proceeding. The Commission seeks comment on coordination procedures that can be implemented which will ensure that both fixed and mobile BAS stations are adequately protected and accommodate the introduction of Federal earth stations in this band. The Commission acknowledges that the short separation distances identified above present coordination challenges. The Commission seeks comment on how these challenges can be addressed. The Commission recognizes that its Rules do not currently include coordination rules that protect the normal operating areas of TVPU stations, but it is hopeful that coordination between the parties is achievable for the 11 DOD transmit earth stations without adversely affecting TVPU operations, particularly reception at fixed sites, including receive-only sites and at venues where sports or news events routinely occur. While the Commission does not believe that non-Federal Government operations are likely to cause interference to Federal Government operations, it will require that once a DOD earth station has been coordinated, new BAS stations

within these 11 areas coordinate their systems with the local DOD facility.

4. The Commission does not make this proposal without concerns. Notably, it is concerned about the impact on future BAS growth in areas near the 11 TT&C uplink earth stations, especially in light of the ongoing digital television (DTV) transition. The Commission solicits comment on its proposal and on methods that could be employed to ensure future BAS growth. After coordination, local BAS users should be able to work around Federal operations in the coordinated area. Specifically, the Commission notes that new BAS stations can be added in areas near the 11 earth stations, if they are located near incumbent BAS stations, which will be protected as a result of the coordination process. Nonetheless, the Commission solicits comment on whether other frequency bands are more appropriate for the 11 TT&C uplink earth stations.

5. The Commission also observes that the adjacent frequency bands (1990–2025 MHz and 2110–2155 MHz) have been reallocated to the fixed and mobile services and addresses a concern that interference could be caused to these future services due to the placement of the 11 TT&C earth stations in the band 2025–2110 MHz. In particular, interference could be caused by out-of-band emissions and by receiver overload. In addressing out-of-band emission interference, the Commission notes that the unwanted emission standards for Federal Government earth stations operating above 960 MHz are specified as follows:

For all systems operating in this frequency range the emissions radiated outside of the necessary bandwidth shall roll-off at a rate equal to or greater than 40 dB/decade (12 dB/octave) from the attenuation level at the limit of necessary bandwidth. The emissions power shall roll-off to a level of at least 60 dB below the transmissions Maximum Peak SPD [Spectral Power Density] or less. The requirements in this standard specify the upper bounds on unwanted emissions from space and earth stations associated with the space services.

TT&C uplink channels in the band 1761–1842 MHz have a necessary bandwidth of 4 MHz and the Commission anticipates that new TT&C channels in the band 2025–2110 MHz will be approximately the same bandwidth. NTIA indicates that currently the signal level two-megahertz away from a TT&C center frequency is normally attenuated 20–25 dB below the maximum peak SPD. TT&C uplink transmitter output power is expected to range from 100 watts to 10 kW. The Commission solicits comment on how

such high power levels coupled with the noted attenuation characteristics would impact BAS operations in the band 2025–2110 MHz.

6. The Commission requests comment on whether the limits specified above will be sufficient to protect the mobile and fixed receivers that will operate on spectrum above and below the band 2025–2110 MHz, or whether additional requirements, *e.g.*, specific limits on emissions generated outside the band 2025–2110 MHz, will be necessary. The Commission notes that emissions produced by the TT&C transmitters are expected to be greater than those that will be produced by future digital BAS transmitters that will operate in the band 2025–2110 MHz. The Commission therefore seeks comment on whether the Federal Government's unwanted emission standard is sufficient to protect out-of-band operations, or whether TT&C earth station emission limitations outside the band 2025–2110 MHz should be further limited. The Commission observes that limiting emissions outside the band 2025–2110 MHz could be accomplished by reducing power, by increasing the attenuation roll-off rate and the maximum roll-off, and by not using spectrum immediately adjacent to the band edges, *i.e.*, by providing for guard bands. The Commission requests comment on whether such measures should be taken, and specifically whether TT&C transmitter emissions outside the band 2025–2110 MHz should be limited to those of a digital BAS transmitter with a bandwidth of 12 MHz and an output power of 13 dBW, centered 6.5 MHz from the band edge and meeting the emission mask in § 74.637(a)(2).

7. With regard to the potential for receiver overload interference, the Commission notes that TT&C transmitters are expected to operate with transmitter output power levels ranging from 100 watts to 10 kW. This raises concerns about the potential for overload of fixed and/or mobile receivers operating near TT&C stations receiving on spectrum above and below the band 2025–2110 MHz. The Commission thus seeks comment on whether, based on the geographic location of TT&C transmitters, interference of this type could occur. If such interference is likely, the Commission seeks comment on what limits on TT&C transmitters (*e.g.*, reduced power levels, avoidance of the upper and lower edges of the band 2025–2110 MHz) might reduce the likelihood of overload interference to adjacent band mobile and fixed receivers. Similarly, the Commission