Incentive Auction Transition Scheduling Plan Proposal: Devising an Efficient and Timely Post-Auction Transition

The post-auction transition involves reassigning some of the TV stations that will remain on the air to new channels and coordinating hundreds of station modifications nationwide. The *Transition Scheduling Plan Public Notice* (TSPPN) is the staff's proposal for effectuating an orderly transition by:

- **Providing a clear schedule and early notice**: Consistent with industry's request for a clear schedule to enable resource planning, the TSPPN outlines an orderly phased transition approach and announces that TV stations will receive confidential letters with their final channel assignments shortly after the final stage rule is satisfied, giving all stations **more time** to prepare.
- **Using a phased approach**: The proposal assigns each station into one of ten transition "phases" with staggered completion dates to ease coordination issues and enable the Commission to track progress.
- **Limiting disruption to broadcasters:** The phased approach will protect broadcasters from undue interference (see Glossary) throughout the transition.
- **Prioritizing 600 MHz-band clearing**: The proposal attempts to move stations residing in the new wireless band as early as possible to ensure forward auction winners have timely access to spectrum.
- **Minimizing consumer inconvenience**: The proposal minimizes impact on consumers by limiting the number of times over-the-air viewers will have to "rescan" for channels.

The Challenge: Coordinating "Dependent" Moves While Limiting Interference During Testing

Those stations that must move to a new channel will have to modify their existing facilities (e.g., antennas, transmission lines) to transmit on a different frequency. Then they must test their equipment. Unless a station's new channel is "available" (i.e., free from interference caused by other stations), it will need to coordinate carefully with one or more other stations to prevent the testing from causing interference.

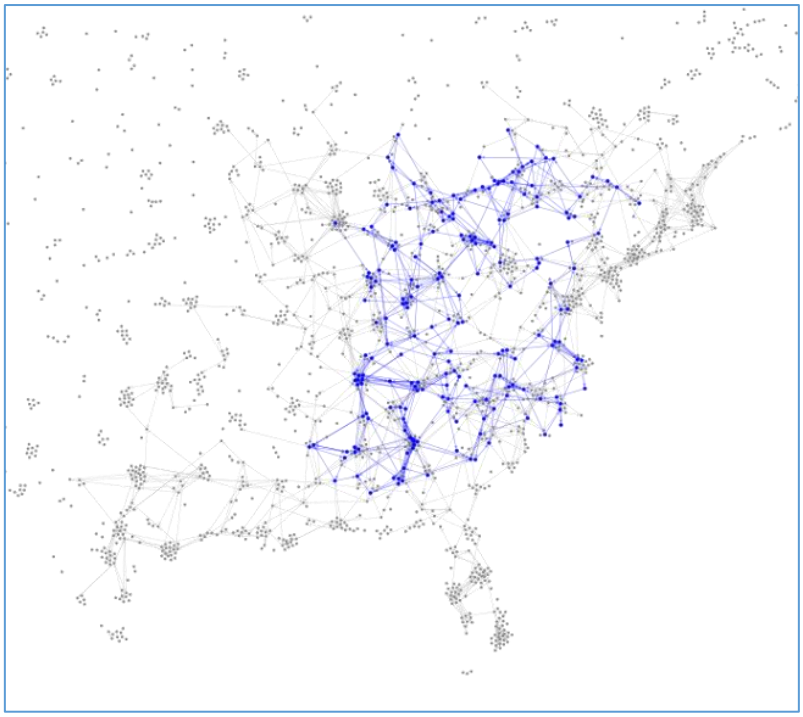

Figure 1: A simulated example of 196 linked stations (shown in blue).

With hundreds of stations nationwide needing to move to new channels, there is the potential for a "traffic jam" in which a station can't move to its new channel until a second station moves, and that station in turn must wait for a third station to move, and so on. Stations whose moves are dependent on another's move are called "linked stations," and these links can span dozens of stations across a large geographic area. Linked stations can switch to their new channels simultaneously to break up these congestion points, but doing so requires careful coordination.

A Phased Approach

In order to facilitate an orderly and timely transition, the staff proposes using a mathematical tool – the **Phase Assignment Tool** – that determines the *order* in which stations must transition to new channels. With hundreds of stations needing to move to new channels, there are millions of possible sequences. Therefore, consistent with overarching transition goals, the TSPPN proposes a procedure for determining the optimal sequence by assigning

stations to "phases" by the end of which all stations within the phase must be off their pre-auction channels. The optimal sequence will meet a set of conditions, including:

- **Clear 600 MHz Wireless Band As Soon As Possible**: Assigning U.S. stations whose pre-auction channels are in the 600 MHz Band to earlier phases would help open it up to licensees to offer new innovative services.
- **Limit TV Viewer Rescans/Preserve Regional Focus**: Limiting stations in the same Designated Market Area (DMA) to two phases also limits to two the number of times viewers would need to rescan for over-the-air channels. It also reflects the regional approach that stakeholders have suggested.
- **Give "Complicated" Stations More Time**: Assigning the most challenging and time-consuming stations (as defined in the expert Widelity Report) to later phases allows adequate time for their transitions.
- **Limit Linked Station Sets in a Phase**: Limiting linked sets within a phase would limit the effect of dependencies and facilitate coordination among broadcasters.
- **Limit the Total Number of Phases to 10**: Using ten phases strikes a balance between limiting the size of linked-station sets and other goals. A greater number of phases could decrease the number of linked-station sets in each phase but makes more difficult other goals such as transitioning stations within the same DMA at the same time and avoiding the need for multiple channel rescans by viewers. Keeping the number of stations in each phase roughly equal also helps in the sharing of resources in each phase.
- **No More than 2% Temporary Interference**: Allowing temporary limited increases in interference between two stations is in accord with past transitions and would significantly reduce the number and complexity of dependencies.
- **No Temporary Channels**: Using a temporary channel during the transition could reduce the size of linked-station sets but would also add costs, strain resources, and add more rescans for viewers.

A complete list and discussion of the conditions can be found in the Technical Appendix.

A Detailed Schedule to Efficiently Allocate Resources

Once stations are assigned to phases, the Commission must determine *when* those stations switch to their new channels. The TSPPN proposes a second tool – the **Phase Scheduling Tool** – which estimates the total time necessary for stations within a phase to complete the transition, informing how the FCC will set end dates for each phase. Specifically, the tool:

- Assigns minimum completion times for each station based on certain characteristics.
- Allows the FCC to assess the impact of unknowns such as the order in which stations receive required resources.
- Gives the FCC the ability to gauge the impact of resource availability and adjust accordingly.

The TSPPN proposal details the specific tasks or processes proposed to be modelled for each of the stages of the transition process, as well as the estimated time and resource availability for each task.

Putting stations into different phases with a detailed schedule will let stations, tower crews, and equipment manufacturers know when the FCC expects specific stations to complete their transition and so that they can plan accordingly. It also ensures that the majority of stations will be able to test on their post-auction channel during a specified testing period without having to coordinate with neighboring stations – or those stations' neighbors.

The proposed plan enables the Commission to stage the transition to the benefit of viewers, stations, and wireless carriers and their customers. The Incentive Auction Task Force and the Media Bureau release this proposal now to solicit feedback from stakeholders and the public.