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Ms. Marlene Dortch
FCC Secretary
Federal Communications Commission
445 12th Street, S.W.
Room TW-B204
Washington, DC 20554

Re: Response to Opposition to Petitions for Reconsideration in MB Dkt 07-91

Dear Ms Dortch

Triveni Digital has only recently been made aware of these proceedings. While perhaps a little late, Triveni Digital¹ would like to respond to the Opposition filed by John M. Wilkie² in the above-captioned proceeding. Triveni Digital is the leading vendor of PSIP generation systems and has considerable experience with ingesting and merging schedule information from disparate systems utilizing different communications protocols into a single output PSIP stream for broadcast stations.

Triveni Digital fully supports adoption of the new PSIP standard as being beneficial to the television viewers, but supports a delay in implementation as advocated by others. Triveni Digital updates its PSIP generator software as the standards evolve. As noted by MSTV and NAB; development, pairwise testing amongst vendors and industry wide roll out of software revisions to the field does take time.

In particular, the requirement for real-time updates to Event Information Tables (EIT's) poses a number of issues, which are only now able to be addressed by some systems. Updating EIT information in the face of a last minute change is considerably more complex than sending correct song titles over RDS (in contrast to the statements made in the Wilkie Opposition). For radio, the workflow is simpler, the only information needing update is the title of the currently playing song and last minute changes can easily be made at the time of song play.

In contrast, for DTV, PSIP represents a complete guide to current and future events. The broadcast station may ingest schedule information from a number of sources over time (listing services, traffic systems and automation systems) and the depth of information available within a given system, as well as the schedule accuracy will change as air time approaches. This information must be successfully matched and correctly merged for the PSIP schedule to be correct. The information carried via the EITs is much broader than simply the event title (especially for the current event) and is used for many purposes: Besides the title, start time/duration and link to extended text (ETT – if present), there is captioning information, rating information, audio information, and audio language information.

While it is possible to make last-minute updates to PSIP manually via the PSIP generator User Interface, there are three important considerations to this approach. First, with this being a manual operation, there is a high probability of error. Second, the current

¹ Triveni Digital, a subsidiary of LG Electronics, is a commercial vendor of PSIP generation systems, Stream Monitoring and Analysis systems and Content Distribution systems.

² See Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television, MB Docket No. 07-91, Opposition of John M. Wilkie (March 10, 2008) ("Wilkie Opposition").



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trend in broadcast operations is to reduce operations personnel – adding new manual operations may become unwieldy. Third, as pointed out by MSTV/NAB, there are further considerations when events go overtime – or new events are added, which involve what shifts are necessary in the remaining days schedule (this may be dictated by station policy or may be decided and the time of change). The latter consideration applies to any form of schedule change due to overrun, even if the system is automated.

Automation systems become the “schedule authority” near airtime, especially as they actually control the operation of broadcast equipment. When a last-minute update occurs, the master control operator implements the change via the automation system. Until recently, few automation systems directly fed information to PSIP generators. While the communication protocols to carry this information exist (the standardized PMCP protocol plus other proprietary protocols), automation systems typically did not have enough PSIP related information to allow successful population/modification of PSIP events. The existence of the PMCP protocol in itself is not sufficient to solve this problem, as other information is still necessary. There has always been an issue of matching events between systems in the absence of a workable unique identifier across the different schedule information sources and ensuring that all of the ancillary information is applied to the correct modified event when the schedule changes. It should be noted that this issue is beyond the scope of the PSIP standard (A/65) – it is an issue of implementation and interoperability between all of the disparate systems in existence serving the broadcast world.

Triveni Digital has been working with a number of automation system vendors to overcome this problem – solutions with some automation systems were first publicly shown at NAB 2008. It will take some time to perform full QA tests of these solutions and then deploy them in the field, thus the request for delay is reasonable and should be seriously considered. Fully automated updates with up to the minute metadata sent as the result of a master control operator’s actions is a worthwhile goal, which the revised PSIP standard will support once the remaining metadata systems are deployed. As these systems are deployed, it will be possible to have EITs that accurately reflect the events being broadcast (allowing for the delays inherent in metadata flows between systems and operational decisions on how to propagate the schedule changes through the rest of the broadcast day).

Respectfully Submitted

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