

## **Project 25 Steering Committee**

### **Policy Action**

November 14, 2007

#### Implementation of the DVSI, Enhanced Full Rate Vocoder

#### **Background**

1) On December 7, 2007, the Project 25 (P25) Steering Committee (Steering Committee) adopted the requirement that P25 features and/or functions that are mandatory requirements within the P25 Statement of Requirements (SOR) must be actually implemented by manufacturers. The Steering Committee recognizes that some newly adopted, mandatory features may be implemented into existing products while other features cannot be placed into existing platforms but must wait for normal product introduction cycles in the evolution of equipment and systems. The Steering Committee's intent is that, if not implemented within the lead time that the Steering Committee adopted or the lead time specified in the Project 25 Statement of Requirements (SoR), or the lead time we established after consideration of TIA member comments, will be recognized as valid P25 requirement in the TIA process, and will be included in newly introduced equipment, products and/or systems before required date. Equipment, products or systems that fail to meet these update deadlines will not be recognized by the Project 25 Steering Committee or list as being valid compliant offerings or "Project 25 compliant" offerings from that point forward. The Steering Committee defined the required date of implementation as 1) either within fifteen (15) months of publication of the mandatory requirement in the SOR or 2) within six (6) months of the publication of the relevant standard(s) or 3) as specified by a specific Project 25 Steering Committee motion or resolution.

2) With respect to the DVSI Enhanced Full Rate Vocoder, this P25 enhancement has the potential to take the usefulness of these

standards to a completely new level. The Steering Committee, therefore, has a keen interest in fostering its implementation as quickly as possible.

### **Vocoder Discussion**

TIA Experiment No. 2 and TIA Experiment No. 3 clearly showed the significant audio quality benefits that this Enhanced Vocoder brought to P25 over the original DVSI IMBE vocoder. The Steering Committee also notes that the original IMBE vocoder was selected after an intense process where multiple vocoders were tested and rated. For P25, the original IMBE vocoder was the best vocoder available at that point in vocoder development. With respect to the Enhanced Vocoder, DVSI's simulation showed that the Enhanced vocoder is now superior in performance to the original IMBE vocoder in noisy environments and in its ability to pass signaling and other tones through the vocoder. The Steering Committee's position is that the P25 user community will see great benefits from the deployment of this Enhanced vocoder.

On October 14, 2005, the Project 25 Steering Committee passed a motion that adopted the DVSI, Enhanced Full Rate Vocoder for all future use in Project 25 radios and systems. This motion established the DVSI Enhanced Full Rate Vocoder as the new Project 25 baseline vocoder. The intent of the Steering Committee action was to establish that the P25 defined vocoder was to be the DVSI, Enhanced Full Rate Vocoder. The Steering Committee's belief was that this established the date as the start of the fifteen-month period since the SOR mandatory requirement is for the "Project 25 defined vocoder", and the Steering Committee is the final approving authority on the SoR.

### **Current Implementation**

The Steering Committee determined that only a small minority of manufacturers and P25 equipment and systems are currently fielding the use of the Enhanced Vocoder. In addition, those

manufacturers not currently universally fielding the Enhanced Vocoder do not expect to make a transition to that technology for many months, if not years.

### **Steering Committee Goal**

Given the strong partnership between the Steering Committee and industry, and the apparent confusion regarding our policy with regard to this issue, we do not want to take unnecessary punitive actions which would stipulate certain manufacturer(s) are non-compliant at the expiration of the 15 month deadline. At the same time, the Steering Committee does think that those manufacturers that did implement the new vocoder should be recognized and that the emphasis must be on getting the benefits of the Enhanced Vocoder into users' systems as quickly as possible. We feel this can be done through the market itself by purchasers making the comparison of the benefits that are derived from the different vocoders.

### **Steering Committee Action**

1) By December 15, 2007, the Project Director will request APIC to poll its members to ascertain a date within fifteen months from October 30, 2007 that a manufacturers will field the P25 defined Enhanced vocoder. It is expected that by January 10, 2008 APIC or its members will notify the Project 25 Steering Committee of those dates. 2) The Steering Committee will seek methods and processes to advise the public safety community of the overriding benefits to use of the Enhanced vocoder and suggest that they consider requiring the implementation of the Enhanced Full Rate vocoder for all new Phase 1 products and systems. 3) The Steering Committee Director will advise APIC to tell its members that there is no requirement on any manufacturer to retrofit existing products with the new vocoder. 4) The Steering Committee Director shall provide TR8 and APIC formal notification of all future Steering Committee actions on documents it approves where there is either a major change in the P25 SoR that has been approved for

publication or where there is a policy change that impacts the technological platform but may or may not require an official change in the standards. To ensure there is no misunderstanding, the Project Director will note if it is expected that the 15-month clock begins effective that date as opposed to the predefined process dates referenced in the SoR. Lacking such a statement, the requirement to implement a feature will revert to the implementation requirements as outlined in the SoR and in the first paragraph of this policy statement.

Approved this date on behalf of the Project 25 Steering Committee:

Don Pfohl, Co-chair

Craig M. Jorgensen, Co-chair