

Proposed TC/TAC Reorganization

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**They always say time changes things,
but you actually have to change them
yourself “ (Andy Warhol (1928 - 1987))**

*“The reasonable man adapts himself to the world;
the unreasonable one persists in trying to adapt the
world to himself. Therefore, all progress depends on
the unreasonable man.”*

*(George Bernard Shaw, Irish dramatist & socialist,
1856 - 1950)*

**Please be Open to Change!
That is the key to Progress!**

Proposed TAC/TCs Reorganization

■ WHY?

- Because we have not revisited our structure for years!
- Because we need to define a better structured and consistent set of TCs that will cater for consistent growth and evolution
- Because I am not sure we address new technologies systematically
- Because TCs may be irrelevant and new ones may be required, and mutual linkage may be necessary

Proposed TAC/TCs Reorganization

- **Cluster #1: TCs dedicated to EM phenomena:**
 - **TC-12: Low Frequency Phenomena** (equivalent to TC77A of IEC)
 - It should address such things as power quality concerns (voltage variations fluctuations, harmonics and interharmonics, etc.), in both conducted and radiated aspects, immunity and emissions alike
 - **TC-13: High Frequency Phenomena** (equivalent to TC77B in IEC)
 - It should address such things as RF interference concerns (RF conducted and radiated EMI, conducted transients and ESD, etc.), in both conducted and radiated aspects, immunity and emissions alike
 - **TC-14: High Power EM Effects** (equivalent to TC77C of IEC and our current TC-5 and TC-7 combined)
 - It address HEMP, HPM and UWB, lightning direct and indirect phenomena, etc. This is essentially an immunity phenomena Issue

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- **Cluster #2: TCs addressing EM DESIGN and CONTROL activities:**
 - **TC-4: EMI Control** (similar to the current **TC-4**)
 - Should address Techniques and technologies related to EMI Control such as grounding, Shielding and bonding, filtering and transient suppression, etc. This should exclude signal integrity, as that is a specialized aspect as well as Nanotechnology, until it becomes a "classic" design technique. This TC should lead the activities on measurement of gaskets, for instance
 - **TC-4** can also include the **current TC-8** (Product Safety) since from the aspect of EMI Control the main concern is that of conflicts between product safety and EMC (grounding, filtering, etc.). Aspects not related to electrical safety should be part of the PSES symposia and TCs and not ours any longer
 - **TC-6: Spectrum Engineering** (similar to current **TC-6**)
 - This is primarily an extension of the name from "management" to "engineering" to include both aspects of spectrum and collocation analysis

Proposed TAC/TCs Reorganization

- **Cluster #3: TCs addressing unique aspects of EMC Engineering. This should Include:**
 - **TC-10: Signal Integrity** (similar to our current **TC-10**)
 - This is a specialized activity as it confines itself to PCBs which form a particular medium with a special set of problems and solutions. Inasmuch as they may interact with TC-4, they still implement the problems in a particular manner and medium, and this merits a whole separate TC as we have it today
 - **TC-11: Nanotechnology** (similar to our current **TC-11**)
 - Again, this is a unique and novel technology, where there are more unknowns than knowns. It requires special knowledge and techniques, which merit totally separate discussions

Proposed TAC/TCs Reorganization

- **Cluster #4: TCs addressing allied and supportive fields, common to all aspects of EMC design, regardless of phenomena, frequency band or technique:**
 - **TC-1: EMC Management** (similar to current TC-1)
 - **TC-9: Computational Electromagnetics** (similar to current TC-9)

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- **Cluster #5: TCs Addressing our environment. Those should include:**
 - **TC-3: EM Environment** (equivalent to current TC-3 but also to include some parts of TC-2 on EMC Measurements)
 - This TC should deal with all aspects of the EM environment and its measurement in all frequency bands (or we may wish to have two sub-TCs separated according to the frequency band like TC-1 and TC-2 proposed above)
 - The unique thing about this-these TCs is that they would deal specifically With the measurement of the external environment and not related to equipment or platform design. This would include site and platform surveys, etc
 - **TC-2: EMC Measurement** (equivalent to current TC-2)
 - This TC will be focused on measurement techniques (except those related to the environment), test equipment and its characterization, etc. This TC should deal with the issues of test facilities, impulse bandwidth, probes and their characterization, etc.

Proposed TAC/TCs Reorganization

■ Summary

- **Organization of TCs in Clusters IAW field:**
 - Cluster #1: EM phenomena
 - Cluster #2: EM DESIGN and CONTROL
 - Cluster #3: Unique aspects of EMC Engineering
 - Cluster #4: Allied and supportive fields, common to all aspects of EMC design, regardless of phenomena, frequency band or technique
 - Cluster #5: EM environment
- Clustering has no operative impact, only logical organization
- Impact on TCs:
 - **TC-1, TC-2, TC-3, TC-9, TC-10, TC-11** remain virtually unchanged
 - **TC-6 to be renamed “Spectrum Engineering”**
 - **TC-4** to include **TC-8 (TC-8 to be eliminated)**
 - **TC-14** to incorporate **TC-5 and TC-7** to “mirror” IEC TC-77C
 - number is “don’t care”
 - **TC-12 and TC-13** – newly created to “mirror” IEC TC-77A/B
- Attempt to maintain current TC numbers and titles wherever reasonable
 - Maintain familiarity
- Reorganization to better
 - focus activities
 - Improving relevance
 - Infrastructure to support future expansion of TCs and additional of TCs
- Manner of creation of TCs TBD
 - Could consider “grandfathering”
 - Could create “interim TC” to support paper review of new FOI

What do I expect...?

■ Discussion by TAC

- Indication to the BoD by Thursday **August 20, 2009** meeting on general sense of TAC on the issue
 - Proposed timeline/roadmap of activities in general terms
- Presentation of strategic approach in reorganization of TAC/TCs
 - by **March 2010** BoD meeting
 - To include
 - Description of envisioned structure (which TCs, etc.)
 - Brief description of proposed process for creation of the structure (new TCs, in particular)
- Presentation of improved roadmap for implementation by **July 2010** BoD meeting
 - Detailed timelines
 - Proposed step-by step approach

What do I expect...?

- I have no problem with the “difficult” issues
- It is the “impossible” that may take slightly longer