

Interference Resolution and Enforcement

- Deliverables for September identified at June 10 TAC meeting
 - Preliminary recommendations regarding interference resolution (“deconfliction”), enforcement programs and procedures, and methods for interference measurement and mitigation
- Background
 - **Original Motivation:** Rapidly evolving wireless system architectures and characteristics and the operation of both intentional and unintentional radiators in close proximity has changed the nature of interference risks while at the same time providing technological opportunities for more efficient and effective procedures for interference resolution and enforcement



Interference Resolution and Enforcement

- **Background (Cont'd)**
 - Original focus was primarily on interference resolution and enforcement in spectrum under the sole jurisdiction of the FCC rather than spectrum shared with NTIA
- **Subsequent Developments**
 - At the 7/24/13 meeting of the Commerce Spectrum Management Advisory Committee (CSMAC) a committee member who also serves on the TAC raised the issue of enforcement and it was agreed that the topic should be pursued in the future work of the committee
 - At the 8/28/13 meeting of the CSMAC, a broad description and justification for the proposed work was approved



Interference Resolution and Enforcement

- Subsequent Developments (Cont'd)
 - The approved description anticipated that, in carrying out the propose work, the CSMAC would coordinate with our enforcement efforts within the TAC
 - As described, the motivation for the CSMAC effort was two fold:
 - The value of shared federal spectrum to commercial entities depends on their confidence that spectrum managers have applicable rules and resources in place to reduce the number of interference incidents and to resolve them quickly and effectively when they do occur
 - Similarly, the willingness of federal agencies to share spectrum on a more dynamic basis depends upon their confidence that the applicable rules and regulations regarding such sharing will be effective and enforced in an appropriate time frame



Interference Resolution and Enforcement

■ Subsequent Developments (Cont'd)

- Following the 7/24/13 and 8/28/13 CSMAC meetings, NTIA added specific tasks it wished to have the committee address; paraphrasing, selected issues included:
 - How to update the FCC's enforcement tools for new forms of sharing (e.g., coordination zones vs. exclusion zones)
 - How the FCC and NTIA will cooperate when both federal and non-federal users are involved
 - What forms of mitigation measures will be used when an operator is found to be interfering (until resolution is reached)
 - How can technical showings of compliance be made pre- and post-deployment to facilitate enforcement measures
 - In a shared spectrum environment involving many consumers, what additional tools do the FCC and NTIA need to ensure continued compliance (“garage door opener” issue)



Interference Resolution and Enforcement

- Observations

- In view of the strong Executive Branch, Legislative Branch and FCC interest in more dynamic forms of spectrum sharing and providing additional spectrum access for commercial users, an issue arises as to whether the TAC effort should remain:
 - (a) focused on interference resolution and enforcement in spectrum under the sole jurisdiction of the FCC or
 - (b) focus on interference resolution and enforcement in spectrum shared by both federal (NTIA) and non-federal (FCC) users



Interference Resolution and Enforcement

■ Observations (Cont'd)

- If the latter, there are potentially significant resource issues for the FCC and presumably the TAC given:
 - (a) the importance and ground-breaking nature of the specific tasks assigned by NTIA to the CSMAC,
 - (b) the central role of the FCC in the development and implementation of the required interference resolution and enforcement programs and procedures and
 - (c) more generally, the budgetary pressure on the agency coupled with limited field personnel and procedures and practices that were designed for a simpler, more static interference environment with arguably less threat of deliberate interference



Interference Resolution and Enforcement

■ Results to Date

- Identified and described:
 - various types of interference (as distinguished from noise)
 - traditional enforcement tools and traditional interference resolution and enforcement steps
 - examples of risks and challenges associated with evolving technology
 - example questions relating to the adequacy of traditional interference resolution and enforcement programs and procedures
 - some potential opportunities for basic changes in interference resolution and enforcement paradigms
- As noted, proposed coordinated TAC and CSMAC work effort and developed steps for advancing that activity in anticipation of the next CSMAC meeting on 10/22/13

