



CSMAC Working Group 1

Final Report

July 30, 2020



Working Group 1 Mandate

- **What should be the United States implementation structure or governance model for the National Spectrum Strategy (NSpS)? Consider whether the US spectrum management approach is optimized for the implementation of a 21st century national spectrum strategy, and if not, whether there is value in establishing a new approach or structure to accomplish this. If there is value in a new approach or structure, what are its characteristics?
(Recommendations are due in 3–4 months)**
 - If the Commerce Spectrum Management Advisory Committee (CSMAC) concludes that there is utility in revising the US spectrum management approach, consider what structural changes, new entities, roles, responsibilities, and legislation would be required to implement it (Recommendations are due in 6–9 months)

View of Working Group on the Mandate

- **There is general agreement among the working group that our country's current approach for managing the use of spectrum is no longer effectively serving the needs of the entire stakeholder community and would benefit from reform. Moreover, with the increased use of spectrum by all stakeholders, we agree that issues around spectrum sharing and band adjacencies will need to be handled with both speed and skill to ensure that the US is making the most of its critical national resources.**

– Presented at the January 28, 2020 CSMAC meeting

Working Methods

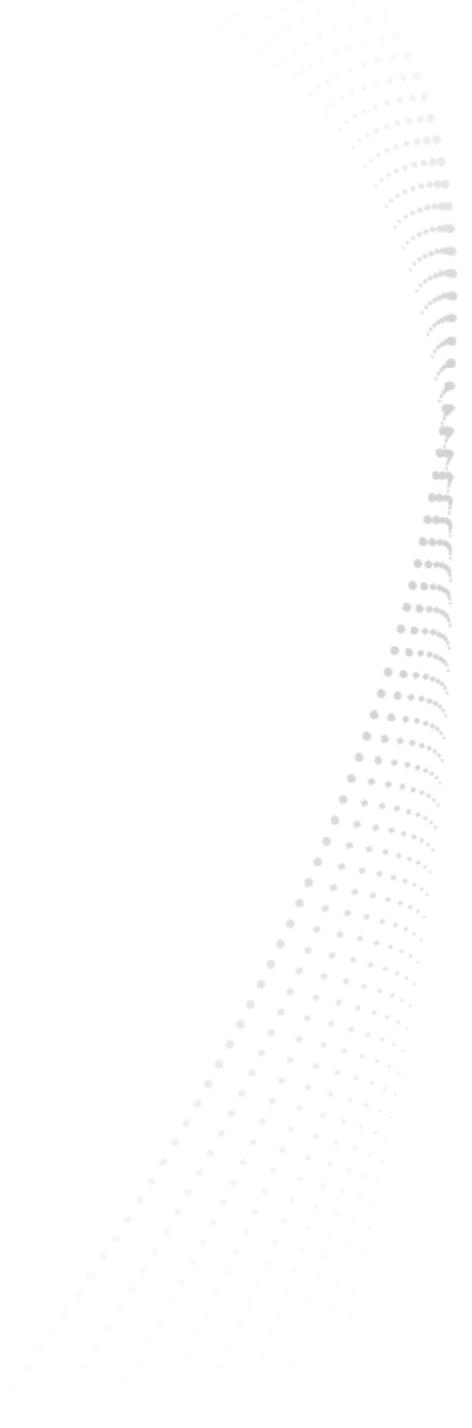
- **The Working Methods for WG1 include:**
- **Held over 15 meetings**
- **Reviewed key parts of the existing statutes and regulations to ensure a common understanding of the current environment**
- **Examined international spectrum management regimes to ascertain lessons learned**
- **Solicited contributions from members on governance ideas, with a goal of developing a reasonable array of available governance model options for consideration**
- **Invited a distinguished guest speaker, Peter Tenhula (NTIA), on IRAC operations**
- **Researched the history of the present structure, thanks to Dale Hatfield and University of Colorado law students**
- **Decided on “operational rules” for this phase of the investigation**
- **In the absence of a final National Spectrum Strategy, put our best ideas forward for improving spectrum governance**
- **Draft reviewed by WG1 and entire CSMAC; all comments incorporated**

Options

- **Broken into three areas:**
 - Proposals to stand up new agency
 - Full Service Spectrum Agency
 - New Unity Agency
 - Spectrum Resource Agency
 - Proposals to Repurpose and Expand Authority of An Existing Agency
 - New FCC
 - New NTIA
 - Proposals that could attach to other options or stand on their own
 - R&D Option
 - Updated MOU
 - Other



Proposals to Stand Up A New Agency



New Full-Service Spectrum Agency

- **New independent agency would perform all spectrum policy/management/planning, licensing/authorization, and equipment functions, including sharing and enforcement**
- **Board of Directors – spectrum expertise required**
- **Existing spectrum functions that are currently performed by the FCC and NTIA would be divested and assigned to this new entity**
- **This option involves consolidating all spectrum management functions:**
 - Planning & Allocation
 - International Co-ordination & Co-operation
 - Assignment & Licensing
 - Monitoring & Enforcement
 - Standards Specification & Equipment Type Approval
 - Research and Development
 - Forecasting
- **Spectrum coordination offices for all stakeholders**

New Unity Agency

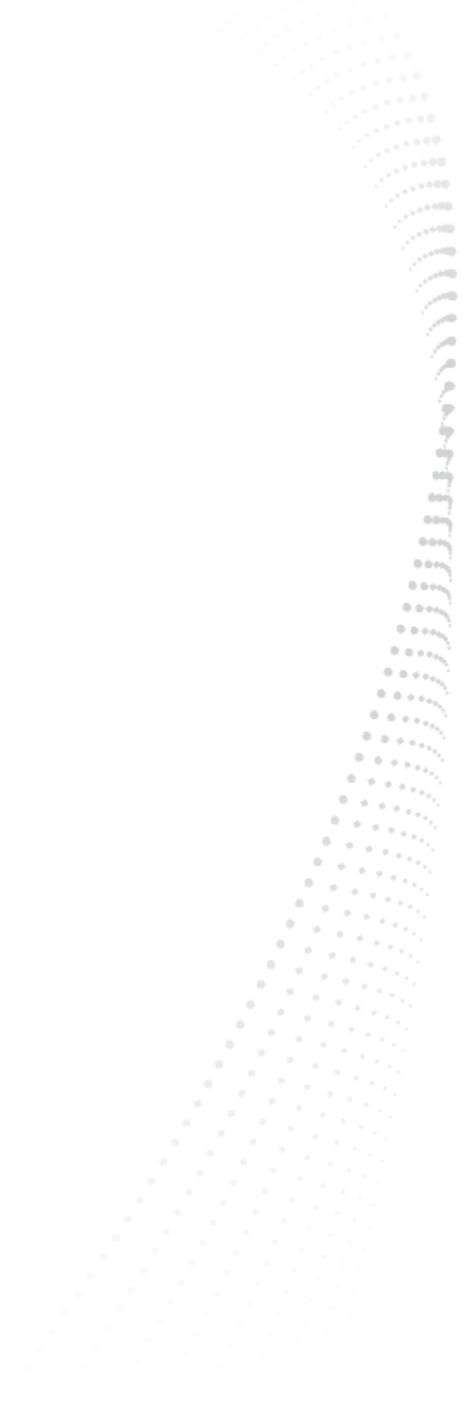
- **Folds the entire NTIA and FCC into a new Unity Agency. This would include both spectrum and non-spectrum functions. To borrow an analogy from private sector merger and acquisition parlance, functions within the NTIA and FCC would become subsidiaries of the Unity Agency and would be characterized as “offices” of that new Agency.**
- **The decision-making function would revert to a single Administrator, with the component parts of the Unity Agency reporting up to the Administrator.**
- **This unified approach would allow consolidation of similar functions that the agencies perform. For spectrum these include:**
 - Planning & Allocation
 - International Policy, including treaty negotiation and border coordination
 - Assignment & Licensing
 - Monitoring & Enforcement
 - Standards Specification & Equipment Type Approval
 - Research and Development
 - Forecasting

Spectrum Resource Agency

- **A streamlined version of a consolidated spectrum agency, with an emphasis on top-level spectrum governance and policy decisions. Its mission would be limited to:**
 - Planning and Allocation
 - International Policy, including treaty negotiation and border coordination
 - Research and Development
 - Forecasting
- **Spectrum assignment mechanisms (including auctions), licensing, federal assignments, equipment authorization and enforcement would remain in the domains of the FCC for commercial licenses and unlicensed device manufacturers, and the NTIA for federal assignment holders.**
- **Executive Branch agency led by Administrator whose term is 5-7 years**



Proposals to Reform An Existing Agency



New FCC

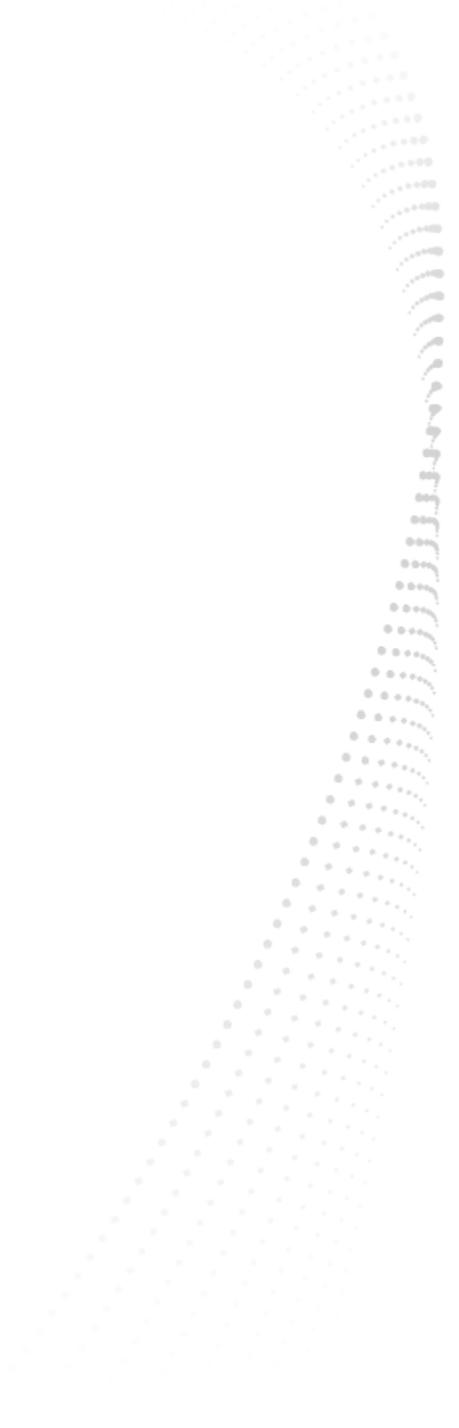
- **Would take over all spectrum management responsibilities for the federal government.**
- **Its mission would expand to sole responsibility for both federal and non-federal spectrum in the following areas:**
 - Planning and Allocation
 - International Policy, including treaty negotiation and border coordination
 - Research and Development
 - Forecasting
 - All other responsibilities that NTIA and the FCC have today would remain in place.

New NTIA

- **Would take over all spectrum management responsibilities for the commercial sector and federal government. Its mission would expand to sole responsibility for both federal and non-federal spectrum in the following areas:**
 - Planning and Allocation
 - International Policy, including treaty negotiation and border coordination
 - Research and Development
 - Forecasting
- **All other responsibilities that NTIA and the FCC have today would remain in place, including existing spectrum assignment methods, which in the case of the FCC includes spectrum auctions.**



Stand-Alone or Options that Can be Combined



Research and Development

- **There are several areas that today of spectrum management that are not addressed or haphazardly addressed.**
- **Gathering data about consumer demand or other relevant parameters about demand growth as well as government use of spectrum.**
- **Gathering data about evolving technologies and how they will utilize spectrum.**
- **Advancing the understanding of radio propagation through refinement in modeling.**
- **Advancing understanding and development of sharing mechanisms, and in particular, automated sharing mechanisms.**
- **This R&D function could variously be stood up as a group within an agency, administering an internal and external R&D work program, or the function could be privately sourced to an entity who by contract is required to execute on an R&D agenda.**

Enhanced MOU between FCC and NTIA

- **Revise the existing 2003 MOU to expedite decisions and strengthen decision-making capacity**
- **Recommend updating the MOU every 2 years**
- **Routine items to be coordinated in 15-day period, but gaps remain for non-routine items**
- **Enhanced MOU**
 - For non-routine FCC items, include specific time frames for resolution and create an agreed escalation process. Consider, as appropriate, the participation of other interested agencies
 - Formalize the development of a governance structure for implementing the national spectrum strategy; provide guidelines for spectrum management decision making between the two agencies (i.e., how issues will be raised and how conflicts will be resolved)
 - Provide Congress with an annual report on their joint spectrum planning activities, future spectrum requirements, spectrum allocation actions necessary to accommodate those uses, and any actions taken to promote the efficient use of spectrum. Highlight outstanding areas where consensus cannot be found
 - Identify the evaluation and possible implementation of technologies that enhance spectrum utilization and efficiencies and utilize the Spectrum Sharing Innovation Test-Bed for collaborative testing of such technologies
 - Hold a joint workshop annually to discuss spectrum research and coordination activities and explore novel spectrum sharing and management techniques and approaches
 - Develop a common set of metrics to predict potentially harmful interference
 - Create and co-chair a federal advisory committee on spectrum planning and usage composed of both federal and non-federal stakeholders to develop collaboration and planning strategies between federal and non-federal spectrum users and licensees
- **No legislation required**

Other options

- **Review spectrum management periodically**
 - Ensure that there is a review process to keep our spectrum management process effective and relevant no matter what option is selected or the process stays as it is today.
- **Miscellaneous steps to improve up on existing process**
 - Increasing detailees from each agency (FCC and NTIA) to cross-pollinate the agencies – helping communications and obtaining a better understanding the process.
 - Co-locate the FCC and NTIA in the same office complex so that they can communicate in an easier and more fulsome manner.
 - Put all spectrum responsibilities in each agency into one Bureau/Office so that they can be easily reorganized to the ultimate structure.

What we learned

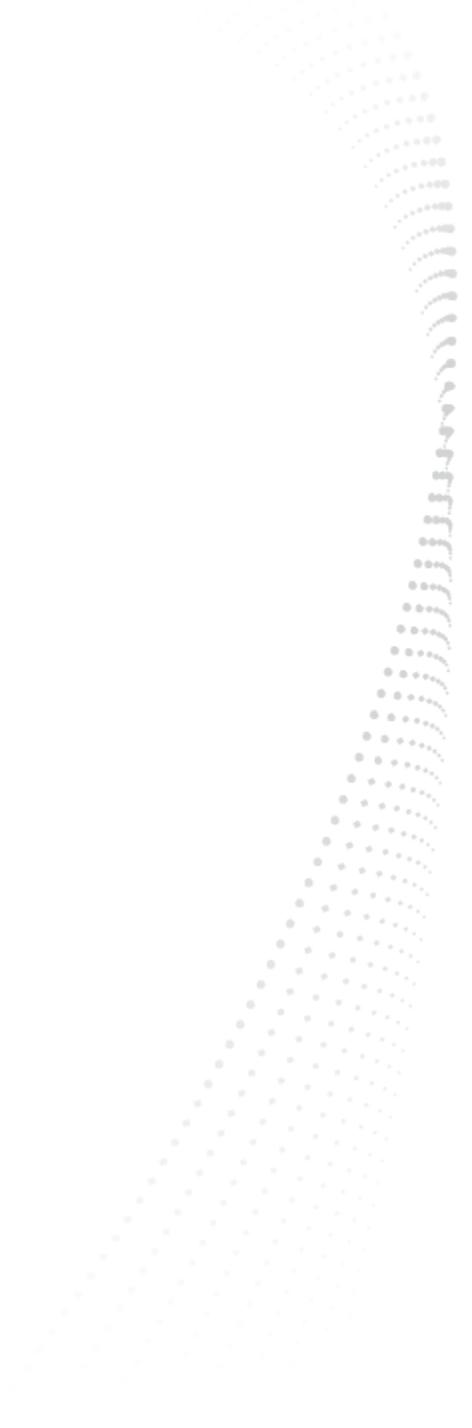
- Hints appear in various documents that governance reform has been considered, but the written record of reform rationales or ideas is slim. In addition, there is no comprehensive history available of the current governance structure – the history is there, but it has not been organized or synthesized.
- Our "White Board" options exercise enabled useful insights into the benefits and/or possible pitfalls of various reform ideas.
- The work product produced by WG#1 - reporting out on possible options - is a significant step forward in that it invites broader consideration by the spectrum community of these, or other, options.
- All institutional reform options the WG#1 identified require statutory changes.
- For all reform options, significant additional policy development work would need to be completed in order to narrow the field or select a "best" option, including policy agreement around what would constitute improvement and how improvement could be measured or assessed.

Recommendations for future work

- **This is a rich topic and we have barely scratched the surface – NTIA should consider whether CSMAC should continue this work, and in what aspects.**
- **Given that the current CSMAC term ends in eight months, we recommend that, to the extent NTIA desires work to continue in the current CSMAC, that the scope of work be narrowed for a second report.**
- **For example, NTIA could direct our focus to non-statutory reform options.**



Annex



CSMAC Working Group 1 Members

- **Co-chairs: Jennifer Manner/Mary Brown**
- **Andrew Roy**
- **Audrey Allison**
- **Bryan Tramont**
- **Carl Povelites**
- **Carolyn Kahn**
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- **Jeff Cohen**
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- **Mark Crosby**
- **Mark Gibson**
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- **Mark Racek**
- **Michael Calabrese**
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