



Paul V. Anuszkiewicz became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Anuszkiewicz is CTIA's Vice President for Spectrum Planning. He is responsible for technology and technical matters concerning spectrum advocacy, spectrum allocation for the network evolution to 5G and other technical areas to aid CTIA's members and as a technical resource to policy makers. He has over 28 years of technology planning, network engineering and operational experience. Anuszkiewicz also serves on the Board of Directors of WinnForum. Prior to CTIA,

Anuszkiewicz was CEO of Caten McGuire, a wireless technology consulting firm responsible for developing technology strategy, implementing operational change, and sourcing billions in infrastructure and devices, for a wide variety of U.S. and International clients. Anuszkiewicz also served as CTO and VP of Network Operations for two U.S. based cellular operators. Anuszkiewicz has served as a Board Member of PCIA for Microwave Clearinghouse and has worked with international governments on regulatory and spectrum auction issues. Anuszkiewicz holds a Bachelor's Degree in Electrical Engineering from California State University and an MBA from the University of Dallas. He is a registered professional engineer and holder of several technology patents.



Dr. Larry Alder (Co-Chair) has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2011. Alder currently is the VP of Product Definition at OneWeb, where he is working on low latency satellite based broadband globally. Alder was previously at Google as Director of Access Strategy from 2005-2016, where was responsible for a number of product, policy, and strategic investment activities promoting Internet access. Alder has been involved with municipal Wi-Fi networks, Google's fiber to the home initiative, and Project Link – a shared infrastructure network in Africa.

He has also been involved in a number of spectrum policy initiatives, including openness provisions in the 700 MHz band and the opening up of TV whitespaces for wireless Internet uses. He was part of a team that developed Google's TV whitespace database that has been certified by the Federal Communications Commission. Additionally, he was involved with several of Google's strategic investments in the access area including Wi-Fi, satellite, and 4G networking companies. Alder also served on the board of O3b Networks, a global satellite service provider. Prior to joining Google, Alder spent 10 years at ArrayComm, where he served as vice president of technology development. He has a Ph.D. in Engineering from Stanford University in the specialty of Control Theory and Bachelor's degree in Engineering from UCLA.



Audrey L. Allison has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Allison is Senior Director of Frequency Management Services for The Boeing Company. Her organization provides enterprise-wide radiofrequency spectrum acquisition, compliance, and policy support for Boeing technology, products, services, and operations worldwide – and to Boeing's commercial and government customers. Her previous work history includes the Federal Communications Commission's International Bureau; Iridium LLC; and consulting to the Department of Defense on international spectrum and regulatory issues. Allison is Boeing's representative to the International Telecommunication Union (ITU) in Geneva, Switzerland. She recently served as Chairman of Committee 6 of the 2015 World Radiocommunication Conference (WRC-15) and was elected Vice-Chairman of the ITU's Radiocommunication Advisory Group (2008-2015). Allison has an MBA, *cum laude*, from the International Space University, a Masters of Law in International and Comparative Law from Georgetown University, a J.D. degree from Catholic University's Institute for Communications Law Studies, and a Bachelor's degree in Communications from Penn State University.



Mary Brown joined NTIA's Commerce Spectrum Advisory Committee in 2016. Brown, Senior Director of Spectrum and Technology Policy for Cisco Systems, Inc., has managed wireless policy and technology issues for 12 years, focusing on policies for unlicensed bands as well as for 3G/4G and now 5G wireless networks. She participated in the initial government-industry discussions leading up to the FCC's 2006 decision to open the 5 GHz band to unlicensed technologies on a shared basis with government systems, and is currently active in several industry trade groups focusing on spectrum allocations and spectrum sharing. Prior to working at Cisco, Brown worked for the service provider industry and before that, at the FCC. Brown is a frequent speaker at industry events and has testified on spectrum-related matters before Congress. Brown earned a B.A. from the University of Massachusetts/Amherst, an M.S. from the S.I. Newhouse School of Public Communications at Syracuse University, and a J.D. from the Syracuse University Law School.



Laurie Moe Buckhout joined NTIA's Commerce Spectrum Advisory Committee in 2016. Buckhout is CEO and founder of the Corvus Group, a service-disabled-veteran-owned small business established in 2012 that supports spectrum, electronic warfare and cyber policy development at OSD and the military services. Buckhout is a highly decorated 26-year Army veteran with two combat tours in Iraq as a battalion commander, and global experience in spectrum and EW operations from tactical combat operations to Congressional and White House policy development and interaction. While on active duty, COL (Ret) Buckhout contributed to a number of major programs and initiatives relating to the Electromagnetic Spectrum (EMS). Buckhout's efforts resulted in two spectrum programs of record, one joint and one Army, the materiel concept of Integrated EW Systems on all platforms, and an enormous and still-ongoing revolution within the Army to recognize the EMS as a battlespace. Her time on the Joint Staff resulted in the formation of the first EW Test Board, as Buckhout recognized the many spectrum issues with deploying multiple untested and potentially interfering emitters into a theater of conflict. This later became then-JIEDDO's Joint Test Board. Buckhout has served as the Vice President and President of the international EW organization, the Association of Old Crows, from 2010-2012; President of the Washington DC chapter of the International Test and Evaluation Association since 2016, and has supported the Student Veterans of America as a board member. She is a graduate of James Madison University, and possesses Masters' degrees in Information Systems Management and Military Strategy from Webster University and the Army's Command and General Staff College. She is the recipient of numerous awards to include the Distinguished Service Medal, the Bronze Star and the Defense Meritorious Service Medal (two awards).



Michael A. Calabrese has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2009. Calabrese directs the Wireless Future Project at the New America Foundation, a nonprofit think tank based in Washington, D.C. As part of the Foundation's Open Technology Institute, he develops and advocates policies to improve our nation's management of the public airwaves and to promote pervasive connectivity, particularly through more ubiquitous and affordable high-speed wireless broadband access. He also served as an Invited Expert on the President's Council of Advisors on Science and Technology spectrum reform working group during 2011-2012. Calabrese has previously served as General Counsel of the Congressional Joint Economic Committee, director of domestic policy at the Center for National Policy, as a counsel at the national AFL-CIO, and as a Clerk to California Supreme Court Justice Allen E. Broussard. Calabrese is a graduate of Stanford Business and Law Schools, where he earned J.D. and MBA degrees, and Harvard College, where he earned a B.A. in Economics and Government.



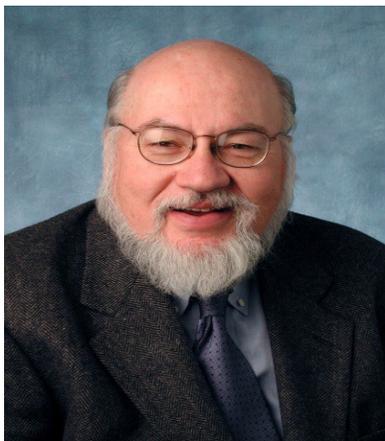
Mark E. Crosby has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. Crosby serves as the President and CEO of the Enterprise Wireless Alliance (EWA), a national association representing the wireless communication regulatory and spectrum allocation interests of private business enterprises, wireless sales/service organizations, private and commercial communication service providers and technology manufacturers. From 2001 to 2004, Crosby served as President of Access Spectrum LLC, a band manager licensee dedicated to providing exclusive spectrum with state-of-the-art equipment and engineering to create end-to-end wireless communication systems in the 220 MHz and 700 MHz bands. He is a member of Access Spectrum's board of directors, serves as Secretary/Treasurer of the Land Mobile Communications Council, and is President of Spectrum Equity, Inc., a wholly-owned subsidiary of EWA organized to pursue strategic spectrum ventures. Crosby served as President and CEO of the Industrial Telecommunications Association from 1975-2001. Crosby earned his B.S. degree in Finance from the University of Maryland and is a graduate of the U.S. Chamber of Commerce's Institute for Organization Management, University of Delaware.



Thomas S. Dombrowsky, Jr. has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2011. Dombrowsky is a Senior Engineering Advisor with the law firm of DLA Piper LLP, where he provides technical advice and guidance to clients concerning wireless spectrum matters. Dombrowsky specializes in spectrum policy matters, especially with respect to issues that affect commercial mobile service providers. Over the past few years, Dombrowsky has been involved heavily in the National Broadband Plan spectrum reallocation discussions, including the Mobile Satellite Service proceedings and the recent proceedings concerning the reallocation of additional TV broadcast spectrum for mobile broadband services. Previously, Dombrowsky held several positions within the Federal Communications Commission's Wireless Telecommunications and Private Radio Bureaus where he worked on commercial mobile spectrum policy and licensing matters. He earned a B.S. in Electrical Engineering from Lehigh University.



H. Mark Gibson (Co-Chair) has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2011. Gibson has more than 30 years of spectrum management experience and is responsible for developing domestic and international business opportunities for Comsearch. He has led Comsearch's spectrum management efforts including the development of spectrum sharing analysis protocols and sharing criteria, as well as development of Comsearch's engineering services and software products. Gibson authored several papers on spectrum sharing and relocation and has advised numerous wireless participants in their system design. He is a Senior Member of IEEE. He received his BSEE from the University of Maryland.



Dale N. Hatfield has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. Hatfield is a Senior Fellow at the Silicon Flatirons Center for Law, Technology, and Entrepreneurship and an Adjunct Professor in the Interdisciplinary Telecommunications Program – both at the University of Colorado at Boulder. Prior to joining the University of Colorado, Hatfield was the Chief of the Office of Engineering and Technology at the Federal Communications Commission (FCC) and, immediately before that, he was Chief Technologist at the agency. He retired from the FCC and government service in December 2000. Before joining the FCC in December 1997, he was Chief Executive Officer of Hatfield Associates, Inc., a Boulder, Colorado-based multidisciplinary telecommunications consulting firm. Before founding the consulting firm in 1982, Hatfield was Acting Assistant Secretary of Commerce for Communications and Information and Acting Administrator at NTIA. Prior to joining NTIA, Hatfield was Chief of the Office of Plans and Policy at the FCC. Until recently, Hatfield was the Executive Director of the Broadband Internet Technical Advisory Group. He also serves on the FCC's Technology Advisory Council. Hatfield has nearly 50 years of experience in telecommunications policy and regulation, spectrum management and related areas. He holds an M.S. in Industrial Management from Purdue University and a B.S. in electrical engineering from Case Institute of Technology.



Carolyn A. Kahn became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Kahn is Principal Economics & Business Analyst and Group Leader at The MITRE Corporation, where she provides expertise in spectrum economics, policy, and strategy across portfolios of projects. For nearly 20 years, Kahn has provided independent advice, analysis, and support to senior officials to address the most challenging and sensitive economic and business problems in the radio frequency spectrum domain. Kahn served on the organizing committee and helped facilitate the White House Office of Science and Technology Policy (OSTP) Wireless Spectrum Research and Development (WSRD) Workshop on Federal-Commercial Spectrum Sharing: Models, Applications, and Impacts of Incentives for Sharing, and is a co-author of its report. She previously led the Business and Investment Analysis core competency area within MITRE's Center for Acquisition and Management Sciences and also served as Lead Economic Advisor to the International Consortium for Telemetry Spectrum. Kahn earned an MBA in Finance and Marketing from McGill University and a B.A. with High Honors in Economics and International Studies from Brandeis University.



Dr. Paul Kolodzy has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Kolodzy is an independent telecommunications consultant to government and commercial clients. His areas of expertise include the development of advanced component, device, and system technology; advanced architectures; interference analysis; and spectrum policy, regulation and acquisition. He has been active in broadcast; cellular including 700 MHz, AWS-1, AWS-3, and AWS4; and public safety spectrum policy and regulation. Prior to his work as an independent consultant, Kolodzy was the Director of the Wireless Network Security Center at the Stevens Institute of Technology. He also served as the Senior Spectrum Policy Advisor and the Director of the Spectrum Policy Task Force at the Federal Communications Commission. He also has worked as a program manager at the Defense Advanced Projects Agency, and was the Director of Signal Processing and Strategic Initiatives at Lockheed Martin Sanders (now BAE). He began his career as a Group Leader and Staff Member at MIT's Lincoln Laboratory. Kolodzy is also a member of the National Research Council Panel on Active Sensing and founder and Executive Committee Member of the IEEE Dynamic Spectrum Access Network Symposium. He holds a Ph.D. degree in Chemical Engineering from Case Western Reserve University and a B.S. in Chemical Engineering from Purdue University.



Mark N. Lewellen became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Lewellen is Manager of Spectrum Advocacy of Intelligent Solutions Group (ISG) at Deere & Company (John Deere). Of particular interest to him are spectrum concerns related to GPS and Global Navigation Satellite Systems (GNSS), interference protection standards for receivers, spectrum allocation policies and more recently rural broadband. As a founding member and Secretary of the Executive Committee for the GPS Innovation Alliance, he seeks to protect, promote and enhance the use of GPS. Lewellen has over thirty years of spectrum management experience successfully advocating technical and regulatory issues for a variety of government and commercial organizations. He is an active member of the Agricultural Broadband Coalition (ABC) and was re-appointed to the Board of Directors for the Mobile Satellite Users Association (MSUA). He received his BSEE from West Virginia University.



Dr. Allen B. MacKenzie became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. MacKenzie is an Associate Professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech, where he has been on the faculty since 2003, and is the associate director of Wireless @ Virginia Tech, a major research center in wireless communications and networking. MacKenzie was awarded an E. T. S. Walton Visiting Professorship at Trinity College Dublin by the Science Foundation Ireland for the 2012-2013 academic year. He is an area editor of IEEE Transactions on Communications and an associate editor of IEEE Transactions on Cognitive Communications and Networking. His areas of expertise include dynamic spectrum access; cognitive radio and cognitive network algorithms, architectures, and protocols; and the analysis of such systems and networks using game theory. MacKenzie is the author of more than 90 refereed conference and journal papers and a co-author of the book Game Theory for Wireless Engineers. MacKenzie has a Ph.D. from Cornell University.



Dr. Mark A. McHenry has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. McHenry is President and Chief Technology Officer of Shared Spectrum Company, which he founded in 2000. McHenry was also a co-founder of San Diego Research Center Inc., which focused on Defense Department test and training systems. McHenry was a Program Manager at the Defense Advanced Research Projects Agency, where he managed multiple tactical wireless related programs. McHenry received the Office of Secretary of Defense Award for Outstanding Achievement in 1997 and the Office of Secretary of Defense Award for Exceptional Public

Service Award in 2000. McHenry was an engineer at SRI International, Northrop Advanced Systems, McDonnell Douglas Astronautics, Hughes Aircraft, and Ford Aerospace. McHenry was named Engineer of the Year by the District of Columbia Council of Engineering and Architectural Societies in February 2006. McHenry received his Ph.D. in Electrical Engineering from Stanford University, M.S. in Electrical Engineering from the University of Colorado, and B.S. in Engineering and Applied Science from the California Institute of Technology.



Donna Bethea Murphy became a member of the NTIA's Commerce Spectrum Management Advisory Committee in 2016. Bethea-Murphy is the Senior Vice President of Global Regulatory Policy and Development for Inmarsat. She leads the company's domestic and international regulatory policy activities. She has also been appointed to the Federal Communication Commission's Communications Security, Reliability and Interoperability Council and the National Telecommunications and Information Administration's Commerce Spectrum Management Advisory Committee. She

also serves on the UN Broadband Commission for Sustainable Development, where she manages a Working Group on broadband technologies in space and the upper atmosphere. She is Vice Chair and a founding member of the ITU Smart Sustainable Development Board and Focal Point on the ITU/UNESCO Broadband Commission for Sustainable Development. She was previously Chair of the USITUA Board. Prior to joining Inmarsat, Bethea-Murphy was Vice President of Regulatory Affairs for Iridium, Senior Director of Spectrum Policy at the PanAmSat Corporation, Director of Technology and Regulatory Affairs for AirTouch Communications, and responsible for international and domestic spectrum policy at the FCC. She holds a BS in Electrical Engineering from Clemson University.



Janice Obuchowski has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. Obuchowski is President of Freedom Technologies, has held several leadership positions, both in the United States government and in the private sector. Obuchowski served as the U.S. Ambassador to the World Radiocommunications Conference 2003 in Geneva, Switzerland and as Assistant Secretary for Communications and Information at the Department of Commerce under President George H.W. Bush. Obuchowski also held several positions at the Federal

Communications Commission (FCC), including Senior Advisor to the Chairman. Milestones in her career included writing the legal support for not regulating computer and Internet services as Title II common carriers as an FCC staff lawyer, leading Executive Branch advocacy for spectrum auction legislation as NTIA's Assistant Secretary, and successfully driving the U.S. effort for international adoption of Wi-Fi at WRC 2003. Obuchowski's private sector career includes board service, corporate experience and entrepreneurship. Earlier in her career, Obuchowski was at NYNEX (now Verizon) and in private antitrust law. She earned a J.D. from the Georgetown University Law Center and graduated with Honors from Wellesley College.



Carl Povelites has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2011. Povelites is Assistant Vice President Public Policy, Mobility, for AT&T. He leads a group responsible for the development of public policy initiatives for AT&T's wireless business to advance and facilitate AT&T Mobility's business initiatives on a wide-range of issues, from spectrum policy to emerging devices and technologies to safe driving. With more than 20 years of experience in the wireless industry, Povelites has had the opportunity to participate in and actively shape its extraordinary growth. Povelites joined AT&T Mobility (formerly as known Cingular) as Executive Director of External Affairs in

December 2000. Prior to joining Cingular, he was Vice President of Regulatory Affairs for Evolution Networks, a start-up fiber-optic networking company. He began his telecommunications career as a pricing analyst for Contel Telephone Operations in 1986, joining GTE Wireless in 1990 and was responsible for state regulatory and legislative activities. While at GTE Wireless, his responsibilities expanded to include state and federal regulatory and legislative activities as the Assistant Vice President of Government Relations. Povelites earned his Bachelor's degree in Economics and Management and an MBA degree from New Mexico State University.



Mark Racek became a member of the NTIA's Commerce Spectrum Management Advisory Committee in 2016. Racek is Senior Director of Spectrum Policy for Ericsson. Racek spent his early years at Ericsson standardizing a product family based on the Enhanced Digital Access Communication System architecture within the Telecommunications Industry Association engineering committees and International Telecommunication Union. This trunking-based EDACS communications system served industrial and business needs, but primarily served two-way radio communications for Public Safety. During this time, Racek also developed traffic simulations for

operational analysis and system design. Racek has also been involved in the development of an expert system for dynamic reconfiguration of a fault tolerant communication network for NASA. In his current role, Racek is involved in the development of Ericsson's global spectrum strategies.



Charla Rath has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Rath is Vice President of Wireless Policy Development at Verizon, where she leads a team engaged in the development of Verizon's public policy positions on long term spectrum policy issues. Previously, as Executive Director of Spectrum and Public Policy at Verizon Wireless, Charla worked with the company's business development and network planning groups to address policy and regulatory issues related to the acquisition of spectrum. Prior to joining Verizon Wireless, Rath served as Vice President – Strategic Affiliations, of NextWave Telecom, Inc. and Vice President of

Freedom Technologies, Inc., a Washington, D.C.-based telecommunications consulting firm. She also served as advisor to Federal Communications Commission Chairman Alfred C. Sikes on common carrier and spectrum policy issues and as a primary specialist in spectrum and Internet policy at the National Telecommunications and Information Administration. Rath has a B.S.F.S. (Foreign Service) in International Economics and Finance from Georgetown University and a M.A. degree in Science, Technology, and Public Policy from The George Washington University.



Richard L. Reaser, Jr. has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2009. Reaser is head of the Spectrum Management and Electromagnetic Environmental Effects Department for Raytheon Company's Space and Airborne Systems.

Reaser has more than 35 years of expertise in spectrum matters, engineering and program management. In his current position, he plans and coordinates SAS use of electromagnetic spectrum and executes E3 technical designs consistent with applicable specifications, standards, laws and regulations to meet customer product needs. Reaser joined

Raytheon in August 2006. Prior to joining Raytheon, he was deputy system program director and chief engineer for the \$32 billion Navstar Global Positioning System. He served as deputy director of spectrum management in the Office of the Secretary of Defense and held spectrum positions in the White House and State Department. He was technical advisor to the U.S. Ambassador to the World Radio Communications Conference (WRC) 2000 and was a U.S. Spokesperson at WRC-2003. He negotiated landmark navigation and communication signal and spectrum agreements between the United States, Russian Federation, France, Japan and European Union. Reaser earned his bachelor's degree in engineering mechanics from the U.S. Air Force Academy. He holds master's degrees in systems technology (command, control, communications) and national resource strategy from the Naval Postgraduate School and National Defense University, respectively. He retired from the Air Force after 28 years of service at the rank of Colonel.



Dennis A. Roberson has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2011. Roberson is President/CEO of Roberson and Associates, a technology and technology management consulting company. He is also a Computer Science Research Professor at Illinois Institute of Technology where he was co-founder of IIT's Wireless Network and Communications Research Center. His research focuses on dynamic spectrum access networks, spectrum measurement and management, and wireless interference and mitigation. Previously he was Vice Provost for Research at Illinois Institute of Technology and before that Motorola's EVP/CTO. He had an extensive corporate career including business/technology responsibilities at IBM, DEC (now part of HP), AT&T, and NCR. He has been involved

with numerous technology, educational, and youth organizations including current board service on several technology-based companies. He serves as Chair of the FCC-Technological Advisory Council, and Chair of SonSet Solutions. Mr. Roberson has BSEE and BS Physics degrees from Washington State University and an MSEE from Stanford.



Andrew Roy became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Roy is the Director of Engineering Services at Aviation Spectrum Resources, Inc. (ASRI), advising US airlines and other commercial aviation users on spectrum engineering and regulatory considerations for aeronautical systems. Roy represents ASRI at the Federal Communications Commission (FCC), International Telecommunication Union (ITU), and International Civil Aviation Organization (ICAO), and is Executive Secretary for the US Aeronautical Frequency Committee. He is Vice-Chairman of the

ICAO Frequency Spectrum Management Panel, and regularly chairs aeronautical working groups at the ITU. Roy is actively involved, both domestically and internationally, with spectrum issues for radar systems, GPS protection, aeronautical regulatory planning, aircraft radio altimeters, and VHF channel planning for national datalinks. Roy is a veteran of the UK Royal Air Force, serving as a communications engineering officer. His military tours included managing spectrum for operations and procurement, deploying radio networks in Afghanistan, and leading the engineering for deployable aircraft command and control centers. Roy earned his MEng degree in Systems Engineering from Loughborough University, and is a Chartered Engineer at the Institute of Engineering and Technology.



Kurt Schaubach has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Schaubach is Chief Technology Officer at Federated Wireless, where he plays a key role in developing technologies and new business strategies to create the next-generation architecture of broadband wireless. He was most recently Vice President and Chief Technology Officer at the National Rural Telecommunications Cooperative (NRTC) where he was responsible for the company's wireless and broadband technology strategy and product development. Previously, Schaubach served in various engineering roles at NextWave Wireless, LCC International,

and Southwestern Bell and has also served as a technology consultant to wireless network operators, equipment manufacturers, and semiconductor suppliers. He was a founding member of a publicly traded wireless broadband and multimedia software company and led the acquisition and integration of two wireless infrastructure companies. Schaubach has been active in spectrum development, management, and policy matters throughout his career. He currently co-chairs the Spectrum Sharing Committee of the Wireless Innovation Forum. Schaubach earned his B.S. and M.S. degrees in Electrical Engineering from Virginia Polytechnic Institute & State University



Steve Sharkey has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Sharkey is Senior Director, Chief Engineering and Technology Policy in T-Mobile's Government affairs office in Washington, D.C. He is responsible for T-Mobile's technical policy agenda and manages a team of technical experts to achieve the company's policy goals. Prior to joining T-Mobile, Sharkey was Senior Director, Regulatory and Spectrum Policy in Motorola's Global Government Affairs office in Washington, D.C. where he had overall responsibility for Motorola's global regulatory and advocacy efforts. He managed a global technical, regulatory and advocacy team that includes expertise in a wide variety of spectrum, technology and trade related issues. Prior to joining Motorola, Sharkey was the lead technical representative for the Washington, D.C. office of AirTouch Communications. In this capacity he worked on a number of spectrum and mandate-related issues, including CALEA, TTY, and location based initiatives. Prior to AirTouch, Sharkey served in a variety of roles at the Federal Communications Commission, including in the Office of Engineering and Technology, where one of his responsibilities was as an alternative liaison representative to the IRAC, and as Chief, Satellite Engineering Branch in the International Bureau. Sharkey has a B.S. in Electrical Engineering from the University of Delaware.



Mariam Sorond has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2014. Sorond is Vice President of Technology Development for DISH Network, LLC. In this position, she is responsible for spectrum technology and strategy, Radio Access Network and LTE development, technology evaluations, and standards development. Sorond's expertise covers both domestic and international spectrum frequency bands. Sorond has been involved with the wireless industry for more than nineteen years. Prior to joining DISH, she worked for several operators, including ICO, Nextel, and PrimeCo and vendors such as Alcatel-Lucent. She has a broad range of experience and significant technical expertise working across most wireless technologies for both mobile and fixed terrestrial and satellite networks. Sorond holds B.S. and M.S. degrees in Electrical Engineering from the University of Houston.



Bryan Tramont has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. Tramont is Managing Partner at Wilkinson Barker Knauer, LLP, specializing in communications law and policy. As Managing Partner since 2008, he has designed and executed the firm's growth strategy and managed client development. He regularly provides advice to clients on the full range of communications issues, especially spectrum. For more than six years, Tramont served as a key spectrum advisor to the FCC Chairman and two FCC Commissioners. As the Chief of Staff to

Chairman Michael K. Powell, he led efforts to reform spectrum policy, improve coordination with NTIA, and streamline the World Radio Conference process. Tramont earned his law degree from Yale Law School, where he served as editor of the *Yale Law & Policy Review*, and graduated *summa cum laude* from The George Washington University with a degree in Political Science.



Jennifer Warren has served as a member of NTIA's Commerce Spectrum Management Advisory Committee since 2006. Warren serves as Vice President, Technology Policy, and Regulation, in the Lockheed Martin Washington Operations' Government and Regulatory Affairs. In this position, she is responsible for managing the development and implementation of corporate domestic and international regulatory, licensing and associated policy strategies, including in the areas of spectrum access/operations, commercial space, cyber security, and sustainability. Prior to joining Lockheed Martin in 1996, Warren served in

various capacities at the Federal Communications Commission, including Senior Legal Advisor, International Bureau and Assistant Chief, Wireless Telecommunications Bureau. Since 1995, she has served on the U.S. Delegations to the International Telecommunication Union's World Radio Conferences, and oversees Lockheed Martin's participation in the ITU and regional organizations. Prior to joining the FCC, Warren was at the Commission of the European Union in Brussels, and in Washington, D.C. Warren is a graduate of Georgetown University (B.S. in Languages) and Georgetown University Law Center (J.D.).



Christopher G. Weasler became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Weasler is Global Head of Spectrum Policy and Connectivity Planning at Facebook, where he has been since early 2012. In this role he is one of the key stakeholders driving Internet.org's connectivity strategy. Weasler and his team provide direct support for Facebook's Connectivity Lab and the Telecom Infra Project (TIP). He has also led Facebook's connectivity for refugees initiative and the company's connectivity response to the ebola crisis in west Africa. Previously, Weasler managed Facebook's partnerships with mobile operators. Prior to Facebook, Weasler has held a range of senior operational and strategic roles including VP of Business Development at LightSquared and VP of Global Development and Roaming at Sprint Nextel, while also launching the first wireless PDA at Palm, and leading the product and business development for OmniSky's wireless portal. He has also consulted with start-ups and wireless operators and advised the FCC on a host of roaming and spectrum issues. Early in his career, Weasler wrote custom software applications for telco clients while at Accenture, and provided strategic consulting services to international telco clients while at KPMG. He has an undergraduate degree from Marquette University and an MBA from Dartmouth's Tuck School.



Robert D. Weller became a member of NTIA's Commerce Spectrum Management Advisory Committee in 2016. Weller is currently Vice President for Spectrum Policy at the National Association of Broadcasters. Prior to joining NAB he was Chief of Technical Analysis in the FCC's Office of Engineering and Technology. Weller has over thirty years of spectrum management and regulatory experience, divided equally between the public and private sectors. He has spent his career developing, enhancing and applying mathematical models relating to radio wave propagation, RF safety, frequency allotments, and pursuing technology-based initiatives to improve spectrum efficiency and utilization. He has written extensively on signals analysis, interference mitigation, and various other regulatory matters. Weller earned B.S. and M.S. degrees in Electrical Engineering from the University of California at Berkeley and The George Washington University.