

date	from	section	comment	response	change	discussed
2016-03-15	IEEE 802.11 WG	2.1	Title: Replace " for" with "," Suggested Title: "Standard for Air Interface for Broadband Wireless Access Systems – Amendment: Fixed and Mobile Wireless Access in Channel Bandwidth up to 1.25 MHz"	Agreed	In Title, Replace "Amendment for" with "Amendment:"	x
2016-03-15	IEEE 802.11 WG	4.2/4.3	The Date for 4.2 seems aggressive, and the minimum time between these two dates should be at least 6 months.	The schedule anticipates quick action because the Scope of the project is directed at an update to the Profiles of the standard, not to the development of a new air interface. However, upon further review, we agree that 4.3 date is overly optimistic.	Change 4.3 to October 2017.	x
2016-03-15	IEEE 802.11 WG	3.3	indicates Joint Sponsorship – 7.2 says that no joint development will be done. Then why the Joint Sponsorship?	In our understanding, 7.2 Joint Development is separate from 3.3 Joint Sponsor. Our understanding of 3.3 Joint Sponsor is that it reflects project co-sponsorships, as detailed in the IEEE-SA Standards Board Operations Manual, 5.1.2.2 ("Co-sponsored projects"). That subclause says: "For projects that are co-sponsored, a primary Sponsor and other co-sponsors shall be indicated on the PAR; project oversight will be performed using the P & P of the primary Sponsor." We are not entirely sure about "Joint Development", but we believe it would involve a more intensive engagement than that of a co-sponsorship. For example, with co-sponsorship, "project oversight will be performed using the P & P of the primary Sponsor." That is the case here. For additional information, see the comment response on Row 10 below. In order to avoid confusion, we propose adding a note.	Add to 8.1: 7.2 The co-sponsorship specified under "3.3 Joint Sponsor" is not a Joint Development activity. Instead, it reflects the ongoing co-sponsorship of IEEE Std 802.16 per the IEEE-SA Standards Board Operations Manual, 5.1.2.2 ("Co-sponsored projects").	x
2016-03-15	IEEE 802.11 WG	5.3	802.16-2016 does not exist. Is this trying to suggest a new revision project?	The intent of the answer was to suggest that the project is dependent on a new revision of the base standard. However, the response is not clear on this point.	Change 5.3 from "IEEE Std 802.16-2016" to IEEE Std 802.16-201x".	x
2016-03-15	IEEE 802.3 WG	4.3	Completion of Sponsor ballot in four months seems a bit aggressive and will likely draw NesCom comment. (There is no penalty for beating PAR dates, but often there is NesCom pushback for aggressive dates.)	Upon further review, we agree that the 4.3 date is overly optimistic.	Change 4.3 to October 2017.	x
2016-03-15	IEEE 802.3 WG	5.3	If a revision of 802.16 has been approved, it is complete, then it shouldn't be listed. If the 802.16 revision is not approved, it is inappropriate to include the year (e.g., use IEEE Std 802.16-201x)	Agreed	Change 5.3 from "IEEE Std 802.16-2016" to IEEE Std 802.16-201x".	x
2016-03-15	IEEE 802.3 WG	7.2	A joint sponsor (3.3) but not joint development may raise questions. Please explain, it may be appropriate to explain in 8.1	In our understanding, 7.2 Joint Development is separate from 3.3 Joint Sponsor. Our understanding of 3.3 Joint Sponsor is that it reflects project co-sponsorships, as detailed in the IEEE-SA Standards Board Operations Manual, 5.1.2.2 ("Co-sponsored projects"). That subclause says: "For projects that are co-sponsored, a primary Sponsor and other co-sponsors shall be indicated on the PAR; project oversight will be performed using the P & P of the primary Sponsor." We are not entirely sure about "Joint Development", but we believe it would involve a more intensive engagement than that of a co-sponsorship. For example, with co-sponsorship, "project oversight will be performed using the P & P of the primary Sponsor." That is the case here. For additional information, see the comment response on Row 10 below. In order to avoid confusion, we agree to adding a note as suggested.	Add to 8.1: 7.2 The co-sponsorship specified under "3.3 Joint Sponsor" is not a Joint Development activity. Instead, it reflects the ongoing co-sponsorship of IEEE Std 802.16 per the IEEE-SA Standards Board Operations Manual, 5.1.2.2 ("Co-sponsored projects").	x
2016-03-15	Paul Nikolich	5.1	please provide justification for the approximately 15 participants identified here. Approximately how many man-years of effort will be required to complete the project? Which classes of entities (e.g., silicon vendor, system vendor, service provider, etc.) do you believe will sponsor for these 15 individuals over the project's 18 month duration? The main reason for my questions are due to the fact the level of industry investment in the 802.16 working group has been extremely low the past two years to the point we've had to withdraw the 802.16.3 PAR and I'd like assurance this project will have a high probability of completion.	This project request was initiated mainly by new participants from outside 802 who are engaged in supplying or using equipment based on IEEE 802.16 and are interested in adapting it for different radio spectrum opportunities. These participants are primarily representative of critical infrastructure industries, notably electrical power. In the past, many have been users, rather than developers, of IEEE 802.16. However, in the current environment in which 802.16 activity is at a nadir, they have recognized that their direct participation is required to specify the necessary modifications. Among the parties motivated to develop this standard and actively engaged in the development work to this point have been spectrum holders eager to develop these assets, electrical power utilities seeking interoperable standards-conformant equipment, utility communications gear vendors wishing to support a new market niche, and trade associations representing the electrical power utility industry and telecommunications for that industry. All of these market segments participated in the 19 January tutorial on the proposed project, sponsored by the IEEE 802.16 WG and the IEEE 802.24 TAG and attended by about 50 people. Individuals affiliated with five equipment vendors and at least one silicon developer have participated in 802.16 meetings arranged for the discussion and preparation of this proposal. Some of these vendors have multiple individuals participating, and we anticipate their continued involvement. In addition, spectrum rights owners have also been actively involved in the project planning. Utilities have expressed interest in the development of this standard, and would likely participate, in the requirements stage and in draft review if not at the contribution stage. Utilities also influence vendors toward standardize solution through their RFP process; this may result in additional vendors becoming involved, and provide an incentive to all vendors to support a successful completion of this project. Because of the nature of the amendment and the market, some participants have advocated for solutions that can leverage existing silicon, and implementation may be based on generic SDR platforms, so the market will not be reliant on the development of new silicon. Overall, based on our understanding of the players and their past participation, we can envision direct participation from 2 individuals from silicon designers, 8 from systems manufacturers, 1 or 2 from utilities, 2 from industry organizations, and 1 or 2 from spectrum rights holders, in addition to the small but ongoing membership.		x
2016-03-15	James Gilb	3.3	Would you please explain to me (i.e., respond on the list, no text needs to go into the PAR). 1) Why joint sponsorship with MTT is a good idea. 2) What the impact of the joint sponsorship would be on the development of the draft.	Before answering directly, we want to provide some background information. The MTT Society has been a co-sponsor of the base standard and its amendments since 2001. Procedures for co-sponsored projects are specified in §5.1.2.2 of the IEEE-SA Standards Board Operations Manual, which states that "requests to update a co-sponsored document via an amendment or corrigendum shall be submitted to the primary Sponsor; the primary Sponsor is required to seek concurrence of all co-sponsors in the decision of whether or not to submit a PAR to address a requested update." The MTT Society has granted such concurrence <https://mentor.ieee.org/802.16/dcn/16/16-0014-00.pdf>. One reason that co-sponsorship is a good idea is that we already have it in place in the base and the co-sponsor concurs with the amendment under which the co-sponsor remains in place. If we attempted to remove the co-sponsor through the amendment process, we are not sure of the co-sponsorship status of the standard in its entirety. Furthermore, we are not sure that the co-sponsor would concur with an amendment project from which it was excluded. Another reason that co-sponsorship is a good idea is that the MTT Society, per the concurrence statement, is "happy to support this" and "values its association with this activity." Given that the Working Group is currently operating at a low level of activity, we think that turning a cold shoulder to a supporter would be a bad idea. As to the development of the draft, we do not believe that the co-sponsorship arrangement will have any direct impact. Under the arrangements made with the MTT Society long ago, MTT participants receive an invitation to Sponsor Ballot. Other than that, we have no obligation to that co-sponsor. Under §5.1.2.2, "the administrative committee (AdCom) or the executive committee (ExCom) of each co-sponsor shall have access to pre-Sponsor-ballot drafts," which we hope will encourage broader participation in the project. Other than those terms, we don't expect any direct implications. However, the MTT Society has, in the past, brought our standardization efforts to their audience; in the early days, it even provide financial support to WG interim sessions. We see no good reason to turn our backs on our friends at this point. In order to address the requirement of §5.1.2.2 of the IEEE-SA Standards Board Operations Manual, we are adding to the PAR notes a reference to the statement of concurrence.	Add to 8.1: 3.3 In accordance with §5.1.2.2 of the IEEE-SA Standards Board Operations Manual, the co-sponsor of the base standard has provided a statement of concurrence <https://mentor.ieee.org/802.16/dcn/16/16-0014-00.pdf> with the PAR.	x

date	from	section	comment	response	change	discussed
2016-03-15	James Gilb	5.2.b	Present tense, change "will target" to "targets"	Agreed	In 5.2.b, change "will target" to "targets". Likewise, change "will also support" to "also supports".	x
2016-03-15	James Gilb	5.2.b	There is now at least one specific band (700 MHz, but no bandwidth), and VHF and UHF are listed, but no other specific frequencies are indicated. Please specify the frequency range that is in scope. The ITU defines the frequency range for VHF/UHF to be 30 MHz to 3 GHz. Is the entire VHF/UHF range really the target of this amendment?	For a license-band operation, we do not see a technical justification to limit carrier frequency at which the protocol can be implemented. Potential users may get access to available spectrum at various VHF/UHF frequencies, and we would prefer to steer the standard to support any of them. We do not believe that excessive customization of the standard will be required to cover the anticipated range; various implementations will support the standardized protocol according to the license available to the user. Note that the base standard is also written to support operation that is largely independent of carrier frequency. We are currently aware of several bands where this amendment would apply. The 700 MHz Upper A Block is one such band, consisting of two 1 MHz wide channels. Other similar blocks of licensed spectrum exist in the vicinity of 217 MHz, at 901-902 MHz, and around 1431 MHz. These bands have the common characteristic of a bandwidth insufficient to support 802.16 or LTE as currently specified.		x
2016-03-15	James Gilb	5.2.b	The scope does not provide guidance on the required data rates or ranges, yet these are critical in developing the standard. In addition, it is not possible to assess the technical feasibility of the proposed standard without these numbers. Please provide numerical ranges for data rate and range in the scope of the standard.	<p>Because the project would be a profile amendment, rather than a new radio interface, the data rates or ranges are not critical in driving the design of the standard but, for the most part, result from the existing standard, given the channel bandwidth and carrier frequency available to deploy it, along with other deployment parameters unspecified in the standard.</p> <p>In wireless access systems such as those to be supported, a wide range of data rates and ranges are feasible deployment targets, given a tradeoff of other parameters, such as power, channel bandwidth, antenna height, antenna gain, uplink/downlink ratio, frame length, frequency re-use plans, cell-edge vs peak rates, and other variables. The achievable results are largely depend on system configuration choices that are outside the scope of the standard. The intention is not to guarantee any minimum data rate or minimum transmission distance.</p> <p>Some analysis has been done on potential profile variations to the OFDMA PHY in 802.16-2012. This analysis shows average PHY rate per cell ranging from 346 kbit/s to 1751 kbit/s when operating in 1 MHz wide spectrum. The amendment intends to specify new profiles of the existing standard.</p> <p>Note that, in licensed wireless systems, the definition of "distance" is primarily up to the implementation and system design and less constrained by the standard or regulations. Many licensed bands allow RF power of 1 KW or higher, which is more of an economic limit than regulatory. In addition, the selection of tower height and antenna gain are additional parameters under the control of the designer to meet specific range requirements. In general, 802.16 systems are often designed to support ranges on the order of 10 to 25 km from base station to subscriber station. Range (e.g. power) may be reduced to increase network density and overall capacity, or specific links may be optimized for longer ranges.</p>		x
2016-03-15	James Gilb	General	While this is an 802.16 amendment, most of the expertise from 802.16 is no longer participating in the WG. I think that to encourage wider input and to avoid dominance issues that are sometimes present in very small voting populations, this project should be done in the 802.15 WG. My recommendation to the EC, if this PAR is to be forwarded to RevCom for IEEE SASB approval is that this work be assigned to 802.15.	We appreciate the concern. We also agree that relevant expertise may reside within the 802.15 WG and would encourage its engagement. However, we believe that the 802.15 WG members are already responsible for many topics and may not want to be obligated to others. Alternatively, we would propose to invite all 802.15 WG members to join the WG ballot group, at their option. Also, we are open to coordinating activity in the project with the 802.15 working group; for example, offering reciprocal attendance credits, incorporating 802.16s meeting schedules and announcements into 802.15 presentation materials; presenting updates at 802.15 plenary meetings, etc., so that the work is readily accessible to the 802.15 participants. We encourage ties with other WGs as well.		x