To: Arnie Greenspan, Chair, IEEE 802.20 Working Group
From: Roger Marks, Chair, IEEE 802.16 Working Group

Dear Arnie,

Thank you for your comments below. We understand that these comments were prepared by a number of individual 802.20 participants. Given the number and disparity of the comments, we are challenged to respond to all of them in detail.

In our conversation this morning, you indicated, in my understanding, that one important concern of some 802.20 members was that the PAR not imply that it would represent the exclusive contribution of IEEE 802 toward IMT-Advanced. Our reading of comments seems to confirm that this concern was indeed expressed.

As a result of comments we have received, we have made clear and specific edits to the draft PAR and Five Criteria. We have addressed the specific concern you identified. We are submitting a revised PAR and hope that you appreciate the improvements.

Please let me know if you would like me to review the changes in front of your Working Group this week.

Regards,

Roger

Proposed comments to IEEE 802.16 WG

Submitted by IEEE 802.20
Date: November 14, 2006

Submitter: Richard Stuby

Comment:
I do not believe that 802.20 can come to a consensus on, or should provide, explicit change requests on the 802.16m PAR.

Therefore, I recommend that 802.20 only comment that 802 should ensure that the 802.16m PAR not preclude other 802 working groups from seeking to support and participate in IMT-Advanced.

Submitter: Sassan Ahmadi (Intel Corporation)

Comment:

802.20 PAR was granted in 2002 where the “systems beyond IMT-2000” (IMT-advanced) project was not initiated in ITU-R. Therefore, 802.20 project is not considered an existing project with IMT-advanced targets.

At this time, there is no other WG whose PAR has specifically targeted IMT-advanced in 802. Therefore, the language in 802.16m PAR is correct.

It is not the responsibility of any WG to entertain/address/predict potential projects from other WG.

802.16m PAR does not prohibit other WG to initiate projects targeted toward IMT-advanced in the future.

Upon completion of development of IMT-advanced requirements in ITU-R, this WG and any other WG may find their technologies compliant with IMT-advanced. That is not predictable at this time.

Submitter: Jim Ragsdale

Comment:

Section 7.1 should say YES and list 802.20, 802.11, 802.21, 802.22 etc

PAR is premature since the requirements have not been set yet by the ITU as yet and will not until 2008. It is not necessary to have a PAR for IEEE 802 to participate in the requirements process in the ITU. But again, this should be a 802 wide activity and not just an 802.16 effort.

Langauage in the PAR is exclusive to other technologies being developed in 802 besides 802.16.

Submitter: Jim Tomcik

Comment:

Below are suggested wording changes to 802.16m PAR and 5C:

PAR

7.1 Other Standards or Projects

Other standards ~~developing~~ development organizations external to IEEE as well as other IEEE 802 working groups (such as 802.20) may develop proposals for inclusion in IMT-Advanced. However, we have no specific knowledge of such proposals at this time.

Five Criteria

Distinct Identity

a) No ~~other~~ existing IEEE 802 standard meets the preliminary IMT-Advanced target data rate requirements, including 1 Gbit/s data rate in low mobility applications and 100 Mbit/s in high-speed mobility applications.

b) The 802.16m amendment will be the only submission based on the IEEE 802.16 standard submitted to ITU-R for inclusion in IMT-Advanced. Independently other 802

working groups could also make submissions to the ITU-R for inclusion in IMT-Advanced. The IMT-Advanced radio interfaces will be developed through international consensus-building within the ITU-R Process to achieve appropriate harmonization.

Submitter: Joanne Wilson

Comment:

Comments on the 802.16m PAR and the 5 Criteria Documents

I. Comments on the 802.16m PAR

7.1 Are there other standards or projects with a similar scope? ~~No~~ YES
If yes, please explain: ~~Other standards developing organizations may develop proposals for inclusion in IMT-Advanced. However, we have no specific knowledge of such proposals at this time.~~
Standards developed by other IEEE 802 working groups (e.g. 802.20, 802.11, 802.21 and 802.22) may also meet the requirements that will be established for IMT-Advanced. This project is not intended to preclude the submission of other IEEE 802 standards to the ITU-R for IMT-Advanced. Additionally, it is anticipated that other non-IEEE 802 standards, such as those based on specifications developed by 3GPP and 3GPP2, will also be submitted to the ITU-R for IMT-Advanced. At this time, there is no indication about the number of standards that may be proposed or the number of standards that may be adopted by the ITU-R for IMT-Advanced.

II. Comments on the 802.16m Five Criteria

Distinct Identity

Each IEEE 802 standard shall have a distinct identity. To achieve this, each authorized project shall
be:
a) Substantially different from other IEEE 802 standards.
b) One unique solution per problem (not two solutions to a problem).
c) Easy for the document reader to select the relevant specification.

a) No other IEEE 802 standard meets the preliminary IMT-Advanced target requirements, including 1 Gbit/s data rate in low mobility applications and 100 Mbit/s in high-speed mobility applications.

Comment: The IMT-Advanced requirements have not been established. It, therefore, cannot be known at this time whether there are existing IEEE 802

projects that meet these future requirements. Additionally, the language quoted from ITU-R M.1645 is taken out of context. M.1645 makes the following statement about the new capabilities of systems beyond IMT-2000, *"It is predicted that potential new radio interface(s) will need to support data rates of up to approximately 100 Mbit/s for high mobility such as mobile access and up to approximately 1 Gbit/s for low mobility such as nomadic/local wireless access, by around the year 2010." Thus, the statements in the 802.16m PAR and 5 criteria about the target requirements are not accurate. Actual requirements for IMT-Advanced will be determined later.*

b) The IMT-Advanced radio interfaces will be developed through consensus-building to achieve appropriate harmonization.
c) The project will produce an interoperable and distinguishable extension to the IEEE Std 802.16 so that users can easily distinguish the enhancements from the original standard.

Submitter: Anna Tee

Comment:

My comments in response to other WG members' comments about section 7.1 of 802.16m
PAR is below:

802.20 PAR was created and approved about 4 years ago. The PAR has not mention anything about IMT-Advanced. Therefore, the scope of our project
802.20 does not cover IMT-Advanced. For example, (1) IMT-Advanced includes
radio environments such as hotspots which are not covered by 802.20. (2)
Carrier frequency is below 6 GHz, but 802.20 is only below 3.5 GHz. (3) Spectral efficiency, throughput and peak data rate requirements in IMT-Advanced are much higher than 802.20 PAR.

Best regards,
Anna.

Submitter: Radhakrishna Canchi

Comment:

Subject: 802.16m PAR Comments

- ITU Advance is yet to define any system requirement. Initiating a project with arbitrary requirement and aim less target is strongly discouraged

- This PAR prevents other groups participating at any point of time. For example, once this PAR is approved, it becomes difficult for any other WG (Working Group) initiate the PAR to meet ITU Advance Requirements (when defined in near future). In other words, it precludes all other prospective Working Groups' possible

- ITU Advance seems to look into all possible environments (Macro, Micro, Pico) (Ref ITU-R M 1645 Van Diagram) which are relevant to more than one working group. To participate in IMT-Advanced, IEEE 802 as whole need to get

involved rather than a single working group (More specifically, a PAR based on Single Working Group)

Submitter: Mark Klerer

Comment:

Changes to 5.2 (Scope)

This amendment provides an advanced 802.16 air interface to meet the requirements of next generation mobile networks. This standard is intended for submission into the IMT-Advanced standardization activity being conducted by the International Telecommunications Union – Radiocommunications Sector (ITU-R). The amendment is based on the WirelessMAN-OFDMA specification and provides continuing support for legacy subscriber stations.

Rationale: The scope should make it clear that it is an evolution of the 802.16 work. Also incorporation into the activity is up to the ITU, 802.16 can submit its technology for consideration and it is then up-to the ITU whether it is incorporated.

Chnages to 5.4 (Purpoese)

The purpose of this standard is to update the WirelessMAN-OFDMA air interface in accordance with the requirements to be defined by the ITU for the internationally agreed radio interface standards for next generation mobile networks such as IMT-Advanced.

Rationale: Clarity on the fact that the detailed requirements for IMT-Advanced are not yet final.

Change to 7.1

Are there other standards or projects with a similar scope? Yes
If yes, please explain: Within IEEEE, 801.11, 802.20, 802.21 1n2 802.22 have projects that deal with wireless networking that will or are currently addressing various aspects relevant to IMT-Advanced. These technologies will meet or evolve to meet requirements set by the ITU and may be submitted to the ITU for consideration as the requirements become known. Other standards developing organizations may develop proposals for inclusion in IMT-Advanced. However, we have no specific knowledge of such proposals at this time.

Rationale:

Reflect the fact that other 802 groups are working on this.

Comment on 5 Criteria:

Distinct Identity

Each IEEE 802 standard shall have a distinct identity. To achieve this, each authorized project shall
be:
a) Substantially different from other IEEE 802 standards.
b) One unique solution per problem (not two solutions to a problem).
c) Easy for the document reader to select the relevant specification.

a) No other IEEE 802 standard meets the preliminary IMT-Advanced target requirements, including 1 Gbit/s data rate in low mobility applications and 100 Mbit/s in high-speed mobility applications.
This needs to note that the uniqueness is in the evolution of 802.16 not that no other technologies meet or will meet the requirements. All the technologies are continuously evolving to higher data rates and mobility. Similarly the above targets need to be interpreted with respect to allocated channel bandwidth. Given the appropriate bw some existing technologies may already meet these requirements.
b) The IMT-Advanced radio interfaces will be developed through consensus-building to achieve appropriate harmonization.
c) The project will produce an interoperable and distinguishable extension to the IEEE Std 802.16 so that users can easily distinguish the enhancements from the original standard.

Kazuhiro Murakami
Kyocera Corporation
I am Kazuhiro Murakami, Kyocera Corporation
I didn't stand and make comment for 802.16m PAR in morning first session because of time limitation.
So, I would like to make a comment for 802.16m PAR by email..

Yesterday, I attended and hear tutorial meeting of 802.16m and watch PAR and purpose.
I agree that IEEE802 standard targets ITU-R IMT-advanced standardization.
But I have concern in several issues as follows;

1. Target spec contents in the PAR are same as ITU-R general requirement and don't include concrete and detail target request.

2. 802.16 Chair received question whether does he think there is opportunity for other WG system (802.11,15,18.20,22)
to submit to ITU-R IMT-2000 or not. and he didn't say confirmed answer.

3. Vice chair of task group of 802.16WG made comment that he want to exclude other system in IEEE802 for
candidate of IMT-advance standardization.

Based of above fact, I concern that 802.16m PAR without detail and concrete target spec and performance get exclusivity of candidate for IMT-advance standardization in IEEE802.

So, I would like to recommend that 802.20 WG will suggest Yes with condition that 802.16m don't have exclusivity of candidate of IMT-advance standardization in ITU-R considering other IEEE802 WG future activity.

Thank you for your cooperation
Best regards

<Upton comments from doc: Proposed 80220WG-802-16m-par-comments_Upton.ppt>