

Project	<b>IEEE 802.16 Broadband Wireless Access Working Group</b> < <a href="http://ieee802.org/16">http://ieee802.org/16</a> >
Title	<b>Update of 802.16 PARs</b>
Date Submitted	<b>2001-03-08</b>
Source(s)	Roger Marks, 802.16 Chair
Re:	IEEE 802.16-01/03r2 ( Plan to Update 802.16 PARs )
Abstract	This document includes revised versions of the four PARs overseen by IEEE Working Group 802.16. The changes were proposed in document IEEE 802.16-01/03r2 ( Plan to Update 802.16 PARs ), which was unanimously approved at 802.16 Session #11 after being placed on the Session #11 agenda by a decision at Session #10. These revised PARs were submitted to the 802 LMSC Sponsor Executive Committee for 15 March 2001 approval and to the IEEE-SA Standards Board s New Standards Committee (NesCom) for 16 March 2001 approval.
Purpose	To record the implementation of a Working Group decision.
Notice	This document has been prepared to assist IEEE 802.16. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein.
Release	The contributor grants a free, irrevocable license to the IEEE to incorporate text contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that this contribution may be made public by IEEE 802.16.
Patent Policy and Procedures	<p>The contributor is familiar with the IEEE 802.16 Patent Policy and Procedures (Version 1.0) &lt;<a href="http://ieee802.org/16/ipr/patents/policy.html">http://ieee802.org/16/ipr/patents/policy.html</a>&gt;, including the statement IEEE standards may include the known use of patent(s), including patent applications, if there is technical justification in the opinion of the standards-developing committee and provided the IEEE receives assurance from the patent holder that it will license applicants under reasonable terms and conditions for the purpose of implementing the standard.</p> <p>Early disclosure to the Working Group of patent information that might be relevant to the standard is essential to reduce the possibility for delays in the development process and increase the likelihood that the draft publication will be approved for publication. Please notify the Chair &lt;<a href="mailto:r.b.marks@ieee.org">mailto:r.b.marks@ieee.org</a>&gt; as early as possible, in written or electronic form, of any patents (granted or under application) that may cover technology that is under consideration by or has been approved by IEEE 802.16. The Chair will disclose this notification via the IEEE 802.16 web site &lt;<a href="http://ieee802.org/16/ipr/patents/notices">http://ieee802.org/16/ipr/patents/notices</a>&gt;.</p>

# IEEE-SA Standards Board Project Authorization Request (PAR) Form

(2001-Rev 1)

<b>1. Sponsor Date of Request</b>	<b>2. Assigned Project Number</b>	<b>3. PAR Approval Date (to be completed by staff)</b>
<b>2001 Feb 09</b>	<b>P802.16</b>	

Copyright release must be submitted with appropriate signatures by FAX (1-732-562-1571)

## 4. Project Title, Recorder and Working Group/Sponsor for this Project

Document type and title: {Place an X in only one option below}

- Standard for**{document stressing the verb "shall" }
- Recommended Practice for**{document stressing the verb "should" }
- Guide for** {document in which good practices are suggested, stressing the verb "may" }

**Title:** **Local and Metropolitan Area Networks - Part 16: Standard Air Interface for Fixed Broadband Wireless Access Systems**

Name of Working Group (WG): **IEEE 802.16 Working Group on Broadband Wireless Access**

**Name of Official Reporter (usually the WG Chair) who must be an SA member as well as an IEEE and/or Affiliate Member:** **Roger B. Marks**

IEEE Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone **+1 303 497 3037** FAX: **+1 303 497 7828**

E-mail: **r.b.marks@ieee.org**

**Name of Working Group Chair (if different than Reporter):**

IEEE Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone [...] FAX: [...]

E-mail: [...]

**Name of Sponsoring Society and Committee:** **Computer Society, LAN/MAN Standards Committee; Microwave Theory and Techniques Society**

Name of Committee Sponsor Chair: **Jim Carlo, Chair, LAN/MAN Standards Committee**

IEEE Standards Staff has verified that the Sponsor [ ] (Staff to check box)  
Chair is an IEEE and an IEEE-SA member:

Contact Information:

Telephone +1 214 340 8837 FAX: +1 214 853 5274

E-mail: jcarlo@ti.com

## 5. Type of Project

a. Is this an update to an existing PAR? [Yes]

If YES, indicate PAR Number/Approval Date [P802.16.1-2000]

If YES, is this project in ballot now? [No]

[Indicate changes/rationale for revised PAR in Item #16. This should be no more than 5 lines.]

b. Choose one from the following:

[ x ] New standard

[...] Revision of existing standard {number and year} [...]

[...] Amendment to an existing standard {number and year} [...]

[...] Corrigendum to an existing standard {number and year} [...]

## 6. Life Cycle

[ x ] Full Use (5-year life cycle)

[...] Trial Use (2-year life cycle)

## 7. Balloting Information

Choose one from the following:

[ x ] Individual Sponsor Balloting

[...] Entity Sponsor Balloting

[...] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: [2001 June 01]

## 8. Fill in Projected Completion Date for Submittal to RevCom: 2001 Aug 03

## 9. Scope of Proposed Project:

This standard specifies the physical layer and media access control layer of the air interface of interoperable fixed point-to-multipoint broadband wireless access systems. The specification enables transport of data, video, and voice services. It applies to systems operating in the vicinity of 30 GHz but is broadly applicable to systems operating between 10 and 66 GHz.

## 10. Purpose of Proposed Project:

To enable rapid worldwide deployment of innovative, cost-effective, and interoperable multivendor broadband wireless access products. To facilitate competition in broadband access by providing alternatives to wireline broadband access. To facilitate coexistence studies, encourage consistent worldwide allocation, and accelerate the commercialization of broadband wireless access spectrum.

## 11. Intellectual Property {Answer each of the questions below}

Has the sponsor reviewed the IEEE patent policy with the group? **Yes**

Are you aware of the possibility of any copyrights relevant to this project? **Yes**

Are you aware of the possibility of any trademarks relevant to this project? **Yes**

Are you aware of possible registration of objects or numbers due to this project? **Yes**

## 12. Are you aware of any other standards or projects with a similar scope?

**Yes**

Explanation: **The Broadband Radio Access Networks (BRAN) Committee of the European Telecommunications Standards Institute (ETSI) has a project known as HIPERACCESS which is attempting to standardize broadband wireless access in Europe. This is a regional standards effort with limited participation by the rest of the world. Furthermore, the project addresses regional markets with specific regulatory conditions distinct from those of other areas. We have held a joint meeting with this group and appointed a liaison. We plan to coordinate with them and will seek harmony where possible.**

## 13. International Submissions

Will this standard (in part or in whole) be submitted to an international organization for consideration/adoption?

**Yes**

If Yes, please answer the following questions:

Which International Organization/Committee **ITU-R**

International Contact Information:

Name: **Dr. José M. Costa**

Address: **P.O. Box 3511, Station C, Ottawa, ON K1Y 4H7 Canada**

Phone: **+1 613 763 7574**

FAX: **+1 613 763 1225**

Email: **costa@nortelnetworks.com**

14. Is this project intended to focus on health, safety or environmental issues? **No**

## 15. Mandatory Coordination

SCC 10 (IEEE Dictionary) by **DR** {Circulation of **DR**afts}

IEEE Staff Editorial Review by **DR**

SCC 14 (Quantities, Units and Letter symbols) by **DR**

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the balloting pool.

## 16. Additional Explanatory Notes: {Item Number and Explanation}

**5a) This revision rennumbers the PAR from “802.16.1” to “802.16” and simplifies the title. The PAR is also brought into the current format.**

# IEEE-SA Standards Board Project Authorization Request (PAR) Form

(2001-Rev 1)

<b>1. Sponsor Date of Request</b>	<b>2. Assigned Project Number</b>	<b>3. PAR Approval Date (to be completed by staff)</b>
<b>2001 Feb 09</b>	<b>P802.16a</b>	

Copyright release must be submitted with appropriate signatures by FAX (1-732-562-1571)

## 4. Project Title, Recorder and Working Group/Sponsor for this Project

Document type and title: {Place an X in only one option below}

- Standard for**{document stressing the verb "shall" }
- Recommended Practice for**{document stressing the verb "should" }
- Guide for** {document in which good practices are suggested, stressing the verb "may" }

Title: **Local and Metropolitan Area Networks — Amendment to Standard Air Interface for Fixed Broadband Wireless Access Systems —Media Access Control Modifications and Additional Physical Layer for 2-11 GHz**

Name of Working Group (WG): **IEEE 802.16 Working Group on Broadband Wireless Access**

Name of Official Reporter (usually the WG Chair) who must be an SA member as well as an IEEE and/or Affiliate Member: **Roger B. Marks**

IEEE Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone **+1 303 497 3037** FAX: **+1 303 497 7828**

E-mail: **r.b.marks@ieee.org**

### Name of Working Group Chair (if different than Reporter):

IEEE Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone [...] FAX: [...]

E-mail: [...]

Name of Sponsoring Society and Committee: **Computer Society, LAN/MAN Standards Committee; Microwave Theory and Techniques Society**

Name of Committee Sponsor Chair: **Jim Carlo, Chair, LAN/MAN Standards Committee**

IEEE Standards Staff has verified that the Sponsor [ ] (Staff to check box)  
Chair is an IEEE and an IEEE-SA member:

Contact Information:

Telephone +1 214 340 8837 FAX: +1 214 853 5274

E-mail: jcarlo@ti.com

## 5. Type of Project

a. Is this an update to an existing PAR? [**Yes**]

If YES, indicate PAR Number/Approval Date [**P802.16.3-2000**]

If YES, is this project in ballot now? [**No**]

[Indicate changes/rationale for revised PAR in Item #16. This should be no more than 5 lines.]

b. Choose one from the following:

[...] New standard

[...] Revision of existing standard {number and year} [...]

[ **x** ] Amendment to an existing standard {number and year} [**P802.16-2001**]

[...] Corrigendum to an existing standard {number and year} [...]

## 6. Life Cycle

[ **x** ] Full Use (5-year life cycle)

[...] Trial Use (2-year life cycle)

## 7. Balloting Information

Choose one from the following:

[ **x** ] Individual Sponsor Balloting

[...] Entity Sponsor Balloting

[...] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: **2001 Nov 30**

**8. Fill in Projected Completion Date for Submittal to RevCom: 2002 Mar 31**

## 9. Scope of Proposed Project:

This standard specifies the physical layer and media access control layer of the air interface of interoperable fixed point-to-multipoint broadband wireless access systems (e.g., those supporting data rates of DS1/E1 or greater). The specification enables access to data, video, and voice services with a specified quality of service in licensed bands designated for public network access. It applies to systems operating between 2 and 11 GHz.

## 10. Purpose of Proposed Project:

To enable rapid worldwide deployment of innovative, cost-effective and interoperable multi-vendor broadband wireless access products. To facilitate competition in broadband access by providing wireless alternatives to wireline broadband access. To facilitate coexistence studies, encourage consistent worldwide allocation, and accelerate the commercialization of broadband wireless access spectrum. Utilization of frequencies from 2 to 11

GHz will address a market that includes residences, Small Office-Home Office (SOHO), telecommuters and Small and Medium Enterprises (SME).

## 11. Intellectual Property {Answer each of the questions below}

Has the sponsor reviewed the IEEE patent policy with the group? **Yes**

Are you aware of the possibility of any copyrights relevant to this project? **Yes**

Are you aware of the possibility of any trademarks relevant to this project? **Yes**

Are you aware of possible registration of objects or numbers due to this project? **Yes**

## 12. Are you aware of any other standards or projects with a similar scope?

**Yes**

Explanation:

- T1P1.4 is currently developing air interface standards for Fixed Wireless Access to the PSTN Network. The primary focus of the group is wireless access to POTS, ISDN and Fractional T1/E1 services delivered via the public circuit switched telephone network, although their charter does include packet data services. The individual user data rates currently contemplated by this group range from 8 Kb/s to 2 Mb/s.
- The ETSI BRAN Project is currently focusing on frequencies around 40 GHz but may evolve to frequencies below 11 GHz.
- IEEE 802.11 and 802.15 address primarily short range WLAN and WPAN applications, respectively. The 802.16.3 standard is specifically directed towards longer-range wireless point to multipoint MAN/WAN systems that provide access to core public networks. These systems typically serve large numbers of dispersed subscribers.
- ITU-R Working Party 8F is developing air interfaces for IMT-2000 and access systems beyond IMT-2000 for both mobile and fixed applications.

## 13. International Submissions

Will this standard (in part or in whole) be submitted to an international organization for consideration/adoption?

**Yes**

If Yes, please answer the following questions:

Which International Organization/Committee **ITU-R**

International Contact Information:

Name: **Dr. José M. Costa**

Address: **P.O. Box 3511, Station C, Ottawa, ON K1Y 4H7 Canada**

Phone: **+1 613 763 7574**

FAX: **+1 613 763 1225**

Email: **costa@nortelnetworks.com**

## 14. Is this project intended to focus on health, safety or environmental issues?

**No**

## 15. Mandatory Coordination

SCC 10 (IEEE Dictionary)

by **DR** {Circulation of **DR**afts}

IEEE Staff Editorial Review by

by **DR**

SCC 14 (Quantities, Units and Letter symbols)

by **DR**

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the balloting pool.

**16. Additional Explanatory Notes: {Item Number and Explanation}**

5a) This revision makes the project an Amendment to P802.16-2001 rather than a standalone document. The title is modified accordingly. The PAR is also brought into the current format.



# IEEE-SA Standards Board Project Authorization Request (PAR) Form

(2001-Rev 1)

<b>1. Sponsor Date of Request</b> <b>2001 Feb 09</b>	<b>2. Assigned Project Number</b> <b>P802.16b</b>	<b>3. PAR Approval Date (to be completed by staff)</b>
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Copyright release must be submitted with appropriate signatures by FAX (1-732-562-1571)

## 4. Project Title, Recorder and Working Group/Sponsor for this Project

Document type and title: {Place an X in only one option below}

- Standard for**{document stressing the verb "shall" }
- Recommended Practice for**{document stressing the verb "should" }
- Guide for** {document in which good practices are suggested, stressing the verb "may" }

Title: **Local and Metropolitan Area Networks — Amendment to Standard Air Interface for Fixed Broadband Wireless Access Systems — Media Access Control Modifications and Additional Physical Layer for License-Exempt Frequencies**

Name of Working Group (WG): **IEEE 802.16 Working Group on Broadband Wireless Access**

Name of Official Reporter (usually the WG Chair) who must be an SA member as well as an IEEE and/or Affiliate Member: **Roger B. Marks**

IEEE Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone **+1 303 497 3037** FAX: **+1 303 497 7828**

E-mail: **r.b.marks@ieee.org**

Name of Working Group Chair (if different than Reporter):

IEEE Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone [...] FAX: [...]

E-mail: [...]

Name of Sponsoring Society and Committee: **Computer Society, LAN/MAN Standards Committee; Microwave Theory and Techniques Society**

Name of Committee Sponsor Chair: **Jim Carlo, Chair, LAN/MAN Standards Committee**

IEEE Standards Staff has verified that the Sponsor [ ] (Staff to check box)  
Chair is an IEEE and an IEEE-SA member:

Contact Information:

Telephone +1 214 340 8837 FAX: +1 214 853 5274

E-mail: jcarlo@ti.com

## 5. Type of Project

a. Is this an update to an existing PAR? [Yes]

If YES, indicate PAR Number/Approval Date [P802.16.1b-2000]

If YES, is this project in ballot now? [No]

[Indicate changes/rationale for revised PAR in Item #16. This should be no more than 5 lines.]

b. Choose one from the following:

[...] New standard

[...] Revision of existing standard {number and year} [...]

[ x ] Amendment to an existing standard {number and year} [P802.16-2001]

[...] Corrigendum to an existing standard {number and year} [...]

## 6. Life Cycle

[ x ] Full Use (5-year life cycle)

[...] Trial Use (2-year life cycle)

## 7. Balloting Information

Choose one from the following:

[ x ] Individual Sponsor Balloting

[...] Entity Sponsor Balloting

[...] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: 2001 Nov 30

**8. Fill in Projected Completion Date for Submittal to RevCom: 2002 Mar 31**

## 9. Scope of Proposed Project:

This standard specifies the medium access control layer and physical layers of the air interface of interoperable fixed point-to-multipoint broadband wireless access systems. The specification enables transport of data, video, and voice services. Physical layers are specified for both licensed and license-exempt bands.

This Amendment expands the scope of the original project by extending it to license-exempt bands (thereby defining the Wireless High-Speed Unlicensed Metropolitan Area Network [WirelessHUMAN™] Standard). It specifies the physical layer and medium access control layer of the air interface of interoperable fixed broadband wireless metropolitan area network systems, including point-to-multipoint. The standard enables access to data, video, and voice services with quality of service in unlicensed (i.e., license-exempt) bands designated for public network access. It will focus on the 5-6 GHz range and may be applied to unlicensed bands between 2 and 11 GHz. It will address strategies for coexistence with other unlicensed applications. The

project will utilize or modify applicable elements from the following:

- MAC: IEEE 802.16
- PHY: IEEE 802.11a; ETSI BRAN HIPERLAN/2

## 10. Purpose of Proposed Project:

To enable rapid worldwide deployment of innovative, cost-effective, and interoperable multivendor broadband wireless access products. To facilitate competition in broadband access by providing alternatives to wireline broadband access. To facilitate coexistence studies, encourage consistent worldwide allocation, and accelerate the commercialization of broadband wireless access spectrum.

This Amendment enhances the original project by extending it to license-exempt bands. It will identify techniques to tolerate interference in the unlicensed bands and facilitate strategies for coexistence with other unlicensed band systems such as 802.11 and 802.15. It will encourage consistent worldwide spectrum allocation and accelerate the commercialization of unlicensed broadband wireless access spectrum. Utilization of unlicensed frequencies will address a market that includes residences, small office-home office (SOHO), telecommuters, and small and medium enterprises (SME).

## 11. Intellectual Property {Answer each of the questions below}

Has the sponsor reviewed the IEEE patent policy with the group? **Yes**

Are you aware of the possibility of any copyrights relevant to this project? **Yes**

Are you aware of the possibility of any trademarks relevant to this project? **Yes**

Are you aware of possible registration of objects or numbers due to this project? **Yes**

## 12. Are you aware of any other standards or projects with a similar scope?

**Yes**

Explanation:

IEEE 802.11, ETSI HIPERLAN/2, and IEEE 802.15 standards and projects address primarily short range WLAN and WPAN applications, respectively. PACS-UA and PACS-UB address unlicensed operation in the unlicensed personal communication services (UPCS) bands at 1910-1930MHz and 2390-2400MHz. This Amendment is specifically directed towards wireless point-to-multipoint MAN/WAN systems that provide access to core public networks using the unlicensed band spectrum. These systems typically serve large numbers of dispersed subscribers.

## 13. International Submissions

Will this standard (in part or in whole) be submitted to an international organization for consideration/adoption?

**Yes**

If Yes, please answer the following questions:

Which International Organization/Committee **ITU-R**

International Contact Information:

Name: **Dr. José M. Costa**

Address: **P.O. Box 3511, Station C, Ottawa, ON K1Y 4H7 Canada**

Phone: **+1 613 763 7574**

FAX: **+1 613 763 1225**

Email: **costa@nortelnetworks.com**

#### 14. Is this project intended to focus on health, safety or environmental issues?

No

#### 15. Mandatory Coordination

SCC 10 (IEEE Dictionary)	by <b>DR</b> {Circulation of <b>DR</b> afts}
IEEE Staff Editorial Review by	by <b>DR</b>
SCC 14 (Quantities, Units and Letter symbols)	by <b>DR</b>

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the balloting pool.

#### 16. Additional Explanatory Notes: {Item Number and Explanation}

##### 8) The intended timetable is:

Nov 2000:	Issue Call for Proposals for PHY and MAC <ul style="list-style-type: none"><li>• PHY: Modifications of 802.11a and/or HIPERLAN/2</li><li>• MAC: Modifications of 802.16</li></ul>
Jan 2001:	Review proposals
Feb 2001:	Select Candidate Proposals at Interim Meeting
Mar 2001:	Decision on specific modifications
May 2001:	First Tentative Draft Standard submitted for review
July 2001:	Comment Resolutions
Sep 2001:	Second Tentative Draft Standard submitted for Letter Ballot
Nov 2001:	Initiate Sponsor Ballot
Mar 2002:	Submit to RevCom

5a) This revision renumbers the PAR from “802.16.1b” to “802.16b” to reflect renumbering of the base project from 802.16.1 to 802.16. The title is also simplified, and the PAR is also brought into the current format.

# IEEE-SA Standards Board Project Authorization Request (PAR) Form

(2001-Rev 1)

**1. Sponsor Date  
of Request**

**2001 Feb 09**

**2. Assigned Project  
Number**

**P802.16.2**

**3. PAR Approval**

**Date (to be completed by staff)**

Copyright release must be submitted with appropriate signatures by FAX (1-732-562-1571)

## 4. Project Title, Recorder and Working Group/Sponsor for this Project

Document type and title: {Place an X in only one option below}

- Standard for**{document stressing the verb "shall"}
- Recommended Practice for**{document stressing the verb "should"}
- Guide for** {document in which good practices are suggested, stressing the verb "may"}

Title: **Local and Metropolitan Area Networks — Recommended Practice for Coexistence of Fixed Broadband Wireless Access Systems**

Name of Working Group (WG): **IEEE 802.16 Working Group on Broadband Wireless Access**

Name of Official Reporter (usually the WG Chair) who must be an SA member as well as an IEEE and/or Affiliate Member: **Roger B. Marks**

IEEE Standards Staff has verified that the Official Reporter (or Working Group Chair) is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone: **+1 303 497 3037** FAX: **+1 303 497 7828**

E-mail: **r.b.marks@ieee.org**

Name of Working Group Chair (if different than Reporter):

IEEE Standards Staff has verified that the Working Group Chair is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone: [...] FAX: [...]

E-mail: [...]

Name of Sponsoring Society and Committee:

**Computer Society, LAN/MAN Standards Committee;  
Microwave Theory and Techniques Society**

Name of Committee Sponsor Chair:

**Jim Carlo, Chair, LAN/MAN Standards Committee**

IEEE Standards Staff has verified that the Sponsor Chair is an IEEE and an IEEE-SA member:  (Staff to check box)

Contact Information:

Telephone +1 214 340 8837 FAX: +1 214 853 5274  
E-mail: jcarlo@ti.com

## 5. Type of Project

a. Is this an update to an existing PAR? [**Yes**]

If YES, indicate PAR Number/Approval Date [**P802.16.2-1999**]

If YES, is this project in ballot now? [**No (but anticipated to begin on 2001 Feb 27)**]

[Indicate changes/rationale for revised PAR in Item #16. This should be no more than 5 lines.]

b. Choose one from the following:

New standard

[...] Revision of existing standard {number and year} [...]

[...] Amendment to an existing standard {number and year} [...]

[...] Corrigendum to an existing standard {number and year} [...]

## 6. Life Cycle

Full Use (5-year life cycle)

[...] Trial Use (2-year life cycle)

## 7. Balloting Information

Choose one from the following:

Individual Sponsor Balloting

[...] Entity Sponsor Balloting

[...] Mixed Balloting (combination of Individual and Entity Sponsor Balloting)

Expected Date of Submission for Initial Sponsor Ballot: [**2001 Feb 27**]

## 8. Fill in Projected Completion Date for Submittal to RevCom: **2001 May 04**

## 9. Scope of Proposed Project:

This project covers development of a Recommended Practice for the design and coordinated deployment of fixed broadband wireless access (BWA) systems operating from 10-66 GHz (with a focus on 23.5-43.5 GHz) in order to minimize interference so as to maximize system performance and/or service quality. This practice will provide for coexistence using frequency and spatial separation and will cover three areas. First, it will recommend limits of in-band and out-of-band emissions from BWA transmitters through parameters including radiated power, spectral masks and antenna patterns. Second, it will recommend receiver tolerance parameters, including noise floor degradation performance, for interference received from other BWA systems. Third, it will provide coordination parameters, including separation distances, and power flux density limits, to enable successful deployment of BWA systems with tolerable interference. The scope includes interference between systems deployed across geographic boundaries in the same frequency band and systems deployed in the same geographic area in different frequency bands (including different systems deployed by a single license-holder in sub-bands of the licensee's authorized bandwidth). The scope does not cover coexistence issues due to intrasystem frequency re-use within the operator's licensed band, and it does not consider the impact of

interference created by BWA systems on non-BWA terrestrial and satellite systems.

## 10. Purpose of Proposed Project:

The purpose of this recommended practice is to provide coexistence guidelines to license holders, service providers, deployment groups, and system integrators. The equipment parameters contained within this practice will benefit equipment and component vendors and industry associations by providing design targets. The benefits of this practice will include:

- Coexistence of different systems with higher assurance that system performance objectives will be met.
- Minimal need for case-by-case interference studies and coordination between operators to resolve interference issues.
- Preservation of a favorable electromagnetic environment for deployment and operation of BWA systems, including future systems compliant to IEEE 802.16 interoperability standards.
- Improved spectrum utilization.
- Cost-effective system deployment.

## 11. Intellectual Property {Answer each of the questions below}

Has the sponsor reviewed the IEEE patent policy with the group? **Yes**

Are you aware of the possibility of any copyrights relevant to this project? **Yes**

Are you aware of the possibility of any trademarks relevant to this project? **Yes**

Are you aware of possible registration of objects or numbers due to this project? **No**

## 12. Are you aware of any other standards or projects with a similar scope?

**Yes**

Explanation: Administrations are developing general coordination criteria and procedures to allow BWA operators to deploy systems. Detailed co-existence guidance, such as described in this PAR, is in its early stages of development in other regional and international standards bodies. Studies addressing certain aspects of the coexistence issues are being developed by or have been completed by organizations such as:

1. International Telecommunications Union (ITU): ITU-R JRG 8A/9B and ITU-R 9B
2. European Telecommunications Standards Institute (ETSI): Technical Committee TM (Transmission and Multiplexing), Working Group TM4 (Fixed Radio Systems)
3. Inter-American Telecommunication Commission (CITEL): Permanent Consultative Committee III: Radiocommunications (PCC-III)
4. Association of Radio Industries and Businesses (ARIB): R&D Group for the Fixed Wireless Access System
5. National Spectrum Managers Association (NSMA)
6. Radio Advisory Board of Canada (RABC)

We will coordinate with these groups as appropriate.

## 13. International Submissions

Will this standard (in part or in whole) be submitted to an international organization for consideration/adoption?

**Yes**

If Yes, please answer the following questions:

Which International Organization/Committee **ITU-R**

International Contact Information:

Name: **Dr. José M. Costa**

Address: P.O. Box 3511, Station C, Ottawa, ON K1Y 4H7 Canada  
Phone: +1 613 763 7574  
FAX: +1 613 763 1225  
Email: [costa@nortelnetworks.com](mailto:costa@nortelnetworks.com)

**14. Is this project intended to focus on health, safety or environmental issues?**

No

**15. Mandatory Coordination**

SCC 10 (IEEE Dictionary)	by <b>DR</b>	{Circulation of <b>DR</b> afts}
IEEE Staff Editorial Review by	by <b>DR</b>	
SCC 14 (Quantities, Units and Letter symbols)	by <b>DR</b>	

Additional communication and input from other organizations or other IEEE Standards Sponsors should be encouraged through participation in the working group or the balloting pool.

**16. Additional Explanatory Notes: {Item Number and Explanation}**

5a) This revision simplifies the title and slightly reduces the scope. The PAR is also brought into the current format.