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LIC. CARLOS GARCÍA FERNÁNDEZ
Presidente Comisión Federal de Mejora Regulatoria
Alfonso Reyes 30, piso 8,
Colonia Hipódromo Condesa,
México, D.F.



RE: Opiniones de las concesionarias del Grupo Nextel de México sobre la: *"RESOLUCIÓN POR MEDIO DE LA CUAL LA COMISIÓN FEDERAL DE TELECOMUNICACIONES EXPIDE LAS CONDICIONES TÉCNICAS DE OPERACIÓN DE LA BANDA 5 725 A 5 850 MHz, PARA SU UTILIZACIÓN COMO BANDA DE USO LIBRE"*, enviado por la COFETEL a la Comisión Federal de Mejora Regulatoria para su publicación en el DOF.

OSCAR JESÚS ARANDA TAVERA, en mi carácter de representante legal de **SERVICIOS DE RADIOCOMUNICACIÓN MÓVIL DE MÉXICO, S.A. DE C.V., SISTEMAS DE COMUNICACIONES TRONCALES, S.A. DE C.V. INVERSIONES NEXTEL DE MÉXICO, S.A. DE C.V., y DELTA COMUNICACIONES DIGITALES, S.A. DE C.V.** ("NEXTEL") personalidad que tengo acreditada ante esa dependencia, señalando como domicilio para oír y recibir toda clase de notificaciones el ubicado en Blvd. Manuel Ávila Camacho 36, piso 9, Colonia Lomas de Chapultepec, C.P. 11000, México, D.F., y autorizando para tales efectos a los señores Antonio Garza Cánovas, Carlos Gustavo Cantú Duran, María Cristina Gutiérrez Garibi, Alberto Razo Meza, Víctor Manuel Alcántar García y Juan Alejandro Balderas Téllez, respetuosamente comparezco y expongo:

ANTECEDENTES

1. El pasado 5 de agosto de 2005, la Secretaría de Comunicaciones y Transportes (SCT) envió a la Comisión Federal de Mejora Regulatoria (COFEMER), la solicitud de exención de la Manifestación de Impacto Regulatorio (MIR) del Anteproyecto de *Acuerdo por el que se establece la política para servicios de banda ancha y otras aplicaciones en las bandas de frecuencias del espectro radioeléctrico 902 a 928 MHz; 2,400 a 2,483.5 MHz;*

3,600 a 3,700 MHz; 5,150 a 5,250 MHz; 5,250 a 5,350 MHz; 5,470 a 5,725 MHz; y 5,725 a 5,850 MHz (el "Anteproyecto").

2. El 16 de Enero de 2006 Nextel emitió su postura sobre el Anteproyecto hacia la COFEMER, en la cual entregó argumentos técnicos para solicitar un cambio a las condiciones técnicas de operación en la BUL de 5,725 a 5,850 MHz, por haberse redactado éstas en el contexto originalmente propuesto por la COFETEL como banda de uso doble.
3. La COFEMER por su parte solicitó a la SCT y a la COFETEL dar respuesta al cuestionamiento de los operadores, entre ellos incluido Nextel.

La SCT, en documento enviado a la COFEMER el 10 de Febrero de 2006, dio respuesta a las posturas presentadas por los diversos operadores. En el caso de Nextel argumentó que el requerimiento que Nextel realizaba era competencia de la COFETEL.

4. El 20 de Febrero de 2006 la COFEMER emitió su dictamen total final del Anteproyecto, mediante el cual solicita a la SCT la confección definitiva del mismo para su publicación en el DOF. Así mismo, la COFEMER solicita que se tomen en consideración las condiciones técnicas de operación recientemente aprobadas por el pleno de la COFETEL, para las cuales la comisión envió un oficio a la COFEMER el mismo día.
5. El 13 de Marzo de 2006 la SCT publicó en el DOF el acuerdo por el que se establece la política para servicios de banda ancha y otras aplicaciones en las bandas de frecuencias del espectro radioeléctrico 902 a 928 MHz; 2,400 a 2,483.5 MHz; 3,600 a 3,700 MHz; 5,150 a 5,250 MHz; 5,250 a 5,350 MHz; 5,470 a 5,725 MHz y 5,725 a 5,850 MHz, quedando pendiente únicamente la publicación de las condiciones técnicas de operación, mismas que deberán ser emitidas por la COFETEL.
6. Finalmente, el 15 de Marzo de 2006 la COFETEL mandó a esa COFEMER una resolución por medio de la cual expide las condiciones técnicas de operación de la banda 5,725 a 5,850 MHz, para su utilización como banda de uso libre ("Condiciones Técnicas").

En relación con las Condiciones Técnicas, nos permitimos hacer los siguientes comentarios:

Mediante el presente escrito, Nextel reafirma su solicitud, en este caso a la COFETEL, para que se revisen las condiciones técnicas de operación en la BUL de 5735 a 5850 MHz en lo que respecta a potencia de transmisión, ganancia de antenas y densidad espectral de potencia. La solicitud es que éstas no se publiquen como originalmente

fueron establecidas en el proyecto de resolución de la Comisión Federal de Telecomunicaciones (COFETEL), del 22 de Julio de 2005.

Primero, estas especificaciones fueron elaboradas en el contexto del Proyecto de resolución de la COFETEL por medio del cual se proponía un uso doble para la banda de 5.8 GHz. En ese sentido, una regulación estricta era necesaria a fin de no afectar a los servicios primarios (la porción de uso determinado).

En el contexto actual la banda se ha declarado como de uso libre, por lo tanto no existe ese problema. Luego, la normatividad puede ser menos restrictiva.

En segundo lugar, estas especificaciones parten de una resolución similar de la Comisión Federal de Comunicaciones de los Estados Unidos de América (FCC) - *"Unlicensed NII Devices in the 5 GHz Frequency Range, 47 CFR Parts 1, 2 and 15"*, FCC, Federal Register, Vol. 62, No. 21, January 31, 1997, Rules and Regulations"-, de la cual acompañamos al presente como **Anexo "A"** copia de un par de documentos oficiales de la publicación.

Mediante esa normatividad la FCC establece que la potencia máxima de transmisión sea de 1 W y que la ganancia máxima de las antenas sea de 6 dBi. Esto produce una potencia efectiva radiada máxima de 4 W. Esto, para un sistema de comunicaciones punto a multipunto o bien uno que use antenas omnidireccionables.

Sin embargo, el documento antes referido establece también que para un sistema de radiocomunicación punto a punto que use antenas altamente directivas, el requerimiento de ganancia de antena se puede llevar hasta 23 dBi.

Finalmente, la normatividad permite que la potencia de transmisión y la ganancia de la antena se modifiquen, siempre que la combinación de ambas haga que la potencia efectiva radiada se conserve.

Con base en lo anterior, Nextel propone que la propuesta actual de emisiones se conserve como fuera propuesta originalmente en la resolución de la COFETEL, especificándola para sistemas de comunicaciones punto a multipunto o aquellos que usen antenas omnidireccionables.

En forma complementaria proponemos que se añada la especificación para sistemas de comunicaciones punto a punto que usen antenas altamente directivas conforme a los criterios siguientes:

1. La potencia máxima de transmisión (hacia la antena) para un sistema de radiocomunicación punto a punto que utilice antenas directivas de alta ganancia no deberá exceder de 1 W, pudiéndose utilizar antenas de transmisión con ganancia direccional máxima de 23 dBi.

2. Si se utilizan antenas de ganancia direccional mayor a 23 dBi, la potencia total de entrada a las mismas y su correspondiente densidad de potencia deberán ser reducidas en la misma cantidad que la ganancia direccional exceda los 23 dBi.

Esta propuesta de modificación puede revisarse en los documentos que acompañan como **Anexo A.**

En virtud de lo anterior, le pido atentamente se sirva:

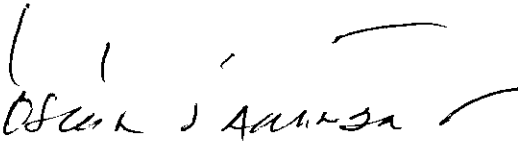
PRIMERO: Tenerme por presentado el presente escrito con la personalidad que ostento.

SEGUNDO: Tomar en cuenta que no es intención de Nextel retrasar el proceso de regulación para las bandas de uso libre, sino que éste se realice en condiciones adecuadas para su correcta explotación.

TERCERO: Solicitar a la COFETEL una respuesta objetiva y analizada respecto de los planteamientos que Nextel ha vertido en este escrito.

CUARTO: Tener por presentados en tiempo y forma las opiniones de mis representadas y sean consideradas en el dictamen que al efecto emita esa COFETEL, en términos de lo preceptuado por el artículo 69-J de la Ley Federal de Procedimiento Administrativo.

Atentamente,



México, D.F., 23 de marzo de 2006

If the EPA received such comments, then EPA will publish a document withdrawing the final rule and informing the public that the rule will not take effect. All public comments received will then be addressed in a subsequent final rule based on the proposed rule. The EPA will not institute a second comment period. Any parties interested in commenting should do so at this time. If no such comments are received, the public is advised that this rule will be effective on September 29, 1998, and no further action will be taken on the proposed rule.

IV. Administrative Requirements

A. Executive Order 12866

The Office of Management and Budget (OMB) has exempted this regulatory action from E.O. 12866 review.

The final rule is not subject to E.O. 13045, entitled "Protection of Children from Environmental Health Risks and Safety Risks," because it is not an "economically significant" action under E.O. 12866.

B. Regulatory Flexibility Act

Under the Regulatory Flexibility Act, 5 U.S.C. 600 *et seq.*, EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities. 5 U.S.C. 603 and 604. Alternatively, EPA may certify that the rule will not have a significant impact on a substantial number of small entities. Small entities include small businesses, small not-for-profit enterprises, and government entities with jurisdiction over populations of less than 50,000.

SIP approvals under section 110 and subchapter I, part D of the Clean Air Act do not create any new requirements but simply approve requirements that the State is already imposing. Therefore, because the Federal SIP approval does not impose any new requirements, the Administrator certifies that it does not have a significant impact on any small entities affected. Moreover, due to the nature of the Federal-State relationship under the CAA, preparation of a flexibility analysis would constitute Federal inquiry into the economic reasonableness of State action. The Clean Air Act forbids EPA to base its actions concerning SIPs on such grounds. *Union Electric Co. v. U.S. EPA*, 427 U.S. 246, 255-66 (1976); 42 U.S.C. 7410(a)(2).

C. Unfunded Mandates

Under section 202 of the Unfunded Mandates Reform Act of 1995 ("Unfunded Mandates Act"), signed into law on March 22, 1995, EPA must

prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to State, local, or tribal governments in the aggregate; or to private sector, of \$100 million or more. Under section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted by the rule.

EPA has determined that the approval action promulgated does not include a Federal mandate that may result in estimated costs of \$100 million or more to either State, local, or tribal governments in the aggregate, or to the private sector. This Federal action approves pre-existing requirements under State or local law, and imposes no new Federal requirements. Accordingly, no additional costs to State, local, or tribal governments, or to the private sector, result from this action.

D. Submission to Congress and the General Accounting Office

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of the rule in the **Federal Register**. This rule is not a "major" rule as defined by 5 U.S.C. 804(2).

E. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by September 29, 1998. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed, and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to

enforce its requirements (see section 307(b)(2)).

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Ozone, Reporting and recordkeeping requirements, Volatile organic compound.

Note: Incorporation by reference of the State Implementation Plan for the State of California was approved by the director of the Federal Register on July 1, 1982.

Dated: July 8, 1998.

Felicia Marcus,

Regional Administrator, Region IX.

Part 52, Chapter I, Title 40 of the Code of Federal Regulations is amended as follows:

PART 52—[AMENDED]

1. The authority citation for Part 52 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

Subpart F—California

2. Section 52.220 is amended by adding paragraph (c)(194)(i)(G) to read as follows:

§ 52.220 Identification of plan.

* * * * *

(c) * * *

(194) * * *

(i) * * *

(G) Mendocino County Air Quality Management District.

(I) Rule 130 (p6), (t2), and (t3) adopted April 6, 1993.

* * * * *

[FR Doc. 98-20508 Filed 7-30-98; 8:45 am]

BILLING CODE 6560-50-P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 15

[ET Docket No. 96-102, FCC 98-121]

Unlicensed NII Devices in the 5 GHz Frequency Range

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: By this *Memorandum Opinion and Order* ("MO&O"), the Commission amends the rules to permit fixed, point-to-point Unlicensed National Information Infrastructure ("U-NII") devices in the 5.725-5.825 GHz band to operate with one watt maximum transmitter output power and

directional antennas of up to 23 dBi gain. Additionally, the *MO&O* amends the Commission's rules to specify transmit power limits in the form of a logarithmic equation as a function of channel bandwidth for all U-NII devices in all U-NII bands. It also clarifies the rules regarding unwanted emissions and specifies these limits in terms of absolute radiated power levels. Further, this action clarifies and addresses other issues raised in the petitions for reconsideration regarding the operation of, and regulations governing, U-NII devices. The actions taken herein will add to the flexibility and capability of U-NII operations without causing an increase in harmful interference to incumbent operations sharing the same spectrum.

EFFECTIVE DATE: August 31, 1998.

FOR FURTHER INFORMATION CONTACT: Tom Derenge, Office of Engineering and Technology, (202) 418-2451.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *MO&O*, ET Docket 96-102, FCC 98-121, adopted June 17, 1998, and released June 24, 1998. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, N.W., Washington, D.C., and also may be purchased from the Commission's duplication contractor, International Transcription Service, (202) 857-3800, 1231 20th Street, N.W. Washington, D.C. 20036.

Summary of the Memorandum Opinion and Order

1. On January 9, 1997, the Commission adopted a *Report and Order* ("R&O") in ET Docket No. 96-102, 62 FR 04649, January 31, 1997, which amended part 15 of its rules to make available 300 megahertz of spectrum at 5.15-5.35 GHz and 5.725-5.825 GHz for use by a new category of unlicensed equipment, called U-NII devices. These devices are intended to provide high speed wireless digital communications on an unlicensed basis. The *R&O* stated that U-NII devices will support the creation of new wireless local area networks ("LANs") and will facilitate wireless access to the National Information Infrastructure ("NII"). In order to permit flexibility in the design and operation of these devices, the *R&O* adopted those technical rules found to be minimally necessary to prevent interference to other services and to ensure that the spectrum is used efficiently. Additionally, the rules set forth in the *R&O* were intended to foster the development of a broad range of

new devices and service offerings that will stimulate economic development and the growth of new industries.

2. In response to the *R&O*, on March 3, 1997, Apple Computer, Inc. ("Apple"), Hewlett Packard Company ("H-P") and the Wireless Information Networks Forum ("WINForum") filed petitions requesting reconsideration of certain aspects of the *R&O* and further clarification of certain rules adopted in that proceeding. The *MO&O* adopts in part the reconsideration requests of Apple and WINForum, denies the reconsideration request of H-P and dismisses a later filed petition for rulemaking by Clarity Wireless Incorporated. Specifically, the *MO&O* adopts WINForum's proposal of expressing the transmit power for U-NII devices as a logarithmic equation dependent on bandwidth. This action will not increase the maximum power permitted by U-NII devices, but would merely scale permissible maximum power to the bandwidth used by the U-NII device. Further, the *MO&O* denies requests to ease power and antenna limits for U-NII devices at this time except for point-to-point links in the 5.725-5.825 GHz band, which will be permitted to operate with up to 1 watt transmitter output power and 23 dBi gain antennas. Non point-to-point U-NII devices in the 5.725-5.825 GHz band must meet the original power limits of 1 watt transmitter output power with up to 6 dBi gain antennas. The item, however, pledges that the Commission will work with industry, consumers, government agencies, and other interested parties to closely monitor whether these limits can be eased in the future.

3. With respect to power spectral density, the Commission acknowledges that there are variations in a signal's power across its emission bandwidth, but concludes that the public interest would not be served by amending its rules to allow a 3-dB tolerance in meeting U-NII power spectral density ("PSD") requirements in any one megahertz segment, even if the total PSD requirement across the signal's bandwidth is met. Instead, for compliance with the PSD requirement, the rules are amended to permit integration of the power over the PSD measurement bandwidth (the lesser of 1 megahertz or the 26 dB bandwidth) such that the variations in envelope power will be averaged out. The *MO&O* states that this measurement procedure is sufficient to accommodate the digital modulation techniques anticipated for U-NII devices and that integrating the power over the measurement bandwidth would not cause additional interference

problems with other services due to the averaging effect of the power from multiple devices.

4. The Commission denies Apple's request to modify the U-NII PSD requirements to permit the spread of the maximum power across a smaller bandwidth and maintains the PSD limits adopted within the *R&O*. Specifically, U-NII devices shall limit their PSD as follows: (a) in the 5.15-5.25 GHz band, the transmitter peak PSD will be limited to 2.5 mW (4 dBm) in any one megahertz band for an antenna gain of up to 6 dBi; (b) in the 5.25-5.35 GHz band, the transmitter peak PSD will be limited to 12.5 mW (11 dBm) in any one megahertz band for an antenna gain of up to 6 dBi; and (c) in the 5.725-5.825 GHz band, the transmitter peak PSD will be limited to 50 mW (17 dBm) in any one megahertz band for an antenna gain of up to 6 dBi (23 dBi for fixed, point-to-point systems).

5. In response to WINForum requested clarification of the limits on unwanted UNII emissions, the Commission amends its rules so that U-NII emission limits will now be expressed in absolute terms based on the maximum permitted in-band power limits rather than in terms relative to actual in-band operating power. The Commission concludes that expression of U-NII out-of-band and spurious emission limits as absolute radiated power levels would afford manufacturers maximum flexibility in designing U-NII devices that would comply with the emission requirements. Therefore, the *MO&O* revises sections 15.407(b)(1-3) to express U-NII out-of-band and spurious emission limits in terms of the effective isotropically radiated power per megahertz ("EIRP/MHz") equivalents for U-NII transmitters operating at maximum permitted power with a 6 dBi gain antenna. Additionally, the *MO&O* revises section 15.407(b)(3) to clarify that all emissions within 10 megahertz of the edge of the 5.725-5.825 GHz band shall not exceed an EIRP of -17 dBm/MHz, and all emissions farther than 10 megahertz from the edge of the 5.725-5.825 GHz band shall not exceed an EIRP of -27 dBm/MHz. Because the U-NII emission limits are expressed in terms of EIRP/MHz based on maximum permitted power with a 6 dBi gain antenna, out-of-band and spurious emissions are limited to a maximum level regardless of antenna gain.

6. Additionally, the *MO&O* clarifies the rules specifying U-NII emission limits in the restricted bands of section 15.205, but rejects WINForum's contention that the U-NII emission limits of section 15.407(b)(1-3) should

take precedence over the restricted band emission limits. As reflected in section 15.407(b)(6) adopted by the *R&O*, all U-NII emissions must meet section 15.205 requirements for emissions into the restricted bands, in order to protect sensitive radio operations and safety-of-life radio operations. Further, the Commission revises sections 15.407(b)(1-2) to clarify that they apply to emissions that emanate from U-NII devices operating in the 5.15-5.25 GHz and 5.25-5.35 GHz bands and that fall outside of the restricted bands. Specifically, for devices operating in these bands, U-NII emissions outside these bands shall not exceed an EIRP of -27 dBm/MHz. The *MO&O* also clarifies section 15.407(b)(5) to state that the emission requirements of section 15.209 apply to only those U-NII emissions that are below 1 GHz.

7. The Commission also modifies its rules regarding the definition of U-NII technical parameters and performance of compliance measurements to better accommodate advanced digital modulation techniques. The *MO&O* recognizes that digital modulation techniques often display symbol-to-symbol envelope variations and short duration peaks that do not cause increased interference to other operations. It also notes that defining power in terms of the average of all symbols in a particular modulation technique and establishing a proper time interval to measure transmission pulses would help account for the peak-to-average variations in measuring digital signals. Additionally, in order to get an accurate measurement for digital networking devices, the *MO&O* finds that measurements should be made over bursts that are transmitted at the maximum power control level and that any power averaging must not include time intervals during which the transmitter is off or transmitting at a reduced power level. Accordingly, the *MO&O* amends its U-NII technical definitions and measurement procedures to address the above concerns raised by WINForum.

8. Additionally, the *MO&O* imposes a maximum 13 dB ratio limitation between the peak excursion of the modulation envelope (measured using a peak hold function) and the peak transmit power (measured as specified above) across the lesser of any 1 MHz bandwidth or the emission bandwidth. These U-NII measurements must be made using the procedures specified in the Commission's rules and in document ANSI C63.17-1998 over an interval of continuous transmission during which the output power is at a maximum. The Commission concludes

that this approach will enable the development of new U-NII digital modulation techniques that will not have an undesirably high potential for causing interference to other devices and services.

9. Regarding the measurement of unwanted emissions, the Commission reaffirms its finding in the *R&O* that these measurements should be performed with a minimum resolution bandwidth of one megahertz. This is consistent with section 15.35(b) of the Commission's rules and reduces the influence of different filter responses and ensures repeatability of measurements. Nevertheless, the U-NII rules permit a lower resolution bandwidth for measurements near the band edge, when necessary, provided the measured energy is integrated to show the total power over one megahertz. Therefore, the *MO&O* concludes that adoption of WINForum's proposed definitions for "average symbol envelope power," "pulse," "transmit power," "peak transmit power," "power spectral density," and "peak power spectral density" combined with the use of measurement techniques specified in the Commission's rules and in ANSI C63.17-1998 are appropriate and will permit accurate measurement of U-NII technical parameters.

10. The *MO&O* clarifies that the intent of this proceeding was to facilitate the development of digital equipment using digital modulation techniques capable of achieving network communications on wide bandwidth channels at high data rates. Therefore, the *MO&O* adds to the rules a definition for digital modulation, but states that it is not necessary to prescribe which digital modulation techniques would be permitted because this may restrict the implementation of newly developed digital modulation techniques.

11. Finally, the Commission clarifies that U-NII devices that meet the operational requirements for the 5.15-5.25 GHz band are permitted to operate across the entire 5.15-5.35 GHz band. The Commission notes that nothing in its current rules prevents devices that meet the requirements of multiple bands from operating in the different U-NII bands as long as the device complies with the operating requirements of the band it is transmitting in.

Final Regulatory Flexibility Analysis

12. As required by the Regulatory Flexibility Act ("RFA"),¹ an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the Notice

of Proposed Rulemaking ("NPRM") in this proceeding.² The Commission sought written public comments on the proposals in the NPRM including on the IRFA. Further, the Commission adopted a Final Regulatory Flexibility Analysis ("FRFA") in the Report and Order ("R&O") in this proceeding.³ The Commission's Supplemental Final Regulatory Flexibility Analysis ("SFRFA") in this Memorandum Opinion and Order ("MO&O") conforms to the RFA, as amended by the Contract With America Advancement Act of 1996 ("CWAAA"), Pub. L. 104-121, 110 Stat. 847 (1996).⁴

13. *Need for and Objectives of the Rule:* By this action, the Commission affirms its decision to provide 300 megahertz of spectrum for a new category of unlicensed equipment called "Unlicensed National Information Infrastructure" ("U-NII") devices. These devices are needed to provide high speed wireless digital communications on an unlicensed basis. This action is intended to provide clarification of the rules governing the use of these devices adopted in the *R&O*. Additionally, at the request of petitioners we are relaxing certain technical requirements to enable these devices to achieve more reliable communications. We believe the rules set forth herein will foster the development of a broad range of new devices and services that will stimulate economic development and the growth of new industries. Finally, this action will promote the ability of U.S. manufacturers to compete globally by enabling them to develop unlicensed digital communications products for the world market.

14. *Summary of Significant Issues Raised by the Public Comments in Response to the IRFA:* As noted in the previous FRFA, we received five comments that directly addressed the IRFA in this proceeding. The concerns raised by these comments were addressed in the FRFA. No new comments or reconsiderations were filed relating directly to the IRFA or FRFA in this proceeding.

15. *Description and Estimate of the Number of Small Entities to Which the Rules Will Apply:* The RFA generally defines the term "small business" as having the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. 632. Based on that statutory provision, we

² See NPRM, ET Docket No. 96-102, 11 FCC Rcd 7205 (1996); 61 FR 24749, May 16, 1996.

³ See Report and Order, ET Docket 96-102, 12 FCC Rcd 1576 (1997).

⁴ See Subtitle II of the CWAAA is "The Small Business Regulatory Enforcement Fairness Act of 1996" ("SBREFA"), codified at 5 U.S.C. 603.

¹ See 5 U.S.C. 603.

will consider a small business concern one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration ("SBA"). The RFA SBREFA provisions also apply to nonprofit organizations and to governmental organizations. Since the Regulatory Flexibility Act amendments were not in effect until the record in this proceeding was closed, the Commission was unable to request information regarding the number of small businesses that might use this service and is unable at this time to determine the number of small businesses that would be affected by this action. The rules adopted in this *MO&O* will apply to any entities manufacturing U-NII devices to operate in the 5 GHz range which could include computer manufacturers and unlicensed RF equipment manufacturers. Although the rules do not directly affect entities that purchase this equipment, comments contend that several million entities, including consumers, schools, libraries, and small businesses, could benefit from the use of these devices.

16. The rules adopted in this *MO&O* will apply to entities engaged in the manufacturing of U-NII devices. The Commission has not developed a definition of small entities applicable to unlicensed device manufacturers. Therefore, the applicable definition of small entity is the definition under the SBA rules applicable to manufacturers of "Radio and Television Broadcasting and Communications Equipment" and "Computer Manufacturers." According to the SBA's regulations, an RF manufacturer must have 750 or fewer employees in order to qualify as a small business.⁵ Census Bureau data indicates that there are 858 companies in the United States that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and would be classified as small entities.⁶ Further, according to SBA regulations, a computer manufacturer must have 1,000 or fewer employees in order to qualify as a small entity.⁷ Census Bureau data indicates that there are 716 firms that manufacture electronic computers and of those, 659 have fewer than 500 employees and qualify as small

entities.⁸ The remaining 57 firms have 500 or more employees; however, we are unable to determine how many of those have fewer than 1,000 employees and therefore also qualify as small entities under the SBA definition. The Census Bureau categories are very broad and specific figures are not available on the number of these firms that will manufacture U-NII devices; however, we acknowledge the likelihood that many of them will be small businesses.

17. *Description of Projected Reporting, Recordkeeping and Other Compliance Requirements:* As noted in the FRFA in this proceeding, the rules adopted in the *R&O*, as well as the subsequent *MO&O*, will require U-NII manufacturers to comply with the Commission's equipment certification requirements set forth in section 15.210(b), prior to marketing, and the radio frequency hazard requirements set forth in sections 1.1307(b), 1.1310, 2.1091, and 2.1093 of the rules. All equipment will be deemed to operate in an 'uncontrolled' environment. Any application for equipment certification for these devices must contain a statement confirming compliance with these requirements. Technical information showing the basis for this statement must be submitted to the Commission upon request. The equipment certification requirement is necessary to ensure compliance with the Commission's rules and promote electromagnetic compatibility. Further, compliance with the radio frequency hazard requirements is necessary to protect the health of individuals using the equipment. These requirements are typically required for all unlicensed equipment. No further reporting or recordkeeping requirements will be imposed. Therefore, the only compliance costs likely to be incurred are costs necessary to ensure that prototype devices comply with our equipment certification requirements and radio frequency hazard requirements.

18. Skills of an application examiner, radio technician or engineer will be needed to meet the requirements. If a device is not categorically excluded, the manufacturer of the device must make a determination of whether the device will comply with the RF radiation limits. This study can be done by calculation or measurement, depending upon the situation. In many cases the studies can be done by a radio technician or engineer. Certification

applications are usually done by application examiners.

19. *Significant Alternatives and Steps Taken by Agency To Minimize Significant Economic Impact on a Substantial Number of Small Entities Consistent With Stated Objectives:* As noted in the FRFA, the Commission considered several significant alternatives based on comments received in response to the *NPRM*. These alternatives are discussed in the *FRFA* to the *R&O*. The Commission also considered alternatives to the rules adopted in the *R&O* which were in response to three Petitions for Reconsideration filed to the *R&O* and the subsequent comments. For example, the *R&O* specified the permitted transmitter output power in one megahertz increments up to a maximum permitted transmitter output power in a 20 megahertz channel. However, this would permit narrowband devices with channel widths less than one megahertz to transmit with the same power as those devices with one megahertz channel bandwidths. Therefore, the *MO&O* specifies the permitted transmitter output power as a logarithmic equation dependent on the channel's bandwidth, but it does not increase the total maximum permitted transmitter output power. In addition, the *MO&O* denied requests to permit U-NII devices in the 5.15-5.25 GHz and 5.25-5.35 GHz band to operate at higher powers and/or with increased antenna gain because such action might increase the potential for interference problems. These actions will not have a significant impact on small entities.

20. Further, the *MO&O* clarifies the unwanted emission requirements for U-NII devices. Specifically, unwanted emissions will now be specified as an absolute radiated power level from the antenna instead of requiring that U-NII devices suppress unwanted emission by a specific number of dBs below their operating power. The *MO&O* denies requests for relaxation of unwanted emission requirements because such action might create unacceptable interference problems. This action does not change the amount of emission suppression required for U-NII devices, but permits device manufacturers additional flexibility in meeting our requirements.

21. Additionally, in response to a request filed by Apple Computer, Inc., the *MO&O* modifies the U-NII rules to permit fixed, point-to-point U-NII devices in the 5.725-5.825 GHz band to operate with one watt maximum transmitter output power and directional antennas of up to 23 dBi gain. This action would facilitate the

⁵ See 13 CFR 121.201, Standard Industrial Classification (SIC) Code 3663.

⁶ See U.S. Department of Commerce, 1992 Census of Transportation, Communications and Utilities (issued May 1995), SIC category 3663.

⁷ See 13 CFR 121.201, (SIC) Code 3571.

⁸ See U.S. Small Business Administration 1995 Economic Census Industry and Enterprise Report, Table 3, SIC Code 3571, (Bureau of the Census data adapted by the Office of Advocacy of the U.S. Small Business Administration).

development of community networks. The item denies Apple's request for unlimited gain antennas because of comments from the National Telecommunications and Information Administration which argue that such high gain antennas would be more susceptible to interference from Government operations. This action will not have a significant impact on small entities.

22. At the request of WINForum, the MO&O modifies the equipment authorization measurement procedures and definitions for U-NII power in accordance with the new American National Standards Institute ("ANSI") document, C63.17, which defines parameters and measurement procedures for unlicensed Personal Communications Service ("U-PCS") devices and accounts for the characteristics of the digital modulation techniques used by these devices. The Commission believes that the increasing use of advanced digital modulation techniques does warrant some reconsideration of the definition of technical parameters and the performance of compliance measurements to ensure that equipment meets necessary technical standards. The Commission also denies a request that it permit a 3-dB tolerance in meeting power requirements because its peak power spectral density ("PSD") limits are designed to be applicable regardless of variations caused by various signal types. However, to determine compliance with the peak PSD requirements, the MO&O will permit the averaging of power variations through the integration of the power variations over the required minimum PSD measurement bandwidth (the lesser of 1 megahertz or the signal's 26 dB bandwidth). These actions will not have a significant impact on small entities.

23. Finally, the item clarifies that U-NII devices must use digital modulation techniques and amends the rules on emission limits to permit a single device to operate across both the 5.15–5.25 GHz and 5.25–5.35 GHz bands as long as the technical requirements for each band are met. This added flexibility will assist manufacturers in designing equipment that more readily meets the consumer's demand and will not have a significant impact on small entities.

24. *Report to Congress:* The Commission shall send a copy of this Supplemental Final Regulatory Flexibility Analysis, along with this Report and Order, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 801 (a)(1)(A).

List of Subjects in 47 CFR Part 15

Communications equipment, Radio.
Federal Communications Commission.
Magalie Roman Salas,
Secretary.

Rule Changes

For the reasons discussed in the preamble part 15 of title 47 of the Code of Federal Regulations, is amended as follows:

PART 15—RADIO FREQUENCY DEVICES

1. The authority citation for Part 15 continues to read as follows:

Authority: 47 U.S.C. 154, 302, 303, 304, 307 and 544A.

2. Section 15.17 is amended by revising paragraph (a) to read as follows:

§ 15.17 Susceptibility to interference.

(a) Parties responsible for equipment compliance are advised to consider the proximity and the high power of non-Government licensed radio stations, such as broadcast, amateur, land mobile, and non-geostationary mobile satellite feeder link earth stations, and of U.S. Government radio stations, which could include high-powered radar systems, when choosing operating frequencies during the design of their equipment so as to reduce the susceptibility for receiving harmful interference. Information on non-Government use of the spectrum can be obtained by consulting the Table of Frequency Allocations in § 2.106 of this chapter.

* * * * *

3. Sections 15.401, 15.403, 15.405 and 15.407, in Subpart E are revised to read as follows:

§ 15.401 Scope.

This subpart sets out the regulations for unlicensed National Information Infrastructure (U-NII) devices operating in the 5.15–5.35 GHz and 5.725–5.825 GHz bands.

§ 15.403 Definitions.

(a) *Average symbol envelope power.* The average symbol envelope power is the average, taken over all symbols in the signaling alphabet, of the envelope power for each symbol.

(b) *Digital modulation.* The process by which the characteristics of a carrier wave are varied among a set of predetermined discrete values in accordance with a digital modulating function as specified in document ANSI C63.17–1998.

(c) *Emission bandwidth.* For purposes of this subpart the emission bandwidth shall be determined by measuring the

width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Determination of the emissions bandwidth is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

(d) *Peak power spectral density.* The peak power spectral density is the maximum power spectral density, within the specified measurement bandwidth, within the U-NII device operating band.

(e) *Peak transmit power.* The maximum transmit power as measured over an interval of time of at most 30/B or the transmission pulse duration of the device, whichever is less, under all conditions of modulation.

(f) *Power spectral density.* The power spectral density is the total energy output per unit bandwidth from a pulse or sequence of pulses for which the transmit power is at its peak or maximum level, divided by the total duration of the pulses. This total time does not include the time between pulses during which the transmit power is off or below its maximum level.

(g) *Pulse.* A pulse is a continuous transmission of a sequence of modulation symbols, during which the average symbol envelope power is constant.

(h) *Transmit power.* The total energy transmitted over a time interval of at most 30/B (where B is the 26 dB emission bandwidth of the signal in hertz) or the duration of the transmission pulse, whichever is less, divided by the interval duration.

(i) *U-NII devices.* Intentional radiators operating in the frequency bands 5.15–5.35 GHz and 5.725–5.825 GHz that use wideband digital modulation techniques and provide a wide array of high data rate mobile and fixed communications for individuals, businesses, and institutions.

§ 15.405 Cross reference.

(a) The provisions of subparts A, B, and C of this part apply to unlicensed U-NII devices, except where specific provisions are contained in subpart E. Manufacturers should note that this includes the provisions of §§ 15.203 and 15.205.

(b) The requirements of subpart E apply only to the radio transmitter contained in the U-NII device. Other aspects of the operation of a U-NII device may be subject to requirements

contained elsewhere in this chapter. In particular, a U-NII device that includes digital circuitry not directly associated with the radio transmitter also is subject to the requirements for unintentional radiators in subpart B.

§ 15.407 General technical requirements.

(a) Power limits:

(1) For the band 5.15–5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 50 mW or 4 dBm + 10logB, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25–5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 250 mW or 11 dBm + 10logB, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725–5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed the lesser of 1 W or 17 dBm + 10logB, where B is the 26-dB emission bandwidth in MHz. In addition, the peak power spectral density shall not exceed 17 dBm in any 1-MHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain up to 23 dBi without any corresponding reduction in the transmitter peak output power or peak power spectral density. For fixed, point-to-point U-NII transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in peak transmitter power and peak power spectral density for each 1 dB of antenna gain in excess of 23 dBi would be required. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omni directional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII

device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

Note to paragraph (a)(3): The Commission strongly recommends that parties employing U-NII devices to provide critical communications services should determine if there are any nearby Government radar systems that could affect their operation.

(4) The peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement conforming to the definitions in this paragraph for the emission in question.

(5) The peak power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A resolution bandwidth less than the measurement bandwidth can be used, provided that the measured power is integrated to show total power over the measurement bandwidth. If the resolution bandwidth is approximately equal to the measurement bandwidth, and much less than the emission bandwidth of the equipment under test, the measured results shall be corrected to account for any difference between the resolution bandwidth of the test instrument and its actual noise bandwidth.

(6) The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the peak transmit power (measured as specified in this paragraph) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

(b) *Undesirable emission limits:* Except as shown in paragraph (b)(6) of this section, the peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz.

(2) For transmitters operating in the 5.25–5.35 GHz band: all emissions

outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27 dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27 dBm/MHz in the 5.15–5.25 GHz band.

(3) For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an EIRP of –17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an EIRP of –27 dBm/MHz.

(4) The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.

(5) Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.

(6) The provisions of § 15.205 apply to intentional radiators operating under this section.

(7) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

(d) Any U-NII device that operates in the 5.15–5.25 GHz band shall use a transmitting antenna that is an integral part of the device.

(e) Within the 5.15–5.25 GHz band, U-NII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

(f) U-NII devices are subject to the radio frequency radiation exposure requirements specified in § 1.1307(b), § 2.1091 and § 2.1093 of this chapter, as

appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(g) Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

[FR Doc. 98-20429 Filed 7-30-98; 8:45 am]

BILLING CODE 6712-01-P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

49 CFR Part 376

[FHWA Docket No. FHWA-97-3050]

RIN 2125-AE26

Exemption of Commonly-Owned Motor Carriers From Equipment Identification and Receipt Requirements Applicable to Leased and Interchanged Vehicles

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Final rule.

SUMMARY: The FHWA is modifying its regulations under 49 CFR part 376 governing the lease and interchange of motor vehicle equipment by exempting commonly-owned and controlled motor carriers from the vehicle identification and exchange of receipt requirements of § 376.22 and the vehicle identification requirement of § 376.31. This action eliminates the need for carriers to obtain individual waivers from these requirements from the FHWA.

EFFECTIVE DATE: August 31, 1998.

FOR FURTHER INFORMATION CONTACT: Mr. John F. Grimm, Director, Office of Motor Carrier Information Analysis, (202) 366-4039, or Mr. Michael J. Falk, Motor Carrier Law Division, Office of the Chief Counsel, (202) 366-1384, Federal Highway Administration, Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590. Office hours are from 8 a.m. to 4:30 p.m., e.t., Monday through Friday, except Federal holidays.

SUPPLEMENTARY INFORMATION:

Electronic Access

Internet users can access all comments received by the U.S. DOT Dockets, Room PL-401, by using the universal resource locator (URL): <http://dms.dot.gov>. It is available 24 hours each day, 365 days each year. Please follow the instructions online for more information and help.

An electronic copy of this document may be downloaded using a modem and suitable communications software from the **Federal Register** Electronic Bulletin Board Service at (202) 512-1661. Internet users may reach the **Federal Register**'s home page at: <http://www.nara.gov/nara/fedreg> and the Government Printing Office's database at: <http://www.access.gpo.gov/su-docs>.

Background

The FHWA's regulations at 49 CFR part 376 govern motor carrier transportation provided in nonowned equipment. Section 376.22 permits motor carriers of property who must register with the FHWA under 49 U.S.C. 13901 and § 13902 (authorized carriers) to trip lease nonowned equipment between themselves and private motor carriers under specified conditions. Section 376.22(a) requires that trip-leasing carriers comply with certain equipment identification and equipment receipt requirements contained in 49 CFR 376.11. Under these requirements, trip-leased vehicles must display the trade name and other pertinent information regarding the motor carrier operating the vehicle. Equipment receipts must be exchanged between the owner and authorized carrier when possession of the equipment is transferred.

Section 376.31 of the regulations imposes a similar vehicle identification requirement on authorized carriers which interchange equipment to continue a through movement, and also requires that either a copy of the interchange agreement or a detailed interchange statement be carried in each vehicle.

On December 30, 1997, the FHWA published a notice of proposed rulemaking (NPRM) and a request for comments in the **Federal Register** (62 FR 67821) on amending part 376 to exempt commonly-owned and controlled motor carriers from the vehicle identification and exchange of receipt requirements of § 376.22 and the vehicle identification and documentation requirements of § 376.31. Commonly-owned or controlled carriers have routinely been granted individual waivers from these requirements by the former Interstate

Commerce Commission (ICC) and the FHWA on the ground that compliance is unnecessary and burdensome as long as the carriers remained under joint ownership and control.

The FHWA believes that the vehicle identification and exchange of receipt requirements serve little useful purpose when vehicles are being exchanged between commonly-controlled companies which are jointly operated with respect to safety program administration and equipment utilization. Vehicle ownership and assignment information can be readily made available from computerized dispatch records and operational logs, obviating the need for strict identification, placarding and receipt issuance requirements. Furthermore, elimination of these requirements would allow such carriers to operate more efficiently and economically by fostering improved equipment use and eliminating a significant and unproductive paperwork and placarding burden. This amendment would also allow the FHWA to conserve its own resources by eliminating the need to grant waivers on an individual basis.

Discussion of Public Comments

The public comment period for the NPRM closed on March 2, 1998. Comments were received from the California Highway Patrol (CHP); Landstar System, Inc., and its 10 motor carrier subsidiaries; and the National Solid Wastes Management Association (NSWMA). Landstar and the NSWMA support the proposed rule on the ground that it will eliminate burdensome administrative and paperwork requirements which no longer serve a useful purpose. The CHP, however, believes that exempting commonly-owned and controlled carriers from vehicle identification requirements will create problems for enforcement personnel issuing traffic citations and conducting routine vehicle inspections and accident investigations. According to the CHP, the carrier information displayed on the vehicle is used to identify the carrier for purposes of preparing inspection, citation and accident reports, which are incorporated into State and Federal motor carrier databases. In order to ensure the accuracy of this data, the CHP requests that the proposed rule be amended to require that each vehicle carry documentation identifying the operating carrier which would have to be presented to law enforcement personnel on request.

We agree with the CHP that it is important for enforcement personnel to be able to accurately identify the

(e) The Commission staff will advise owners and architects concerning the scope and content of particular submissions. Material relevant to the functions and policies of the Commission varies greatly depending upon the nature, size, and importance of the project to be reviewed by the Commission. Also, it is the policy of the Commission not to impose unnecessary burdens or delays on persons who make submissions to the Commission. However, the Commission at any meeting may decline to reach a conclusion about a proposed project if it deems the submission materials inadequate for its purposes, or it may condition its conclusions on the submission of further information to it at a later meeting or, in its discretion, may delegate final action to the staff.

(f) The Commission staff, members of the Georgetown Board, interested members of the public, or the submitting party may augment any submission by additional relevant information made available to the Commission before or at the meeting where the submission is considered. The staff should also make information available concerning prior considerations or conclusions of the Commission regarding the same project or earlier versions of it.

§ 2102.11 Scope and content of submissions for proposed medals, insignia, coins, seals, and the like.

Each submission of the design for a proposed item which is within the Commission's purview under § 2101.1 (d) should identify the sponsoring government unit and disclose the uses and purpose of the item, the size and forms in which it will be produced, and the materials and finishes to be used, including colors if any, along with a sketch, model, or prototype.

§ 2102.12 Responses of Commission to submissions.

(a) The Commission before disposing of any project presented to it may ask for the proposed plans or designs to be changed in certain particulars and resubmitted, or for the opportunity to review plans, designs, and specifications in certain particulars at a later stage in their development, and to see samples or mock-ups of materials or components; and when appropriate in the matter of a statue or other object of art, the Commission may ask for the opportunity to see a larger or full-scale model. All conclusions, advice, or comments of the Commission which lead to further development of plans, designs, and specifications or to actual carrying out of the project are made in

contemplation that such steps will conform in all substantial respects with the plans or designs submitted to the Commission, including only such changes as the Commission may have recommended; any other changes in plans or designs require further submission to the Commission.

(b) In the case of plans for a project subject to the Old Georgetown Act (§ 2101.1 (c)), if the Commission does not respond with a report on such plans within forty-five days after their receipt by the Commission, its approval shall be assumed and a permit may be issued by the government of the District of Columbia.

(c) In the case of plans for a project subject to the Shipstead-Luce Act (§ 2101.1 (b)), if the Commission does not respond with a report on such plans within thirty days after their receipt by the Commission, its approval shall be assumed and a permit may be issued by the government of the District of Columbia.

(d) In the event that any project or item within the Commission's purview under 2101.1 has not progressed to a substantial start of construction or production within four years following the Commission meeting date on which the final design was approved, the Commission's approval is suspended. The plans or designs previously approved or alternative plans or designs, may thereupon be resubmitted for Commission review. The Commission's subsequent approval, if granted, shall remain in effect for four years.

PART 2103—STATEMENTS OF POLICY

§ 2103.1 General approaches to review of plans by the Commission.

The Commission functions relate to the appearance of proposed projects within its purview as specified herein. These functions are to serve the purpose of conserving and enhancing the visual assets which contribute significantly to the character and quality of Washington as the nation's capital and which appropriately reflect the history and features of its development over two centuries. Where existing conditions detract from the overall appearance of official Washington or historic Georgetown—such as conditions caused by temporary, deteriorated, or abandoned buildings of little or no historical or architectural value, by interrupted developments, or by vacant lots not devoted to public use as parks or squares—the Commission will favor suitable corrections to these conditions. When changes or additions are proposed in other circumstances, the

Commission may consider whether the public need or value of the project or the private interests to be served thereby justify making any change or addition, and it will consider whether the project can be accomplished in reasonable harmony with the nearby area, with a minimum loss of attractive features of the existing building or site, with due deference to the historical and architectural values affected, and without creating an anomalous disturbing element in the public view of the city.

Authority: Pub. L. 81–808, 64 Stat. 903; 40 U.S.C. 72, 104, 106, and 121; E.O. 1259 of October 25, 1910; E.O. 1862 of November 28, 1913; E.O. 3524 of July 28, 1921.

[FR Doc. 97–2386 Filed 1–30–97; 8:45 am]

BILLING CODE 6330–01–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1, 2 and 15

[ET Docket No. 96–102; FCC 97–5]

Unlicensed NII Devices in the 5 GHz Frequency Range

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: By this action, the Commission amends its radio frequency devices rules to make available 300 megahertz of spectrum at 5.15–5.35 GHz and 5.725–5.825 GHz for use by a new category of unlicensed equipment, called Unlicensed National Information Infrastructure ("U-NII") devices. These devices will provide short-range, high speed wireless digital communications on an unlicensed basis. We anticipate that U-NII devices will support the creation of new wireless local area networks ("LANs") and will facilitate wireless access to the National Information Infrastructure ("NII"). In order to permit significant flexibility in the design and operation of these devices, we are adopting the minimum technical rules necessary to prevent interference to other services and to ensure that the spectrum is used efficiently. We believe that the rules set forth herein will foster the development of a broad range of new devices and communications options that will stimulate economic development and the growth of new industries. We also expect that this action will promote the ability of U.S. manufacturers, including small businesses, to compete globally by enabling them to develop unlicensed digital communications products for the world market.

EFFECTIVE DATE: April 1, 1997.

FOR FURTHER INFORMATION CONTACT: Tom Derenge 418-2451 or Fred Thomas 418-2449.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's *Report and Order*, ET Docket 96-102, FCC 97-5, adopted January 9, 1997, and released January 9, 1997. The full text of this Commission decision is available for inspection and copying during normal business hours in the FCC Reference Center (Room 239), 1919 M Street, N.W., Washington, D.C., and also may be purchased from the Commission's duplication contractor, International Transcription Service, (202) 857-3800, 2100 M Street, N.W., Suite 140, Washington, D.C. 20037.

Summary of the Report and Order

1. On April 25, 1996, the Commission adopted a *Notice of Proposed Rule Making* ("NPRM"), 61 FR 24749, May 16, 1996; this proceeding proposed to make available 350 megahertz of spectrum at 5.15-5.35 GHz and 5.725-5.875 GHz for Unlicensed National Information Infrastructure ("U-NII") devices.¹ The NPRM proposed that such devices be subject to minimum technical standards, including power limits, out-of-band emission limits, and spectrum etiquette. We tentatively concluded that these standards would be necessary to ensure that licensed services in the bands would be protected from harmful interference, that the spectrum would be used efficiently, and that all U-NII devices would have equal access to the spectrum. The NPRM also solicited comments whether we should adopt a channeling plan, a minimum modulation efficiency, and whether we should regulate any U-NII operations as a licensed service, particularly those intended for long-range community network applications. Further, the NPRM also proposed to establish "safe-harbor" rules setting forth conditions under which unlicensed devices could operate without risk of being considered sources of harmful interference.

2. The Commission's proposal to provide spectrum to accommodate U-NII devices is strongly supported by the

majority of the commenters ("U-NII proponents"). U-NII proponents argue that U-NII devices would facilitate connections among computers, televisions, appliance automation products, and on-premises network cable or telephone company access points within homes, schools and health care facilities. Further, they submit that unlicensed devices could potentially satisfy a collection of communications needs that otherwise would probably remain unmet if free and open consumer access to spectrum were not available. In particular, U-NII proponents argue that existing wireless allocations and wireline alternatives are not capable of providing the types of services that are envisioned for U-NII devices. However, parties with incumbent operations on this spectrum argue that the record does not sufficiently demonstrate a need for this new unlicensed spectrum.

3. The Commission finds that there is a need for unlicensed wireless devices that will be capable of providing data rates as high as 20 Mbits/sec to meet the multimedia communication requirements envisioned by the U-NII proponents. To achieve these high data rates at a reasonable cost, we believe that these devices must use broad bandwidths of up to 20 megahertz each and therefore these devices must have access to a substantial amount of spectrum to accommodate a number of devices within the same area. Further, we believe that accessibility to a substantial amount of spectrum is necessary for these devices to develop and mature to their full potential. The record in this proceeding supports the conclusion that recent developments in digital technologies have greatly increased the requirements for transferring large amounts of information and data in relatively short time frames from one network or system to another. Specifically, we note that computers have much faster central processing units and substantially increased memory capabilities, which have increased the demand for devices that can more quickly transfer larger amounts of data. Further, digital equipment is capable of switching and directing large amounts of information within networks. In addition to these technical advances in hardware capability, there has been substantial growth in the use, size, and complexity of digital networks as well. Many of these networks are not only growing internally in the amount and types of data they contain, but are also increasingly being used in combination

and interaction with other such networks.

4. The Commission finds that it is appropriate to provide spectrum for wireless unlicensed digital network communications devices to meet the growing communications demands of multimedia network systems resulting from developments of new digital technologies. We believe that this will facilitate rapid and inexpensive wireless access to information resources by educational institutions, business, industry, and consumers. We also believe that making this spectrum available for U-NII devices will further the Commission's mandate, in Section 257(b) of the Communications Act, to promote vigorous competition and technological advancement.² For example, allowing unlicensed devices access to the 5.15-5.35 GHz and 5.725-5.825 GHz bands will permit educational institutions to form inexpensive broadband wireless computer networks between classrooms, thereby facilitating cost-effective access to an array of multimedia services on the Internet. In addition, unlicensed wireless networks could help improve the quality and reduce the cost of medical care by allowing medical staff to obtain on-the-spot patient data, X-rays, and medical charts.

5. The U-NII proponents support providing 350 megahertz of spectrum in the 5 GHz range for these devices. They argue that 350 megahertz of spectrum is needed to realize the full potential of today's broadband information technologies and to encourage further innovation in the delivery of new broadband digital communications. They claim that providing unlicensed broadband devices access to this amount of spectrum will meet the needs of multiple users at a common location and should be sufficient to provide for open entry and equal access by all unlicensed devices. Further, they claim that this amount of spectrum is needed to provide an environment for robust development and growth, and to permit the communications infrastructure to keep pace with future computer advancements. U-NII proponents further argue that 350 megahertz is necessary for wide bandwidth U-NII networks because these devices will have to share the spectrum with other users, such as Mobile Satellite Service ("MSS"), Amateur, and Industrial, Scientific, and Medical ("ISM"). Finally, U-NII proponents note that the

¹ We note that in the Notice of Proposed Rule Making in this proceeding, we referred to these devices as NII/SUPERNet devices. However, on July 2, 1996, we received a letter from Smart & Thevenet, P.C. on behalf of its client, SuperNet, Inc., which requests that the Commission refrain from using the word "SUPERNet" because it would infringe upon its trademark registration of the name "Colorado Supernet." Accordingly, we have adopted the term "Unlicensed National Information Infrastructure or U-NII" to refer to the devices in this proceeding.

² See 47 U.S.C. § 257(b) ("the Commission shall promote the policies and purposes of this Act promoting * * * vigorous economic competition, technological advancement, and promotion of the public interest, convenience, and necessity.").

proposed bands would align the spectrum available domestically for U-NII devices with the spectrum available for European HIPERLAN systems.

6. The Commission continues to believe that it is appropriate to provide unlicensed devices with access to a substantial amount of spectrum at 5 GHz to accommodate the demand by educational, medical, business, industrial and consumer users for broadband multimedia communications. We are also cognizant, however, of the need for U-NII devices to share the spectrum with primary services without causing radio interference to those services. We believe that both of these concerns can be accommodated by adopting appropriate technical restrictions for U-NII devices, particularly transmit power and out-of-band emission limits, and by avoiding portions of the spectrum where sharing would be particularly difficult. Accordingly, we will make 300 megahertz of spectrum available for U-NII devices. Specifically, we are providing U-NII devices access to three 100 megahertz bands at 5.15–5.25 GHz, 5.25–5.35 GHz and 5.725–5.825 GHz. We recognize that this is less than the 350 megahertz that was proposed, but we believe that this amount of spectrum provides an appropriate balance between spectrum sharing concerns and providing sufficient spectrum to satisfy the needs of U-NII devices.

7. The Commission believes that 300 megahertz of spectrum will provide sufficient spectrum to allow the full potential of broadband multimedia technologies to be realized. This spectrum should provide for open entry and equal access by all such devices and to allow access to the spectrum by multiple users at a common location using a variety of different devices. In this regard, we note that these broadband devices each may require 20 to 25 megahertz channel bandwidth to provide the high data rates envisioned by the petitioners. The Commission also believes that the 300 megahertz of spectrum being provided for U-NII devices avoids the use of spectrum that would be particularly difficult to share with primary operations. It believes that U-NII devices can share with proposed and existing services in these bands including the MSS feeder link operations that may use the 5.15–5.25 GHz band. However, U-NII devices will not have access to spectrum used by microwave landing systems ("MLS") operated by the Federal Aviation Administration in the 5.0–5.15 GHz band. Additionally, U-NII devices will not have access to the 5.825–5.875 GHz band. This will avoid potential

interference with low power Part 15 hearing aid devices and potential Intelligent Transportation Service operations in the 5.850–5.875 GHz band, Fixed Satellite Service operations in the 5.850–5.925 GHz band, and amateur operations in the 5.650–5.725 and 5.825–5.925 GHz bands.

8. The 300 megahertz will be available to U-NII devices into three bands of 100 megahertz each and will establish the following maximum U-NII device power limits for each band: a) in the 5.15–5.25 GHz band, the maximum peak transmitter output power limit will be 50 milliwatts ("mW") with up to 6 dBi antenna gain permitted, which equates to 200 m Equivalent Isotropically Radiated Power ("EIRP"); b) in the 5.25–5.35 GHz band, the maximum peak transmitter output power limit will be 250 m with up to 6 db antenna gain permitted, which equates to 1 W EIRP; and c) in the 5.725–5.825 GHz band, the maximum peak transmitter output power limit will be 1 W with up to 6 db directional antenna gain permitted, which equates to 4 W EIRP. To permit manufacturers flexibility in designing U-NII equipment, we will permit the use of higher directional antenna gain provided there is a corresponding reduction in transmitter output power of one dB for every dB that the directional antenna gain exceeds 6 db.

9. Additionally, in all three bands we are adopting peak power spectral density limits to ensure that the power transmitted by U-NII devices is evenly spread over the emission bandwidth. Specifically, we will require U-NII devices to decrease transmitter output power proportionally to any decrease in emission bandwidth below 20 MHz. For U-NII devices operating with less than 20 megahertz of emission bandwidth, we will limit power spectral density as follows: a) in the 5.15–5.25 GHz band, the transmitter peak power spectral density will be 2.5 m/MHz for an antenna gain of 6 db; b) in the 5.25–5.35 GHz band, the transmitter peak power spectral density will be 12.5 m/MHz for an antenna gain of 6 db; and c) in the 5.725–5.825 GHz band, the transmitter peak power spectral density will be 50 m/MHz for an antenna gain of 6 db.³ Further, we are adopting out-of-band emission limits to protect operations outside the frequency bands of operation.

10. Another goal in this proceeding is to provide rules which permit maximum technical flexibility in the design and development of U-NII

³ These power spectral density requirements shall be measured with a spectrum analyzer having a resolution bandwidth of 1 megahertz.

devices capable of providing high data rate communications for a variety of multimedia applications in a shared spectrum environment. Therefore, the Commission declined to adopt specific channelization requirements or a minimum modulation efficiency requirement. Additionally, the Commission declined to adopt a spectrum sharing etiquette for U-NII devices, nor will access to the 5 GHz bands by U-NII devices be delayed until industry develops an etiquette. We believe the minimal technical rules we are adopting, particularly the maximum power limits discussed above, will generally allow for equal access and sharing of these bands by U-NII devices and thereby accomplish the intent of our proposed spectrum etiquette. Finally, our course of action will not preclude industry from developing any voluntary standards that it deems appropriate in the future.

11. Nevertheless, we are adopting a definition for the type of devices that will be approved for this band and regulated under the Part 15 rules. Specifically, the Part 15 rules will state that unlicensed U-NII operations in the 5.15–5.35 GHz and 5.725–5.825 GHz bands will be limited to wide bandwidth, high data rate digital operations. Unlicensed devices accessing the 5.725–5.825 GHz band under other Part 15 rules would not be subject to this definition. This will give equipment manufacturers the flexibility to design and manufacture a variety of broadband devices using different technologies and modulation techniques, while ensuring that this spectrum is used for its intended purpose. This definition will be enforced through the Commission's equipment certification process.

12. The Commission also stated that the low power U-NII devices and associated operations are more amenable to an unlicensed structure and should be regulated under the Part 15 rules. Specifically, the rules governing U-NII devices are similar in their low power and flexible regulatory nature to those governing Part 15 devices. While some U-NII devices in the upper band could have ranges of several kilometers, we believe that most devices will have typical communication ranges of a few meters to a few hundred meters. We also are unpersuaded by the arguments that U-NII devices and associated operations need to be licensed in order to provide regulatory parity with licensed services. With regard to unlicensed U-NII devices that are used for community networks in the upper band, we note that these will also be of very limited range in comparison to the distances of

fixed point-to-point operations, will have to operate in a Part 15 sufferance mode and may not always be able to provide the same grade of service as the licensed operations. That is, they will receive no protection from other users of the spectrum. Finally, we believe that the vast majority of U-NII devices will provide communications that are complementary to, rather than competitive with, the licensed services.

13. We recognize that it is likely that two new uses of the 5.15–5.25 GHz band, MSS feeder link operations and U-NII devices, will be developing at the same time. In view of this fact, as indicated above, we are adopting relatively conservative operating parameters for U-NII devices utilizing this band. While we believe that this approach for U-NII devices is technically conservative and will fully protect MSS operations, we note that MSS interests have also suggested that we limit the aggregate EIRP density of emissions from unlicensed devices on the Earth's surface to the MSS satellite to 10 dBW/MHz.⁴ They argue that MSS operations could begin to be affected when emissions from unlicensed devices approach such a level. Alternatively, they suggest that the Commission should review the technical parameters for U-NII operations in a future rule making as such a limit is approached. They state this would allow the Commission to review, for example, whether some future reduction in permitted power of U-NII devices in this band should be imposed. They state that all existing U-NII devices would be grandfathered. We concur that such an approach would provide further assurance that future potential conflicts between U-NII devices and MSS operations are taken into account and that MSS operations are protected appropriately. Accordingly, we invite MSS parties to monitor the emissions from U-NII devices in the 5.15–5.25 GHz band and, if emissions approach the 10 dBW/MHz level, to request that we initiate a rule making to reassess the use of this band. At that time the Commission could determine if future U-NII devices should be required to operate at different technical standards. In this regard, we note that it may also be appropriate to reassess the technical

parameters governing U-NII devices in light of second generation MSS systems. For example, second generation MSS systems may be more sensitive and therefore more susceptible to interference from U-NII devices. On the other hand, if European HIPERLAN systems proliferate and operate at more power than U-NII devices, second generation MSS systems may of necessity be designed to be more robust and immune to interference from such devices.

14. Finally, all U-NII devices will be required to be authorized under the Commission's certification procedure. The Commission will also require U-NII devices to comply with the RF Hazard requirements set forth in Sections 1.1307(b), 1.1310, 2.1091, and 2.1093 of our rules. For purposes of these rules, all U-NII equipment will be deemed to operate in an "uncontrolled" environment. Any application for equipment certification for these devices must contain a statement confirming compliance with these requirements. Technical information showing the basis for this statement must be submitted to the Commission upon request.

Final Regulatory Flexibility Analysis

15. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. 603 ("RFA"), an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated in the *Notice of Proposed Rule Making* ("NPRM"), ET Docket No. 96–102.⁵ The Commission sought written public comment on the proposals in the NPRM, including the IRFA. The Commission's Final Regulatory Flexibility Analysis ("FRFA") in this Report and Order conforms to the RFA, as amended by the Contract With America Advancement Act of 1996 ("CWAAA"), Public Law No. 104–121, 110 Stat. 847 (1996).⁶

16. Need for and Objectives of the Rule

By this action, the Commission provides 300 megahertz of spectrum for a new category of unlicensed equipment called "Unlicensed National Information Infrastructure" ("U-NII") devices. These devices are needed to provide high speed wireless digital communications on an unlicensed basis. The Commission anticipates that these U-NII devices will support the creation of new wireless LANs, campus networks, community networks, and will facilitate wireless access to the

National Information Infrastructure. Additionally, the rules set forth herein will foster the development of a broad range of new devices and services that will stimulate economic development and the growth of new industries. Finally, this action will promote the ability of U.S. manufacturers to compete globally by enabling them to develop unlicensed digital communications products for the world market.

17. Summary of Significant Issues Raised by the Public Comments in Response to the IRFA

Five parties directly address the IRFA. In general, comments support the provision of U-NII devices and argue that these operations will benefit small entities. Several comments addressing the IRFA argue that longer range U-NII devices will be needed to permit schools and libraries to access information on the NII without having to pay expensive monthly charges, such as long distance fees, to telecommunications service providers. Further, these parties state that longer range U-NII devices will not only benefit equipment manufacturers, but also will benefit Internet service providers, small entities in rural communities, and the up to 5 million small businesses that offer products and services over the Internet.⁷ However, regarding the manufacturers of U-NII devices, the Northern Amateur Relay Council of California, Inc. ("NARCC") argues that only established major players in the microwave radio community will have the talent and resources to bring U-NII devices to the market in a timely manner. Therefore, NARCC contends that affording small companies preferential treatment will not produce anything significant in the way of a lower cost, more innovative product.⁸ Finally, Cylink, Inc. opposes the adoption of an interim spectrum etiquette because small entities would not have the resources to develop interim equipment and to later redesign that equipment to comply with any formally adopted spectrum etiquette.⁹

18. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

The RFA generally defines the term "small business" as having the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. 632. Based on that statutory

⁴ This equates to a power flux density of ~ 124 dBW/MHz/m² at a satellite with a slant range of 1414 km. See ex parte filing of Airtouch, December 5, 1996; see also, Draft New Recommendation—Power Flux Density Limits for Wireless Data Networks In The 5150–5250 MHz Band Sharing Frequencies With Systems In The Fixed Satellite Service, to ITU-R Working Party 4–95, David E. Weinreich of Globalstar, November 27, 1996.

⁵ See Notice of Proposed Rule Making, ET Docket No. 96–102, 11 FCC Red 7205 (1996).

⁶ See Subtitle II of the CWAAA is "The Small Business Regulatory Enforcement Fairness Act of 1996" ("SBREFA"), codified at 5 U.S.C. 603.

⁷ See Wireless Field Test for Education Project; Fundamental Research Corporation; Crystal Wind Communications, Inc.; and Jean Armour Polly.

⁸ See Northern Amateur Relay Council of California, Inc. Comments at 7.

⁹ See Cylink Reply at 17.

provision, we will consider a small business concern one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA). The RFA SBREFA provisions also apply to nonprofit organizations and to governmental organizations. Since the Regulatory Flexibility Act amendments were not in effect until the record in this proceeding was closed, the Commission was unable to request information regarding the number of small business that might use this service and is unable at this time to determine the number of small businesses that would be affected by this action. The rules adopted in this Report and Order will apply to any entities manufacturing U-NII devices to operate in the 5 GHz range which could include computer manufacturers and unlicensed RF equipment manufacturers. Although the rules do not directly affect entities that purchase this equipment, comments contend that several million entities, including consumers, schools, libraries, and small businesses, could benefit from the use of these devices.

19. The rules adopted in this Report and Order will apply to entities engaged in the manufacturing of U-NII devices. The Commission has not developed a definition of small entities applicable to unlicensed device manufacturers. Therefore, the applicable definition of small entity is the definition under the Small Business Administration ("SBA") rules applicable to manufacturers of "Radio and Television Broadcasting and Communications Equipment" and "Computer Manufacturers." According to the SBA's regulations, an RF manufacturer must have 750 or fewer employees in order to qualify as a small business.¹⁰ Census Bureau data indicates that there are 858 companies in the United States that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and would be classified as small entities.¹¹ Further, according to SBA regulations, a computer manufacturer must have 1,000 or fewer employees in order to qualify as a small entity.¹² Census Bureau data indicates that there are 716 firms that manufacture electronic computers and of those, 659 have fewer than 500

employees and qualify as small entities.¹³ The remaining 57 firms have 500 or more employees; however, we are unable to determine how many of those have fewer than 1,000 employees and therefore also qualify as small entities under the SBA definition. The Census Bureau categories are very broad and specific figures are not available on the number of these firms that will manufacture U-NII devices; however, we acknowledge the likelihood that many of them will be small businesses.

20. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements

The rules adopted in this Report and Order will require U-NII manufacturers to comply with the Commission's equipment certification requirements set forth in Section 15.210(b), prior to marketing, and the radio frequency hazard requirements set forth in Sections 1.1307(b), 1.1310, 2.1091, and 2.1093 of the rules. All equipment will be deemed to operate in an "uncontrolled" environment. Any application for equipment certification for these devices must contain a statement confirming compliance with these requirements. Technical information showing the basis for this statement must be submitted to the Commission upon request. The equipment certification requirement is necessary to ensure compliance with the Commission's rules and promote electromagnetic compatibility. Further, compliance with the radio frequency hazard requirements is necessary to protect the health of individuals using the equipment. These requirements are typically required for all unlicensed equipment. No further reporting or recordkeeping requirements will be imposed. Therefore, the only compliance costs likely to be incurred are costs necessary to ensure that prototype devices comply with our equipment certification requirements and radio frequency hazard requirements.

21. Skills of an application examiner, radio technician or engineer will be needed to meet the requirements. If a device is not categorically excluded, the manufacturer of the device must make a determination of whether the device will comply with the RF radiation limits. This study can be done by calculation or measurement, depending upon the situation. In many cases the studies can be done by a radio

technician or engineer. Certification applications are usually done by application examiners.

22. Significant Alternatives and Steps Taken By Agency To Minimize Significant Economic Impact on a Substantial Number of Small Entities Consistent With Stated Objectives

Based on comments received in response to the NPRM, the Commission considered several significant alternatives. For example, although the NPRM proposed to make 350 megahertz available for U-NII devices, parties with incumbent or future operations request that less spectrum be made available in order to protect their interests. Specifically, parties with mobile satellite service ("MSS") interests argue that U-NII devices should not be permitted in the 5.15–5.25 GHz band because of potential use of this band by MSS feeder links.¹⁴ Further, amateur radio parties oppose U-NII operations in the 5.725–5.875 GHz band because of amateur operations in this spectrum.¹⁵ Resound Corporation ("Resound") and the Federal Highway Administration ("FHWA") oppose U-NII operations in the 5.850–5.875 GHz band because of future plans to use this spectrum.¹⁶ After considering these alternatives, the Commission concluded that 300 megahertz of U-NII spectrum at 5.15–5.35 GHz and 5.725–5.825 GHz is appropriate for these devices to operate without interfering with incumbent and potential operations. This reduction from the proposed U-NII spectrum is necessary to protect Part 15 hearing assistance devices, potential intelligent transportation system operations, and amateur operations in the 5.825–5.875 GHz band from interference. This action should not have a negative impact on small U-NII businesses and will protect incumbent and proposed spectrum users which may be small businesses.

23. Additionally, various parties recommend different technical standards for U-NII devices. For example, some U-NII proponents support increasing the proposed power limit and permitting unrestricted antenna gain for U-NII devices in order to accomplish longer range communications.¹⁷ However, AT&T and point-to-point microwave parties oppose longer range use of U-NII devices and support short range, low

¹⁰ See 13 CFR 121.201, Standard Industrial Classification (SIC) Code 3663.

¹¹ See U.S. Department of Commerce, 1992 Census of Transportation, Communications and Utilities (issued May 1995), SIC category 3663.

¹² See 13 CFR 121.201 (SIC) Code 3571.

¹³ See U.S. Small Business Administration 1995 Economic Census Industry and Enterprise Report, Table 3, SIC Code 3571, (Bureau of the Census data adapted by the Office of Advocacy of the U.S. Small Business Administration).

¹⁴ See e.g., Loral/Qualcomm Licensee, Inc. Comments at 4.

¹⁵ See e.g., Amateur Radio Relay League, Inc. Comments at 5.

¹⁶ See Resound Comments at 7 and FHWA Comments at 2.

¹⁷ See e.g., Apple Computer, Inc. Comments at 8.

power operations.¹⁸ The Commission has determined that U-NII devices should be governed by minimal technical rules which permit maximum flexibility in the way these devices are implemented. Specifically, the Commission has concluded that an increase in the power limits proposed in the NPRM is supported by new material in the record in this proceeding, but does not believe unrestricted antenna gain should be permitted due to interference concerns. The Commission has determined that the public interest is best serviced by increasing the maximum peak power limit as follows: 50 mW peak transmitter output power with up to 6 dBi antenna gain (equates to 200 mW EIRP) permitted in the 5.15–5.25 GHz band; 250 mW peak transmitter output power with up to 6 dBi antenna gain (equates to 1 W EIRP) permitted in the 5.25–5.35 GHz band; and 1 W peak transmitter output power with up to 6 dBi antenna gain (equates to 4 W EIRP) permitted in the 5.725–5.825 GHz band. In addition, to permit manufacturers flexibility in designing U-NII equipment, the Commission will permit the use of higher directional antenna gain provided there is a corresponding reduction in transmitter output power of one dB for every dB that the directional antenna gain exceeds 6 dBi. Also, U-NII use of the 5.15–5.25 GHz band is restricted to indoor operations only. Further, this action adopts a power spectral density ("PSD") requirement for U-NII devices that would require that the maximum power be spread across a bandwidth of at least 20 megahertz. This PSD requirement will ensure that U-NII devices spread its signal energy evenly across the band and encourages the use of this spectrum by wideband high data rate applications, but permits non-wideband operations at reduced powers. These increased power limits will permit U-NII equipment manufacturers, many of which may be small businesses, more flexibility to develop products to meet market demands.

24. Further, the Commission considered several alternatives from the comments regarding a spectrum etiquette for U-NII devices. Although some parties support the proposed interim "listen-before-talk" ("LBT") spectrum etiquette until industry can develop a formal spectrum etiquette,¹⁹ others oppose the interim etiquette because it would limit the flexibility of

U-NII devices to use different technologies.²⁰ Further, several U-NII proponents support the adoption of an industry developed spectrum etiquette to govern unlicensed use of this spectrum.²¹ Metricom, however, suggests that rather than adopting a complex spectrum etiquette, U-NII devices should be required to use spread spectrum techniques.²² The Commission has now concluded that the proposed LBT spectrum etiquette could delay deployment of U-NII devices and hinder innovation in the development of these devices. Rather, the Commission has concluded that simple technical rules, such as PSD limits and out-of-band emission requirements, should be sufficient to ensure spectrum sharing between incumbent operations and new U-NII devices. The Commission declined to adopt a spectrum etiquette, any channelization plan, or a minimum modulation efficiency requirement because such requirements may preclude certain technologies or some of the many different concepts envisioned by U-NII proponents. We believe this action will benefit small entities by permitting these entities to develop innovative equipment to meet market demands without having to follow protocols governing use of the spectrum.

25. Finally, we proposed to establish parameters in the rules ("safe harbor"), under which U-NII devices complying with these parameters could operate without being considered sources of harmful interference. Incumbent parties oppose "safe harbor" rules or any action that would provide unlicensed devices addition spectrum rights.²³ However, U-NII proponents request that these devices be protected either by "safe harbor" rules or by providing a primary allocation status for the unlicensed operations.²⁴ After considering the alternatives, the Commission concluded that "safe harbor" rules are not necessary at this time to provide assurances to assurance to U-NII operators that their communications will not be prohibited. Rather, the Commission invited MSS parties to monitor the emissions from U-NII devices in the 5.15–5.25 GHz band and if emissions approach the 10 dBW/MHz level to request that we reassess the use of this band through future rule

making.²⁵ At that time the Commission could determine if future U-NII devices should be required to operate at different technical standards. This approach will provide both MSS feeder link and U-NII operations with an appropriate level of protection and assurance for the continuation of their operations. While, the Commission is confident that an interference situation will not arise, this approach will permit it to develop regulatory solutions that will adequately protect the investments of both services, if such a situation were to develop.

26. Report to Congress

The Commission shall send a copy of this Final Regulatory Flexibility Analysis, along with this Report and Order, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 801(a)(1)(A). A copy of this FRFA will also be published in the Federal Register.

List of Subjects

47 CFR Part 1

Administrative practice and procedure.

47 CFR Part 2

Communications equipment, Radio.

47 CFR Part 15

Radio.

Federal Communications Commission.
William F. Caton,
Acting Secretary.

Rules Changes

Parts 1, 2 and 15 of title 47 of the Code of Federal Regulations are amended as follows:

PART 1—PRACTICE AND PROCEDURE

1. The authority citation for part 1 continues to read as follows:

Authority: 15 U.S.C. 79 *et seq.*, and 47 U.S.C. 151, 154(i), 154(j), and 303(r).

2. Section 1.1307 is amended by revising paragraph (b)(2) to read as follows:

²⁵ We also note that it may also be appropriate to reassess the technical parameters governing U-NII devices in light of second generation MSS systems. For example, second generation MSS systems may be more sensitive and therefore more susceptible to interference from U-NII devices. On the other hand, if European HIPERLAN systems proliferate and operate at more power than U-NII devices, second generation MSS systems may be required to more robust and immune to interference from such devices.

²⁰ See e.g., Hewlett-Packard Comments at 3.

²¹ See e.g., WINForum comments at 21.

²² See Metricom Reply at 10.

²³ See e.g., Loral/Qualcomm Licensee, Inc. Comments at 15; Metricom Reply at 7; and San Bernardino Microwave Society Reply at 3.

²⁴ See e.g., Apple Computer Comments at 27, WINForum Reply at 23, and Consumer Electronics Manufacturers' Association Comments at 7.

¹⁸ See e.g., AT&T Comments at 3; Pacific Telesis Group Comments at 4; and Telecommunications Industry Association, Fixed Point-to-Point Communications Section Comments at 4.

¹⁹ See e.g., Consumer Electronics Manufacturers' Association Comments at 4.

§ 1.1307 Actions which may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

(b) * * *

(2) Mobile and portable transmitting devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services (PCS), the Satellite Communications Services, the Maritime Services (ship earth stations only) and covered Specialized Mobile Radio Service providers authorized under subpart H of part 22, part 24, part 25, part 80, and part 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §§ 2.1091 and 2.1093 of this chapter. All unlicensed PCS, unlicensed NII and millimeter wave devices are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §§ 15.253(f), 15.255(g), 15.319(i), and 15.407(f) of this chapter. All other mobile, portable, and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure under §§ 2.1091 and 2.1093 of this chapter except as specified in paragraphs (c) and (d) of this section.

* * * * *

PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation for Part 2 continues to read as follows:

Authority: Sec. 4, 302, 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. 154, 302, 303 and 307, unless otherwise noted.

2. Section 2.1091 is amended by revising paragraphs (c) and (d) introductory text to read as follows:

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile and unlicensed devices.

* * * * *

(c) Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Maritime Services and the Specialized Mobile Radio Service authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 80 of this chapter (ship earth station devices only) and part 90 of this chapter ("covered" SMR devices

only, as defined in the note to Table 1 of § 1.1307(b)(1) of this chapter), are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their effective radiated power (ERP) is 1.5 watts or more. Unlicensed personal communications service, unlicensed millimeter wave devices and unlicensed NII devices authorized under § 15.253, § 15.255 and subparts D and E of part 15 of this chapter are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, regardless of their power used, unless they meet the definition of a portable device as specified in § 2.1093(b). All other mobile and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization, except as specified in §§ 1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of mobile and unlicensed transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(d) The limits to be used for evaluation are specified in § 1.1310 of this chapter. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.

* * * * *

3. Section 2.1093(c) is revised to read as follows:

§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

* * * * *

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Maritime Services and the Specialized Mobile Radio Service authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 80 of this chapter (ship earth station devices only), part 90 of this chapter ("covered" SMR devices only, as defined in the note to Table 1 of § 1.1307(b)(1) of this chapter), and portable unlicensed personal communication service, unlicensed NII

devices and millimeter wave devices authorized under § 15.253, § 15.255 or subparts D and E of part 15 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. All other portable transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization, except as specified in §§ 1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

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PART 15—RADIO FREQUENCY DEVICES

1. The authority citation for Part 15 continues to read as follows:

Authority: 47 U.S.C. 154, 302, 303, 304, 307 and 544A.

2. Section 15.17(a) is revised to read as follows:

§ 15.17 Susceptibility to interference.

(a) Parties responsible for equipment compliance are advised to consider the proximity and the high power of non-Government licensed radio stations, such as broadcast, amateur, land mobile, and non-geostationary mobile satellite feeder link earth stations, and of U.S. Government radio stations, which could include high-powered radar systems, when choosing operating frequencies during the design of their equipment so as to reduce the susceptibility for receiving harmful interference. Information on non-Government use of the spectrum can be obtained by consulting the Table of Frequency Allocations in § 2.106 of this chapter.

* * * * *

3. Section 15.205(a) is amended in the table by removing the entry for 4.5–5.25 in the GHz column and adding a new entry for 4.5–5.15 in its place to read as follows:

§ 15.205 Restricted bands of operation.

(a) * * *

MHz	MHz	MHz	GHz
* * * * *	* * * * *	* * * * *	4.5–5.15

MHz	MHz	MHz	GHz
* * * * *	* * * * *	* * * * *	* * * * *

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4. A new Subpart E is added to Part 15 to read as follows:

Subpart E—Unlicensed National Information Infrastructure Devices

Sec.

15.401 Scope.

15.403 Definitions.

15.405 Cross reference.

15.407 General technical requirements.

Subpart E—Unlicensed National Information Infrastructure Devices

§ 15.401 Scope.

This subpart sets out the regulations for unlicensed National Information Infrastructure (U-NII) devices operating in the 5.15–5.35 GHz and 5.725–5.825 GHz bands.

§ 15.403 Definitions.

(a) *U-NII devices (Unlicensed).* Intentional radiators operating in the frequency bands 5.15–5.35 GHz and 5.725–5.825 GHz that provide a wide array of wideband, high data rate, digital, mobile and fixed communications for individuals, businesses, and institutions.

(b) *Peak transmit power.* The peak power output as measured over an interval of time equal to the frame rate or transmission burst of the device under all conditions of modulation. Usually this parameter is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used.

§ 15.405 Cross reference.

(a) The provisions of subparts A, B, and C of this part apply to unlicensed U-NII devices, except where specific provisions are contained in this subpart E. Manufacturers should note that this includes the provisions of §§ 15.203 and 15.205.

(b) The requirements of this subpart E apply only to the radio transmitter contained in the U-NII device. Other aspects of the operation of a U-NII device may be subject to requirements contained elsewhere in this chapter. In particular, a U-NII device that includes digital circuitry not directly associated with the radio transmitter also is subject to the requirements for unintentional radiators in subpart B of this part.

§ 15.407 General technical requirements.

(a) Power limits:

(1) For the band 5.15–5.25 GHz, the peak transmit power over the frequency band of operation shall not exceed 50 mW. In addition, the peak power spectral density shall not exceed 2.5 mW/MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the band 5.25–5.35 GHz, the peak transmit power over the frequency band of operation shall not exceed 250 mW. In addition, the peak power spectral density shall not exceed 12.5 mW/MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(3) For the band 5.725–5.825 GHz, the peak transmit power over the frequency band of operation shall not exceed 1 W. In addition, the peak power spectral density shall not exceed 50 mW/MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(4) The peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(5) The peak power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. Measurements are made using a resolution bandwidth of 1 MHz. If the device can not be connected directly, alternative techniques acceptable to the Commission may be used.

(b) The peak levels of emissions outside of the frequency band of operation shall be attenuated below the

maximum peak power spectral density contained within the band of operation in accordance with the following limits:

(1) For transmitters operating in the band 5.15–5.25 GHz: all emissions within the frequency range 5.14–5.15 GHz and 5.35–5.36 GHz must be attenuated by a factor of at least 27 dB; within the frequency range outside these bands by a factor of at least 37 dB.

(2) For transmitters operating in the 5.25–5.35 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge must be attenuated by a factor of at least 34 dB; for frequencies 10 MHz or greater above or below the band edge by a factor of at least 44 dB.

(3) For transmitters operating in the 5.725–5.825 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge must be attenuated by a factor of at least 40 dB; for frequencies 10 MHz or greater above or below the band edge by a factor of at least 50 dB.

(4) The above emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz. Regardless of the attenuation levels shown above, emissions outside the frequency range of operation do not need to be attenuated below the general radiated emission limits in § 15.209.

(5) Unwanted emissions must comply with the general field strength limits set forth in § 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in § 15.207.

(6) The provisions of § 15.205 of this part apply to intentional radiators operating under this section.

(7) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

(c) The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

(d) Any U-NII device that operates in the 5.15–5.25 GHz band shall use a

transmitting antenna that is an integral part of the device.

(c) Within the 5.15–5.25 GHz band, U–NII devices will be restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

(f) U–NII devices are subject to the radio frequency radiation exposure requirements specified in §§ 1.1307(b), 2.1091 and 2.1093 of this chapter, as appropriate. All equipment shall be considered to operate in a "general population/uncontrolled" environment. Applications for equipment authorization of devices operating under this section must contain a statement confirming compliance with these requirements for both fundamental emissions and unwanted emissions. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(g) The frequency stability of the carrier frequency of an intentional radiator operating under this section shall be ± 10 ppm over 10 milliseconds. The frequency stability shall be maintained over a temperature variation of -20 degrees to $+50$ degrees Celsius at normal supply voltage, and over a variation in the primary supply voltage of 85 percent to 115 percent of the rated supply voltage at a temperature of $+20$ degrees Celsius. For equipment that is capable of operating only from a battery, the frequency stability tests shall be performed using a new battery without any further requirement to vary supply voltage.

[FR Doc. 97–2007 Filed 1–30–97; 8:45 am]

BILLING CODE 6712–01–P

47 CFR Parts 61 and 69

[CC Docket No. 94–1; FCC 96–488]

Price Cap Performance Review for Local Exchange Carriers

AGENCY: Federal Communications Commission.

ACTION: Final Rule.

SUMMARY: On September 14, 1995, the Commission adopted a Second Further Notice of Proposed Rulemaking in this docket, seeking comment on how its price cap regulation of local exchange carriers should be revised as the competition faced by those carriers grows. In particular, the Commission sought comment on relaxing the procedural requirements for establishing new rate elements for new switched access services, and eliminating the lower boundaries of the service band indices. In this Third Report and Order, the Commission adopts the rules it proposed. These rule revisions are intended to make it easier for local exchange carriers to introduce new services, and to lower rates.

EFFECTIVE DATE: Effective June 30, 1997.

FOR FURTHER INFORMATION CONTACT: Richard Lerner, Attorney, Common Carrier Bureau, Competitive Pricing Division, (202) 418–1530. For additional information concerning the information collections contained in this Report and Order contact Dorothy Conway at 202–418–0217, or via the Internet at dconway@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order adopted December 23, 1996, and released December 24, 1996. The full text of this Report and Order is available for inspection and copying

during normal business hours in the FCC Reference Center (Room 239), 1919 M St., NW., Washington, DC. The complete text also may be obtained through the World Wide Web, at http://www.fcc.gov/Bureaus/Common_Carrier/Notices/fcc96488.wp, or may be purchased from the Commission's copy contractor, International Transcription Service, Inc., (202) 857–3800, 2100 M St., NW., Suite 140, Washington, DC 20037. The Commission released a Second Further Notice of Proposed Rulemaking, CC Docket No. 94–1, Further Notice of Proposed Rulemaking, CC Docket No. 93–124, and Second Further Notice of Proposed Rulemaking CC Docket No. 93–197 (all three published at 60 FR 49539 (September 25, 1995)) (Price Cap Second FNPRM) to seek comment on the rules adopted in the Third Report and Order.

Regulatory Flexibility Analysis: As required by the Regulatory Flexibility Act, the Third Report and Order contains a Final Regulatory Flexibility Analysis which is set forth in Section XI.F of the Third Report and Order. The Commission concluded that the Regulatory Flexibility Act is not applicable because the rules adopted in the Third Report and Order will not have a significant impact on a substantial number of small entities.

Paperwork Reduction Act: Public burden for the collection of information is estimated as follows:

OMB Approval Number: None.

Title: Third Report and Order, Price Cap Performance Review for Local Exchange Carriers.

Form No.: N/A.

Type of Review: New collection.

Information collection	Number of respondents	Annual hour burden per response	Total annual burden
Elimination of the lower Service Band Index and Petition to offer new switched access services	13	10	130

Total Annual Burden: 130 hours.
Respondents: Business or other for-profit.
Estimated costs per respondent: \$0.
Needs and Uses: The agency will use the data submission to review Local Exchange Carriers' proposed new switched access services. Public reporting burden for the collection of information is estimated to average 10 hours per response. Send comments on the agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated

collection techniques to the Federal Communications Commission, Records Management Branch, Washington, D.C. 20554.

Final Regulatory Flexibility Act Certification

In the Price Cap Second FNPRM, we certified that the Regulatory Flexibility Act did not apply to this rulemaking proceeding because none of the rule amendments under consideration would have a significant economic impact on a substantial number of small entities. We concluded that the proposed rules would apply only to carriers subject to

price cap regulation for local exchange access, and such carriers are generally large corporations or affiliates of such corporations. No comments were received concerning the proposed certification. Since our initial certification, certain changes occurred. The Regulatory Flexibility Act was amended by the Small Business Regulatory Enforcement Fairness Act of 1996 ("SBREFA"), and Citizens elected price cap regulation. Nonetheless, we certify that the rules adopted herein will not have a significant economic impact