

FCC APPLICATION FOR EARTH STATION AUTHORIZATIONS

FCC Use Only

FCC 312 MAIN FORM FOR OFFICIAL USE ONLY

APPLICANT INFORMATION

Enter a description of this application to identify it on the main menu:

[VSAT Network - Add Antennas](#)

1-8. Legal Name of Applicant

Name:	MCI Communications Services, LLC	Phone Number:	703-694-5088
DBA Name:		Fax Number:	
Street:	22001 Loudoun County Parkway	E-Mail:	patrick.merrick@verizon.com
City:	Ashburn	State:	VA
Country:	USA	Zip code:	20147
Attention:	Patrick Merrick		

9-16. Name of Contact Representative

Name:	MCI Communications Services, LLC	Phone Number:	703-694-5088
Company:	Verizon	Fax Number:	
Street:	600 Hidden Ridge M.C. HQE03H07	E-Mail:	patrick.merrick@verizon.com
City:	Irving	State:	TX
Country:	USA	Zip code:	75038
Attention:	Patrick Merrick	Relationship:	Same

CLASSIFICATION OF FILING

17. Choose the button next to the classification that applies to this filing for both questions a. and b. Choose only one for 17a and only one for 17b.

- a1. Earth Station
 a2. Space Station

- b1. Application for License of New Station
 b2. Application for Registration of New Domestic Receive-Only Station
 b3. Amendment to a Pending Application
 b4. Modification of License or Registration
 b5. Assignment of License or Registration
 b6. Transfer of Control of License or Registration
 b7. Notification of Minor Modification
 b8. Application for License of New Receive-Only Station Using Non-U.S. Licensed Satellite
 b9. Letter of Intent to Use Non-U.S. Licensed Satellite to Provide Service in the United States
 b10. Other (Please specify)
 b11. Application for Earth Station to Access a Non-U.S. Satellite Not Currently Authorized to Provide the Proposed Service in the Proposed Frequencies in the United States.

17c. Is a fee submitted with this application?

- If Yes, complete and attach FCC Form 159.

If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

- Government Entity
 Other (please explain):
- Noncommercial educational licensee

17d.

Fee Classification [CGV - Fixed Satellite VSAT System](#)

18. If this filing is in reference to an existing station, enter:

(a) Call sign of station:

19. If this filing is an amendment to a pending application enter both fields, if this filing is a modification please enter only the file number:

(a) Date pending application was filed:

(b) File number:

TYPE OF SERVICE

20. NATURE OF SERVICE: This filing is for an authorization to provide or use the following type(s) of service(s):

Select all that apply:

- a. Fixed Satellite
- b. Mobile Satellite
- c. Radiodetermination Satellite
- d. Earth Exploration Satellite
- e. Direct to Home Fixed Satellite
- f. Digital Audio Radio Service
- g. Other (please specify)

21. STATUS: Choose the button next to the applicable status.

Choose only one.

- Common Carrier
- Non-Common Carrier

22. If earth station applicant, check all that apply.

- Using U.S. licensed satellites
- Using Non-U.S. licensed satellites

23. If applicant is providing INTERNATIONAL COMMON CARRIER service, see instructions regarding Sec. 214 filings.

Choose one. Are these facilities:

- Connected to a Public Switched Network
- Not connected to a Public Switched Network
- N/A

24. FREQUENCY BAND(S): Place and 'X' in the box(es) next to all applicable frequency band(s).

- a. C-Band (4/6 GHz)
- b. Ku-Band (12/14) GHz
- c. Other (Please specify upper and lower frequencies in MHz.)

Frequency Lower: [17.85/27.67 GHz](#) Frequency Upper: [19.30/29.07 GHz](#)

TYPE OF STATION

25. CLASS OF STATION: Choose the button next to the class of station that applies. Choose only one.

- a. Fixed Earth Station
- b. Temporary-Fixed Earth Station
- c. 12/14 GHz VSAT Network
- d. Mobile Earth Station
- e. Geostationary Space Station
- f. Non-Geostationary Space Station
- g. Other (please specify)

26. TYPE OF EARTH STATION FACILITY: Choose only one.

- Transmit/Receive
- Transmit-Only
- Receive-Only
- N/A

PURPOSE OF MODIFICATION

27. The purpose of this proposed modification is to: (Place an 'X' in the box(es) next to all that apply.)
- a--authorization to add new emission designator and related service
 - b--authorization to change emission designator and related service
 - c--authorization to increase EIRP and EIRP density
 - d--authorization to replace antenna
 - e--authorization to add antenna
 - f--authorization to relocate fixed station
 - g--authorization to change frequency(ies)
 - h--authorization to add frequency
 - i--authorization to add Points to Communication (satellites & amp; countries)
 - j--authorization to change Points of Communication (satellites & amp; countries)
 - k--authorization for facilities for which environmental assessment and radiation hazard reporting is required
 - l--authorization to change orbit location
 - m--authorization to perform fleet management
 - n--authorization to extend milestones
 - o--Other (Please specify)

ENVIRONMENTAL POLICY

28. Would a Commission grant of any proposal in this application or amendment have a significant environmental impact as defined by 47 CFR 1.1307? If YES, submit the statement as required by Sections 1.1308 and 1.1311 of the Commission's rules, 47 C.F.R. 1.1308 and 1.1311, as exhibit to this application. A Radiation Hazard Study must accompany all applications for new transmitting facilities, major modifications, or major amendments.

Yes No

ALIEN OWNERSHIP Earth station applicants not proposing to provide broadcast, common carrier, aeronautical en route or aeronautical fixed radio station services are not required to respond to Items 30-34.

- | | | | |
|--|------------------------------|--|------------------------------|
| 29. Is the applicant a foreign government or the representative of any foreign government? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | |
| 30. Is the applicant an alien or the representative of an alien? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| 31. Is the applicant a corporation organized under the laws of any foreign government? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| 32. Is the applicant a corporation of which more than one-fifth of the capital stock is owned of record or voted by aliens or their representatives or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| 33. Is the applicant a corporation directly or indirectly controlled by any other corporation of which more than one-fourth of the capital stock is owned of record or voted by aliens, their representatives, or by a foreign government or representative thereof or by any corporation organized under the laws of a foreign country? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | <input type="checkbox"/> N/A |
| 34. If any answer to questions 29, 30, 31, 32 and/or 33 is Yes, attach as an exhibit an identification of the aliens or foreign entities, their nationality, their relationship to the applicant, and the percentage of stock they own or vote. | | | |

BASIC QUALIFICATIONS

<p>35. Does the Applicant request any waivers or exemptions from any of the Commission's Rules? If Yes, attach as an exhibit, copies of the requests for waivers or exceptions with supporting documents.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>36. Has the applicant or any party to this application or amendment had any FCC station authorization or license revoked or had any application for an initial, modification or renewal of FCC station authorization, license, or construction permit denied by the Commission? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>37. Has the applicant, or any party to this application or amendment, or any party directly or indirectly controlling the applicant ever been convicted of a felony by any state or federal court? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>38. Has any court finally adjudged the applicant, or any person directly or indirectly controlling the applicant, guilty of unlawfully monopolizing or attempting unlawfully to monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement or any other means or unfair methods of competition? If Yes, attach as an exhibit, an explanation of circumstances.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>39. Is the applicant, or any person directly or indirectly controlling the applicant, currently a party in any pending matter referred to in the preceding two items? If Yes, attach as an exhibit, an explanation of the circumstances.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>40. If the applicant is a corporation and is applying for a space station license, attach as an exhibit the names, address, and citizenship of those stockholders owning a record and/or voting 10 percent or more of the Filer's voting stock and the percentages so held. In the case of fiduciary control, indicate the beneficiary(ies) or class of beneficiaries. Also list the names and addresses of the officers and directors of the Filer.</p>		
<p>41. By checking Yes, the undersigned certifies, that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.</p>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
<p>42a. Does the applicant intend to use a non-U.S. licensed satellite to provide service in the United States? If Yes, answer 42b and attach an exhibit providing the information specified in 47 C.F.R. 25.137, as appropriate. If No, proceed to question 43.</p>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<p>42b. What administration has licensed or is in the process of licensing the space station? If no license will be issued, what administration has coordinated or is in the process of coordinating the space station?</p>		
<p>43. Description. (Summarize the nature of the application and the services to be provided). This is a new license request to operate an auto-tracking antenna on a Medium Earth Orbit (MEO) satellite operated by SES for digital communications.</p>		
<p>43a. Geographic Service Rule Certification By selecting A, the undersigned certifies that the applicant is not subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25</p>	<input checked="" type="checkbox"/> A	
<p>By selecting B, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will comply with such requirements</p>	<input type="checkbox"/> B	

By selecting C, the undersigned certifies that the applicant is subject to the geographic service or geographic coverage requirements specified in 47 C.F.R. Part 25 and will not comply with such requirements because it is not feasible as a technical matter to do so, or that, while technically feasible, such services would require so many compromises in the satellite design and operation as to make it economically unreasonable. A narrative description and technical analysis demonstration this claim are attached. C

CERTIFICATION

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests an authorization in accordance with this application. The applicant certifies that grant of this application would not cause the applicant to be in violation of the spectrum aggregation limit in 47 CFR Part 20. All statements made in exhibits are a material part hereof and are incorporated herein as if set out in full in this application. The undersigned, individually and for the applicant, hereby certifies that all statements made in this application and in all attached exhibits are true, complete and correct to the best of his or her knowledge and belief, and are made in good faith.

44. Applicant is a (an): (Choose the button next to the applicable response.)

- Individual
- Unincorporated Association
- Partnership
- Corporation
- Government Entity
- Other (please specify)

45. Name of Person Signing

[April Yalenezian](#)

46. Title of Person Signing

[Wireless Engineer](#)

47. Please supply any needed attachments.

**WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT
(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION
(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).**

SATELLITE EARTH STATION AUTHORIZATIONS
FCC Form 312 - Schedule B: (Technical and Operational Description)
FOR OFFICIAL USE ONLY

Location of Earth Station Site

E1. Site Identifier:	Navajo Nation	E5. Call Sign:	
E2. Contact Name:		E6. Phone Number:	
E3. Street:	1 Morgan Blvd	E7. City:	Window Rock
E4. State:	Arizona	E8. County:	USA
E10. Area of Operation:		E9. Zip Code:	86515
E11. Latitude:	35° 40' 29.6" N		
E12. Longitude:	109° 03' 26.61" W		
E13. Lat/Lon Coordinates are:		<input type="checkbox"/> NAD-27	<input checked="" type="checkbox"/> NAD-83 <input type="checkbox"/> N/A
E14. Site Elevation (AMSL):	2200 Meters		

E15. If the proposed antenna(s) operate in the Fixed Satellite Service (FSS) with geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a) and (b) as demonstrated by the manufacturer's qualification measurement? If NO, provide as a technical analysis showing compliance with two-degree spacing policy.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
--	------------------------------	--	------------------------------

E16. If the proposed antenna(s) do not operate in the Fixed Satellite Service (FSS), or if they operate in the Fixed Satellite Service (FSS) with non-geostationary satellites, do(es) the proposed antenna(s) comply with the antenna gain patterns specified in Section 25.209(a2) and (b) as demonstrated by the manufacturer's qualification measurements?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
--	---	-----------------------------	------------------------------

E17. Is the facility operated by remote control? If YES, provide the location and telephone number of the control point.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
---	------------------------------	--

E18. Is frequency coordination required? If YES, attach a frequency coordination report as	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
---	------------------------------	--

E19. Is coordination with another country required? If YES, attach the name of the country(ies) and plot of coordination contours as	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
---	------------------------------	--

E20. FAA Notification - (See 47 CFR Part 17 and 47 CFR part 25.113(c) Where FAA notification is required, have you attached a copy of a completed FCC form 854 and/or the FAA's study regarding the potential hazard of the structure to aviation? FAILURE TO COMPLY WITH 47 CFR PARTS 17 AND 25 WILL RESULT IN THE RETURN OF THIS APPLICATION.	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
--	------------------------------	--

POINT OF COMMUNICATION

Satellite Name:	O3B-A	If you selected OTHER, please enter the following:
E21. Common Name:	O3b MEO Constellation	E22. ITU Name:
E23. Orbit Location:	N/A	E24. Country:
		USA

POINTS OF COMMUNICATION (Destination points)

E25. Site Identifier:	
E26. Common Name:	E27. Country: USA

ANTENNA

Site ID	E28. Antenna ID	E29. Quantity	E30. Manufacturer	E31. Model	E32. Antenna Size (meters)	E41/42. Antenna Gain Transmit and/or Receive (____ dBi at ____ GHz)	
Willow Rock	MEO1	1	AVL	2470	2.4	54.5 dBi @ 28.36 GHz	
Willow Rock	MEO1	1	AVL	2470	2.4	51.0 dBi @ 18.58 GHz	

E28. Antenna ID	E33/34. Diameter Minor/Major (meters)	E35. Above Ground Level (meters)	E36. Above Sea Level (meters)	E37. Building Height Above Ground Level (meters)	E38. Total Input Power at antenna flange (Watts)	E39. Maximum Height Above Rooftop (meters)	E40. Total EIRP for all carriers (dBW)	
MEO1	2.4/2.4	0	2200	0	40	0	70	

FREQUENCY

E28. Antenna ID	E43/44. Frequency Bands (MHz)	E45. T/R Mode	E46. Antenna Polarization (H,V,L,R)	E47. Emission Designator	E48. Maximum EIRP Per Carrier (dBW)	E49. Maximum EIRP Density Per Carrier (dBW/4kHz)	E50. Modulation and Service
MEO1	27600 - 28400	T	Left & Right Circular	1M00G7D	70.00	32.00	QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	27600 - 28400	T	Left & Right Circular	216MG7D	70.00	23.20	QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	28600 - 29100	T	Left & Right Circular	1M00G7D	70.00	32.00	QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	28600 - 29100	T	Left & Right Circular	216MG7D	70.00	23.20	QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	17800 - 18600	R	Left & Right Circular	1M00G7D			QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	17800 - 18600	R	Left & Right Circular	216MG7D			QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	18800 - 19300	R	Left & Right Circular	1M00G7D			QPSK, 8PSK, 16PSK, 32PSK and Internet
MEO1	18800 - 19300	R	Left & Right Circular	216MG7D			QPSK, 8PSK, 16PSK, 32PSK and Internet

FREQUENCY COORDINATION

E28. Antenna Id	E51. Satellite Orbit Type	E52/53. Frequency Limits (MHz)	E54/55. Range of Satellite Arc Eastern/Western Limit	E56. Earth Station Azimuth Angle Eastern Limit	E57. Antenna Elevation Angle Eastern Limit	E58. Earth Station Azimuth Angle Western Limit	E59. Antenna Elevation Angle Western Limit	E60. Maximum EIRP Density toward the Horizon (dBW/4kHz)
MEO1	Non-Geostationary	27600 - 28400	0 / 0	121.1	10	238.8	10	-12
MEO1	Non-Geostationary	28600 - 29100	0 / 0	121.1	10	238.8	10	-12
MEO1	Non-Geostationary	17800 - 18600	0 / 0	121.1	10	238.8	10	
MEO1	Non-Geostationary	18800 - 19300	0 / 0	121.1	10	238.8	10	

REMOTE CONTROL POINT LOCATION

E61. Call Sign NOTE: Please enter the callsign of the controlling station, not the callsign for which this application is being filed.			E66. Phone Number				
E62. Street Address							
E63. City		E68. County		E67/68. State/Country		E64. Zip Code	

Analysis of Non-Ionizing Radiation for an 2.4 meter Earth Station at Maximum EIRP

This report analyzes the Non-Ionizing radiation levels for an 2.4 meter Earth Station. The offices of Science and Technology Bulletin, Number 65, October 1985, specifies that the maximum level of Non-Ionizing radiation that a person may be exposed to over a six minute period is an average power density equal to 5 mW / cm². It is the purpose of this report to determine the power flux densities radiated by the Earth Station in the Far Field, the Near Field, Transition Region, Between the Feed Flange and the Reflector Surface, at the Reflector Surface, between the antenna edge and the ground, and on the other side of a steel reinforced concrete structure.

Calculation Parameters :

The following parameters were used to calculate the various power flux densities radiated by this Earth Station.

Antenna Manufacturer	MEO1	AVL	value	units
Antenna Model		2470.000		
Antenna Diameter		D =	2.40	meters
Antenna Surface Area		A =	4.52	meters ²
Feed Flange Diameter		Df =	0.150	meters
Area of Feed Flange		A _f =	0.0177	meters ²
Wavelength at 28.36 GHz		Lambda =	0.011	meters
Transmit Power at HPA Flange		HPA =	40	Watts
Losses to Antenna Flange		L =	0.000	dB
Transmit Power at Antenna Input Flange		P =	40.00	Watts
Antenna Gain at 28.36 GHz		G =	54.50	dBi
Antenna Gain (ratio using 10 ^{^(54.5/10)})		G =	281,838	
PI		PI =	3.141593	
Antenna Aperture Efficiency		n =	0.55	

Summary of Expected Radiation Levels :

Far Field Calculations	Calculated Value	Units	Hazard?
Distance to Far Field Region	Rf =	326.71 meters	
Power Density in Far Field Region	Wf =	0.84 mW / cm ²	Satisfies ANSI
Near Field Calculations			
Extent of Near Field Region	Rn =	136.13 meters	
Power Density in Near Field Region	Wn =	1.96 mW / cm ²	Satisfies ANSI
Transition Region Calculations			
Power Density in Transition Region	Wn =	1.96 mW / cm ²	Satisfies ANSI
Region between Feed Flange and Reflector			
Power Density at Feed Flange	Wfl =	452.71 mW / cm ²	Potential Hazard
Reflector Region			
Power Density at Reflector Surface	Wr =	1.77 mW / cm ²	Satisfies ANSI
Region between Reflector and Ground			
Power Density at Edge of Reflector Surface	Wg =	0.018 mW / cm ²	Satisfies ANSI
Region on other side of Reinforced Concrete			
Transmitted Power Density	Wt =	0.00018 mW / cm ²	Satisfies ANSI

Note: Calculations are at the maximum allowable power level for an antenna this size.

Analysis of Non-Ionizing Radiation for an 2.4 meter Earth Station at Maximum EIRP (continued)

Calculation Details :

Far Field Calculations

This region is contained within a roughly conical volume having the same diameter as the antenna at the beginning of the far field. The value calculated below is the maximum power in the volume. The power density in this region decreases inversely with the square of the distance.

Distance to the beginning of the Far Field Regi	$R_f = 0.60 * D^2 / \text{Lambda}$ (meters)
	$R_f = 326.71$ meters

Maximum Power Density in Far Field Region	$W_f = G * P / 4 * \text{PI} * R_f^2$ (mW / cm ²)
	$W_f = 0.84$ mW / cm ²

Near Field Calculations

Power flux density is considered to be at a maximum value throughout the entire length of the defined region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the extent of the near field region the power density decreases with distance from the transmitting antenna.

Distance to the end of the Near Field Region (extent of the near field)	$R_n = D^2 / 4 * \text{Lambda}$ (meters)
	$R_n = 136.13$ meters

Power Density in Near Field Region	$W_n = 16 * n * P / \text{PI} * D^2$ (mW / cm ²)
	$W_n = 1.96$ mW / cm ²

Transition Region Calculations

The transition region is located between the near field and far field regions. As stated above, the power density begins to decrease with distance in the transition region. While the power density decreases inversely with the distance in the transition region. The power density decreases inversely with the square of the distance in the far field region. The maximum power density in the transition region will not exceed that calculated for the near field region (1.96 mW/cm²), as shown above.

Region between Feed Flange and Reflector

Transmissions from the feed horn are directed toward the reflector surface, and are confined within a conical shape defined by the feed. The maximum energy density between the feed and reflector surface is at the apex of the cone (at the feed horn flange) This power density can be calculated as follows:

Power Density at Feed Flange	$W_{fl} = 2 * P / A_f$ (mW / cm ²)
	$W_{fl} = 452.71$ mW / cm ²

Reflector Region

The power density in the reflector region is determined in the same manner as the power density at the feed flange, above, but the area is now the area of the reflector aperture.

Power Density at Reflector Surface	$W_r = 2 * P / A$ (mW / cm ²)
	$W_r = 1.77$ mW / cm ²

Analysis of Non-Ionizing Radiation for an 2.4 meter Earth Station at Maximum EIRP (continued)

Calculation Details (continued) :

Region between Reflector and Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and ground can be approximated using a formula from the Offices of Science and Technology Bulletin, Number 65, October 1985, Page 18, as follows:

Power Density between Reflector and ground	$W_g = W_r * 10^{(-20/10)}$ (mW / cm ²)
	$W_g = 0.018$ mW / cm ²

Transmission through steel reinforced concrete

Assuming steel reinforced concrete of a thickness greater than 1/2 of the wavelength of the incident illumination, (0.53 cm.) the transmission attenuation is greater than 20 dB. This results in a transmitted power as follows:

Transmitted Power Density	$W_t = W_g * (10^{(-20/10)})$ (mW / cm ²)
	$W_t = 0.00018$ mW / cm ²

Conclusions :

Based on the analysis, it is concluded that harmful levels of radiation will not occur in the regions accessible by people. Fencing, padlocks, and/or signs will be used to restrict access of the public and operating personnel to areas where the radiation level exceeds the ANSI standard . The transmitter will be turned off during maintenance activities so that the ANSI standard of 5 mW / cm² will be complied with for those regions that exceed acceptable levels.