From:	Manuela Arricau
To:	"Paul Blais"
Cc:	Christian Hyde; Hsing Liu; Ülar Kaldasaun (ular@hydeandassociates.com)
Subject:	1259 RE: Saipem America Inc., E130029, SES-LIC-20130604-00469
Date:	Wednesday, August 14, 2013 3:13:00 PM
Attachments:	20130805 Comsearch Radiation Hazard (48W).pdf 20130805 Comsearch (48W) Final Report.pdf 20130814 Application form.pdf AL-7108-C, 6.15 GHz.pdf

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Dear Mr. Blais,

I hope my email finds you well.

Thank you for highlighting the inconsistencies in the documentation filed for Saipem's VSAT licence application. We have now liaised with Comsearch, our frequency coordinator, and the VSAT service provider to address all the inconsistencies and are pleased to present the following revised documentation for your consideration:

- Comsearch Radiation Hazard Study;
- Comsearch Frequency Coordination and Interference Analysis Report: adjusted for station power;
- FCC 312 Application Form: corrected to match the station's technical parameters and Frequency Coordination Report; (modifications marked in red)
- Antenna Gain Compliance Report;

In addition, please see below our comments with respect to the station's operating frequency and antenna gain:

- We have been advised by Comsearch that the frequency coordination and interference analysis for the VSAT station has been performed for the whole operating range of the antenna: 5925 – 6260 and 6313 – 6425 MHz. The exact carrier frequency of the Saipem VSAT station is not relevant as it does not change the conclusion of the report.
- The common approach for the radiation study is to run it at mid-band for the operating range of the antenna at C-band, which is 6175 MHz (considering the full ~500 MHz of spectrum: 5925 – 6260 and 6313 – 6425 MHz). According to Comsearch, performing the study at the exact carrier frequency of the VSAT station or midpoint of the lower coordinated spectrum (6093 MHz) would be possible, but quite uncommon as there would be a minimal change, if any at all, to the results of the study.
- The antenna gain for the Frequency Coordination and Interference Analysis and Radiation Hazard Study has been indicated to be 40.8 dBi, which is the gain for the mid-band frequency 6175 Mhz. The frequency 6175 MHz is still available for utilization, even with the limited transmit band coordinated for this antenna i.e. 5925 – 6260 MHz and any adjustment of the mid-band gain by a few tenths of a decibel would not have a significant impact on the results of the Frequency Coordination and Interference Analysis or the Radiation Hazard Study.
- The antenna gain compliance report has been performed at the frequency 6150 MHz with

the antenna gain of 39.99 dBi. The output EIRP is a lot higher than the one used for the current VSAT system and indicated in the interference study. In consequence, the slight difference in frequency and antenna gain would not have a significant impact on the results of the report and would not change the fact that the antenna is compliant with FCC standards.

I would be most grateful if you could please review the documents attached and the information above and confirm whether they solve all issues raised with respect to Saipem's application. If these are to your satisfaction, I will be pleased to complete the form and file the documentation using the IBFS online portal.

I am very thankful for your assistance throughout and remain at your entire disposal should you have any further questions or comments.

Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

89 rue du Faubourg St Antoine
75011 Paris

Tel: +33 1 73 01 80 91
Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates
Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: Thursday, July 25, 2013 4:58 PM
To: Raili Taaraste
Cc: Christian Hyde; Manuela Arricau; Hsing Liu
Subject: RE: Saipem America Inc., E130029, SES-LIC-20130604-00469

I have not seen an amendment to your application. Are you working on one?

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Paul Blais
Sent: Thursday, July 18, 2013 2:12 PM

To: 'Raili Taaraste'
Cc: Christian Hyde; Manuela Arricau; Paul Blais; Hsing Liu
Subject: Saipem America Inc., E130029, SES-LIC-20130604-00469
Importance: High

Thank you for following up on your request for status with a note.

Our review of your application indicates that you still have many inconsistencies that need to be corrected by amendment. Attached is a markup of part of the Form 312 Schedule B that was submitted in the application. Also attached is a comparison of values that were presented to us on the application Form 312 Schedule B(312), the Radiation Hazard Report (RH) , the antenna gain compliance report (218), and the Frequency Coordination Report (FCR). Once again these inconsistencies must be address in the amendment that you should submit immediately. Perhaps your frequency coordinator could quickly assist you in this effort.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Raili Taaraste [mailto:raili@hydeandassociates.com]
Sent: Thursday, July 18, 2013 9:22 AM
To: Paul Blais
Cc: Christian Hyde; Manuela Arricau
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Paul,

Thank you for you time on the phone just now.

I understand that the application is still under review. I look forward to receiving your updates later on today.

We appreciate your time and kind assistance.

Best regards,

Ms Raili Taaraste | Associate Counsel | Hyde & Associates
Vene 40, 10123 Tallinn, Estonia
Office: +372 614 0190
Fax: +372 614 0191
raili@hydeandassociates.com

Hyde&Associates

Telecommunications Law/World Markets

From: Manuela Arricau
Sent: Monday, July 08, 2013 6:51 PM
To: Paul Blais; Raili Taaraste
Cc: Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr. Blais,

Raili is of the office today, so I would like to thank you for your email on her behalf.

Would you be so kind as to provide an estimate of how it will be before we have an answer from the FCC on this application?

Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

89 rue du Faubourg St Antoine
75011 Paris

Tel: +33 1 73 01 80 91
Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates

Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: lundi 8 juillet 2013 16:16
To: Raili Taaraste
Cc: Manuela Arricau; Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

It is under review;

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Raili Taaraste [mailto:raili@hydeandassociates.com]
Sent: Monday, July 08, 2013 6:53 AM
To: Paul Blais
Cc: Manuela Arricau; Christian Hyde; Trang Nguyen
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Paul,

I hope this email find you well.

We have resubmitted a VSAT licence application on behalf of Saipem America Inc. with relevant corrections and documents as requested on 5 June 2013.

May I kindly ask you to update us on the progress of the application.

Please let me know whether you have all the documents to proceed.

Thank you for your time and kind assistance.

Best regards,

Ms Raili Taaraste | Associate Counsel | Hyde & Associates
Vene 40, 10123 Tallinn, Estonia
Office: +372 614 0190
Fax: +372 614 0191
raili@hydeandassociates.com

Hyde&Associates
Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: Wednesday, June 05, 2013 6:48 PM
To: Raili Taaraste
Cc: Manuela Arricau; Christian Hyde; Trang Nguyen
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

We received your application and are in the process of reviewing it.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Raili Taaraste [mailto:raili@hydeandassociates.com]
Sent: Wednesday, June 05, 2013 10:12 AM
To: Paul Blais
Cc: Manuela Arricau; Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Paul,

Thank you for your time on the phone just now.

As explained, we have resubmitted a VSAT licence application on behalf of Saipem America Inc. with relevant corrections and documents as requested.

The filing reference is as follows:

FCC IBFS - Electronic Filing
Submission_id : IB2013001173
Successfully filed on : Jun 4 2013 9:59:05:566AM

May I kindly ask you to confirm that the resubmitted application is alright and you are able to proceed.

We appreciate your time and kind assistance.

Best regards,

Ms Raili Taaraste | Associate Counsel | Hyde & Associates
Vene 40, 10123 Tallinn, Estonia
Office: +372 614 0190
Fax: +372 614 0191
raili@hydeandassociates.com

Hyde&Associates
Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: Monday, May 06, 2013 4:48 PM
To: Raili Taaraste
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Thanks for the note and phone call Raili.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Raili Taaraste [mailto:raili@hydeandassociates.com]
Sent: Monday, May 06, 2013 9:46 AM
To: Paul Blais; Hsing Liu
Cc: Ülar Kaldasaun; Manuela Arricau; Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr Paul Blais,

Thank you very much for your time on the phone just now.

I am pleased to hear that the formal letter with guidance and comments has been drafted and will be sent out this week.

I look forward to receiving it.

We appreciate your time and kind assistance.

Kind regards,

Ms Raili Taaraste | Associate Counsel | Hyde & Associates
Vene 40, 10123 Tallinn, Estonia
Office: +372 614 0190
Fax: +372 614 0191
raili@hydeandassociates.com

Hyde&Associates
Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: Wednesday, May 01, 2013 10:51 PM
To: Raili Taaraste; Hsing Liu
Cc: Ülar Kaldasaun; Manuela Arricau; Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Thank you for the additional information. It should be submitted in an amendment however I ask that you do not submit one at this time as I am sending you additional comments and guidance by formal letter.

Thank you.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Raili Taaraste [mailto:raili@hydeandassociates.com]
Sent: Tuesday, April 30, 2013 7:03 AM
To: Paul Blais
Cc: Ülar Kaldasaun; Manuela Arricau; Christian Hyde
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr Paul Blais,

Thank you for your email.

We understand that the document previously submitted did not entirely reflect the FCC requirements.

We hereby submit the following documents that demonstrate the compliance of Orbit AL-7108-C antenna with the FCC requirements under § 22.221 on "Earth Station Vessels" (ESV's) at C-Band.

Please find attached the following documents:

- Declaration of Orbit Communication Ltd, Model "AL-7108" (C-Band)
- Radiation Hazard Study – Orbit AL-7108-C 2.4m
- Orbit Communication – Satcom Products, AL-7108-C 5.90 GHz
- Orbit Communication – Satcom Products, AL-7108-C 6.15 GHz
- Orbit Communication – Satcom Products, AL-7108-C 6.40 GHz
- FCC Radio Station Authorization for Harris Caprock Communications, Inc. (Call Sign: E090176)

Please note that the same antenna specifications have been previously approved by the FCC in Harris Caprock application.

We would kindly ask you to confirm whether the documents attached ensure the compliance with the FCC requirements. If everything is in order, we will submit the document via IBFS online system.

We remain at your disposal for any further information you may require.

Kind regards,

Ms Raili Taaraste | Associate Counsel | Hyde & Associates
Vene 40, 10123 Tallinn, Estonia
Office: +372 614 0190
Fax: +372 614 0191
raili@hydeandassociates.com

Hyde&Associates

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: Friday, April 12, 2013 3:33 PM
To: 'Manuela Arricau'; 'Frank Peace'
Cc: Hsing Liu; Edwards, Gary
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Ms. Arricau,

Thank you for responding. Please submit all documentation via amendment to you application. After reviewing your documents I do have additional questions. First that the test report was very clear. My first question is, "What was the referenced gain pattern used on the gain plots (not readable of the copy you sent)?" My second question is, "Is it equivalent to 25.209 to our requirements specified in 25.209 ?"

§ 25.209 Earth station antenna performance standards.

(a) The gain of any antenna to be employed in transmission from an earth station in the Fixed-Satellite Service shall lie below the envelope defined in paragraphs (a)(1) through (4) of this section:

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location, for earth stations not operating in the Ka-band or conventional Ku-band:

$29-25\log_{10}\theta$	dBi	For	$1.5° = \theta = 7°$
8	dBi	For	$7° < \theta = 9.2°$
$32-25\log_{10}\theta$	dBi	For	$9.2° < \theta = 48°$
-10	dBi	For	$48° < \theta = 180°$

where θ is the angle in degrees from the axis of the main lobe, and dBi refers to dB relative to an isotropic radiator. For the purposes of this section, the peak gain of an individual sidelobe may not exceed the envelope defined above for θ between 1.5 and 7.0 degrees. For θ greater than 7.0 degrees, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the gain envelope given above by more than 3 dB.

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. (3) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths, for all earth stations not operating in the Ka-band or conventional Ku-band:

Outside the main beam, the gain of the antenna shall lie below the envelope defined by:

$32-25\log_{10}\theta$	dBi	For	$3° < \theta = 48°$
-10	dBi	For	$48° < \theta = 180°$

where θ and dBi are defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the gain envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

If the reference pattern is the same as § 25.209 then it appears that then the transmit gain appears to exceed the envelope For θ greater than 7.0 degrees, because an individual sidelobe

exceeds the gain envelope given above by more than 3 dB. Therefore you need to provide off axis EIRP tables that show conformance to 25.218 as required by § 25.115 (h)," Any earth station applicant filing an application pursuant to § 25.218 of this chapter must file three tables showing the off-axis EIRP level of the proposed earth station antenna of the plane of the geostationary orbit, the elevation plane, and towards the horizon. In each table, the EIRP level must be provided at increments of 0.1° for angles between 0° and 10° off-axis, and at increments of 5° for angles between 10° and 180° off-axis."

25.218 requirement for the C band are:

(c) *C-band analog earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$29.5-25\log_{10}\theta$	dBW/4 kHz	For	$1.5° = \theta = 7°$
8.5	dBW/4 kHz	For	$7° < \theta = 9.2°$
$32.5-25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta = 48°$
-9.5	dBW/4 kHz	For	$48° < \theta = 180°$

where θ is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, and the geostationary orbit plane is determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$32.5-25\log_{10}\theta$	dBW/4 kHz	For	$3° = \theta = 48°$
-9.5	dBW/4 kHz	For	$48° < \theta = 180°$

where θ is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, within any plane that includes that line, with the exception of the plane determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(d) *C-band digital earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

$26.3-10\log_{10}(N)-25\log_{10}\theta$	dBW/4 kHz	For	$1.5° = \theta = 7°$
$5.3-10\log_{10}(N)$	dBW/4 kHz	For	$7° < \theta = 9.2°$
$29.3 -10\log_{10}(N)-25\log_{10}\theta$	dBW/4 kHz	For	$9.2° < \theta = 48°$
$-12.7-10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta = 180°$

where θ and the plane of the geostationary satellite orbit are defined in paragraph (c)(1) of this section, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB. For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

$29.3-10\log_{10}(N)-25\log_{10}\theta$	dBW/4 kHz	For	$3° = \theta = 48°$
$-12.7-10\log_{10}(N)$	dBW/4 kHz	For	$48° < \theta = 180°$

where θ is defined in paragraph (c)(2) of this section, and N is defined in paragraph (d)(1) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Manuela Arricau [mailto:manuela@hydeandassociates.com]
Sent: Thursday, April 11, 2013 7:53 AM
To: Paul Blais; 'Frank Peace'
Cc: Hsing Liu; Gary Edwards (gedwards@comsearch.com)
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr. Blais,

Thank you for your email and for your comments.

I am pleased to attach the antenna technical specifications as well as the Measurements & Analysis Report including the antenna radiation patterns. In addition, note that the nearby satellites are 3 degrees away (Intelsat 25 at 31.5W and NSS10/Telsat 11N at 37.5W).

As for the maximum EIRP, the values used by Comsearch in their report are the correct ones. It must have been a typing mistake with the value informed in Schedule B, item E48.

I hope this information is useful and I remain at your entire disposal should you have any further questions.

Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

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Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates

Telecommunications Law/World Markets

From: Paul Blais [mailto:Paul.Blais@fcc.gov]
Sent: 08 April 2013 17:06
To: Manuela Arricau; 'Frank Peace'
Cc: Hsing Liu; Gary Edwards (gedwards@comsearch.com)
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Ms. Arricau,

Thank you for your inquiry. Our engineer is reviewing your application, which has been assigned application number SES-LIC-20130213-00168 and call sign E130029. I see that you are applying for a Fixed Earth Station license for an off shore platform in the Gulf of Mexico at 28 15 0.0 N , 90 13 0.0 to operate a 2.4 meter antenna on frequencies 3835 MHz (space-to Earth) and 6050 MHz (Earth-to-space) with Intelsat 903 at 34.5 W.L . The 2.4 meter antenna was manufactured by Orbit under model number AL-7108. Your application states that the antenna is 25.209 compliant in Schedule B item E15. The maximum EIRP that you requested in Schedule B Item E48 exceeds the coordinated values in Comsearch report. Because of the small size of your antenna for this frequency band, I am unable to ascertain if operations, as requested, comply with our 2 degree satellite spacing protection requirements. Until we receive information which will allows to continue to process your application it shall remain pending until such time as I can take further action.

Paul Blais
Chief, Systems Analysis Branch
International Bureau, Federal Communications Commission
202.418.7274

From: Manuela Arricau [mailto:manuela@hydeandassociates.com]
Sent: Monday, April 08, 2013 4:34 AM
To: 'Frank Peace'
Cc: Paul Blais
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr. Peace,

I hope you are well.

I have not received and answer from Mr. Blais on my information request below? Maybe he is on leave.

Could I ask you to provide me with a short update on the processing of the application filed for Saipem America Inc. on 8 February 2013? It refers to an earth station authorization. The submission ID is **IB2013000356,** the File Number is **SES-LIC-INTR2013-00356** and the Call Sign is **E130029**.

Thank you for your kind assistance.
Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

89 rue du Faubourg St Antoine
75011 Paris

Tel: +33 1 73 01 80 91
Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates
Telecommunications Law/World Markets

From: Manuela Arricau [mailto:manuela@hydeandassociates.com]
Sent: 02 April 2013 10:44
To: 'Paul Blais'
Cc: 'Frank Peace'
Subject: RE: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr. Blais,

I hope you are well.

Have you received my email from last week (below) with respect to the application filed for Saipem America Inc.? Have you had the chance to check on the status of the application? I have just checked the IBFS online system and there is no update at all since the date of filing for this application.

Thank you for your help.

Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

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75011 Paris

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Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates

Telecommunications Law/World Markets

From: Manuela Arricau [mailto:manuela@hydeandassociates.com]
Sent: 28 March 2013 16:37
To: 'Paul Blais'
Cc: Frank Peace
Subject: 1259 - Saipem America Inc. - Status of application (Earth Station Authorization)

Dear Mr Blais,

It has been a while since we were last in communications and I hope my email finds you well. It is a pleasure to be in contact with you again.

We have filed an online application in the IBFS website on 8 February 2013 for **Saipem America Inc.** for an earth station authorization. The submission ID is **IB2013000356,** the File Number is **SES-LIC-INTR2013-00356** and the Call Sign is **E130029**. I have been in contact with Towanda Bryant who kindly informs me that the application is being processed in your department. I check the status of the application online daily and there is no update since the date of filing apart from the information of "System Entry" and "PAID".

I would be most grateful for your assistance in providing me with an update on the current status of the application. Has it been approved? How long will it be before we have an answer from the FCC?

I also remain at your entire disposal should you require any additional information on this application.

Thank you for your kind assistance.

Best regards,

Manuela Arricau | Associate Counsel | Hyde & Associates

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Mobile: +33 7 60 92 30 10
manuela@hydeandassociates.com

Hyde&Associates

Telecommunications Law/World Markets