Rockwell Collins, Inc.
FRN No. 0004383329
Form 442 File No.: 0347-EX-PL-2010

Exhibit 1: Statement of Research Project

Rockwell Collins Inc. respectfully submits the following statement of research project pursuant to 47 C.F.R. § 5.63. Rockwell Collins seeks experimental authorization to develop and test a prototype transmitter (as part of a transceiver) for the Automatic Dependent Surveillance-Broadcast (ADS-B) system using the 978 MHz and 1090 MHz bands. Specifically, Rockwell Collins requests an experimental license to allow it to conduct mobile ground testing in and around the Rockwell Collins' facilities in Cedar Rapids, Iowa. This testing will include an area with a radius of not more than 25 nautical miles centered at the airport reference point of the Eastern Iowa Airport (CID airport). At most only one transmitter (UAT or 1090 MHz) will be active at a given time. Both receivers will be active at all times. A single L band blade antenna will be used.

Rockwell Collins has coordinated the proposed tests with the FAA Spectrum Support Center for the Central Service Area, and has received the following coordination numbers:

NG T100169 (M978)

NG T100170 (M1090)

A copy of Rockwell Collins' correspondence with the FAA providing the relevant testing information is attached hereto.

From: mike.bowers@faa.gov [mailto:mike.bowers@faa.gov]
Sent: Wednesday, June 09, 2010 4:23 PM
To: srrathin@rockwellcollins.com; Rob Carter
Cc: timothy.j.pawlowitz@faa.gov; Thomas.Ahn@faa.gov; margarette.ebate@faa.gov
Subject: Re: Rockwell Collins/FAA coordination

Sethu and Rob,

The coordination numbers are:

NG T100169 (M978)
NG T100170 (M1090)

Tim, Tom, and Margarette,

These assignments are for ADS-B information testing in the Cedar Rapids, IA area. The antenna will not exceed 100 ft. at the RWC Lab in Cedar Rapids.

NG T 100169 is in RI status and NG T100170 is in HN status.

Mike Bowers
FAA / Spectrum Support Center
Central Service Area, Kansas City
(816) 329-3467

From: srrathin@rockwellcollins.com

To: Mike Bowers/ACE/FAA@FAA

Cc: Rob Carter <RCarter@wiltshiregrannis.com>

Date: 06/09/2010 01:31 PM

Subject: Re: Rockwell Collins/FAA coodination

Mike-

For the additional questions on the phone, the information is below:

Latitude: 42.0332
Longitude: -91.6414

These are for the lab location.

Altitude: 869 feet (using airport altitude).

The mobile testing will have antenna on the van and an antenna on the roof, neither will exceed 100 feet above the ground level (of 869 feet).

Let me know if you need any additional information.

Thank you,

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Sethu R Rathinam ~ srathinam@rockwellcollins.com ~ 319 295 3256 Office ~ 202 375 0623 Mobile
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From: mike.bowers@faa.gov
To: Rob Carter <RCarter@wiltshiregrannis.com>
Cc: "'srrathin@rockwellcollins.com'" <srrathin@rockwellcollins.com>
Date: 06/08/2010 09:22 AM
Subject: Re: Rockwell Collins/FAA coodination

Sethu,

I also need the transmitter type and model.

Mike Bowers
FAA / Spectrum Support Center
Central Service Area, Kansas City
(816) 329-3467

From: Rob Carter <RCarter@wiltshiregrannis.com>

To: Mike Bowers/ACE/FAA@FAA

Cc: "'srrathin@rockwellcollins.com'" <srrathin@rockwellcollins.com>

Date: 05/27/2010 03:22 PM

Subject: Rockwell Collins/FAA coodination

Mike,

Good to talk with you this afternoon. My contact information is below. I'm including the information you've requested, and I am also cc:ing Sethu Rathinam, who is the technical lead on this project at Rockwell Collins and should be able to answer any additional questions.

Also, the FCC has asked for NGT Number(s) that will be provided by the FAA. Would you be able to provide these at the completion of coordination?

Thanks again for your help on this. Enjoy the holiday weekend!

Best regards,

Rob

On-Ground mobile test description: The transmitter will be mounted on a van and will transmit ADS-B information. Receivers will be set up to receive the ADS-B information to test the setup. This testing will take place in and around the Rockwell Collins facilities in Cedar Rapids, Iowa area. This will include an area with a radius of not more than 25 nautical miles centered at the airport reference point of the Eastern Iowa Airport (CID airport). (Note Rockwell Collins has facilities located at the airport and also in the city of Cedar Rapids.)

An L-band blade antenna will be used. A single antenna will be used for transmit+receive. All the normal UAS/UAV regulations/operational requirements will be met as appropriate for the above testing. Corresponding receivers will be tested.

UAT Transmitter:

Frequency: 978 MHz
Peak power: 50 watts
Antenna type: Omni
Antenna Gain: 3 dB
Elevation: 869 feet airport elevation + 100 feet maximum height above ground (includes vehicle height of 10 feet) = 969 feet = 295.35 meters
Height above ground: 100 feet = 30.48 meters (see elevation item)
Antenna Polarization: Vertical
Duty Cycle (or Pulse Repetition Rate): Duty cycle < 0.1%
Emission Designator : 2M16F1D
Pulse width: 265 microsecond and 403 microsecond (messages)

1090 MHz Transmitter:

Frequency: 1090 MHz
Peak power: 50 watts
Antenna type: Omni
Antenna Gain: 3 dB
Elevation: 869 feet airport elevation + 100 feet maximum height above ground (includes vehicle height of 10 feet) = 969 feet = 295.35

meters
Height above ground: 100 feet = 30.48 meters (see elevation item)
Antenna Polarization: Vertical
Duty Cycle (or Pulse Repetition Rate): Duty cycle < 0.1%
Emission Designator: 13M5M1D
Pulse width: 112 microsecond (Mode-S Extended Squitter/ADS-B messages)

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