



(REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility **66978** | Service: **DCA** | Call **WEDE-CD** | Channel: **28 (UHF)** |  
ID:  
File **0000028647**  
Number:  
FRN: **0004082244** | Date **07/12**  
Submitted: **/2017**

## Applicant Information

### Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
<b>FIRST UNITED, INC.</b> Doing Business As: FIRST UNITED, INC.	Joseph Stroud 1900 SPRING ROAD SUITE 202 OAK BROOK, IL 60523 United States	+1 (708) 633-0001	josephstroud@me.com	Corporation

## Reimbursement Contact Information

### Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

## Preparer Contact Information

### Preparer Contact Name and Information

Applicant	Address	Phone	Email
<b>Jeremy D Ruck , PE .</b> <i>Consulting Engineer</i> <i>Jeremy Ruck &amp; Associates, Inc.</i>	PO Box 415 Canton, IL 61520 United States	+1 (309) 647-1200	jeremy@jeremyruck.com

**Broadcaster  
Information  
and  
Transition  
Plan**

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	Yes
Briefly describe transition plan	Facilities listed above are co-located on Willis Tower west antenna structures with WEDE-CD. WEDE-CD transitions to new channel through antenna replacement, retune of existing transmitter, and installation of new mask filter. Existing line remains.

**Transmitters**

Section	Question	Response
Transmitter Related Expenses	Do you have transmitter related expenses?	Yes

**Primary  
Transmitter****Existing Transmitter Information**

Section	Question	Response
Existing Transmitter Description	Type of change	Retune Existing
	Use	Primary (Main)
	Ownership	Owned
	Owner	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	Harris

Model	UAX-500A7
Year	2013
Type	Solid State
Solid State Cooling	Air Cooled
Solid State Power capacity	0.5 kW

**Primary Transmitter** **Retuning Transmitter Costs**

Section	Question	Response
<b>New IOT Tubes</b>	Number of Tubes (including accessories) needed	N/A
<b>New Mask Filter</b>	Power	1.5 kW
	Other Power	N/A
<b>New Exciter</b>	Is a new exciter needed?	No

**Primary Transmitter** **Other Transmitter Costs**

Section	Question	Response
<b>Electrical Service</b>	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	No
	Power	N/A
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	No
	Description	N/A
<b>HVAC Service</b>	Does the replacement transmitter require HVAC Service?	No

	Type	N/A
	Size	N/A
	Other Size	N/A
<b>Transmitter Building Addition/Modification or Leasehold Improvement</b>	Does the Transmitter Building require an addition, modification, other leasehold improvement?	No
	Size	N/A
<b>Channel 14 Costs</b>	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

**Primary Transmitter**      **Other Transmitter Cost Not Listed**  
Information not provided.

**Antennas**

Section	Question	Response
Antenna Related Expenses	Do you have antenna related expenses?	Yes

**Primary  
Antenna**

**Existing Antenna Information**

Section	Question	Response
<b>Existing Antenna Description</b>	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	Yes
<b>Existing Antenna Manufacturer and Type</b>	Class	Class A
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Other
	Number of Stations Supported	N/A
	Number of Panels	N/A
	Design power capacity in use	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Other Antenna Type	Single Channel Panel Array
	ERP: (Effective Radiated Power)	4.3 kW

Manufacturer	
Model	9552312
Year	2004

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Primary  
Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	Yes
New Antenna Manufacturer and Types	Class	Class A
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Other
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	Single Channel Panel Array
	ERP: (Effective Radiated Power)	2.84 kW
	Manufacturer	



Model	TUL-C2-2/4-1 Kit
Year	2017
Justification for New Antenna	Existing antenna exhibits undesirable VSWR at repack channel, and does not replicate existing pattern.

## Primary Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	No
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No

<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes
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**Primary  
Antenna**

**Other Antenna Cost Not Listed**

<b>Name</b>	<b>Description</b>
<b>Antenna reassembly on Willis Rooftop</b>	Assembly of antenna on Willis Tower rooftop.
<b>Antenna handling and storage</b>	Receiving, handling, and storage of antenna at installer facility.
<b>Antenna delivery to Willis Tower</b>	Delivery of antenna from installer facility to Willis Tower, and rooftop staging.

**Transmission Line**

Section	Question	Response
Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

**Primary Transmission Line****Existing Transmission Line**

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Andrew
	Type	Flexible Air
	Diameter	1 5/8 inches
	Other Diameter	N/A
	Segment Length	N/A
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	250 feet per run

Primary  
Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Transmission line routing change material	Connector kit an mounting hardware for relocation of existing transmission line due to antenna change.
Transmission line routing change	Labor for minor adjustment in transmission line routing due to required antenna replacement.

**Tower Equipment And Rigging Costs**

Section	Question	Response
Tower Equipment or Rigging Costs Changes	Do you have tower equipment or rigging costs changes?	Yes

**Primary Tower**

**Existing Tower**

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Leased
	Is this tower consider Complex?	Located on Building
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	Is tower documented for structural analysis?	No
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1032959
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	41° 52' 44.1" N-
	Longitude (NAD83)	087° 38' 10.2" W-
	Overall Structure Height	1729.97 feet
	Support Structure Height	1435.35 feet

	Ground Elevation Above Mean Sea Level (AMSL)	595.14 feet
	Structure Type	BTWR - Building with Tower
	Tower Owner	233 Broadcast, LLC
	Date Constructed	01/01/2002

**FM, AM or TV radio  
broadcasters. Facility ID's,  
Call Signs and Services of  
other broadcast stations with  
whom the tower is shared**

Facility ID	Call Sign	Service
10801	WFMT	FM
9617	WBBM-TV	DTV
71425	WWME-CD	DTV
28621	WJMK	FM
10802	WTTW	DTV
47905	WMAQ-TV	DTV
71428	WCIU-TV	DTV
72115	WGN-TV	DTV
9613	WBBM-FM	FM
168662	WMEU-CD	DTV
22211	WFLD	DTV
70119	WSNS-TV	DTV
48772	WPWR-TV	DTV

**Primary  
Tower**

**Tower Modification Costs**

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for documented tower
Tower Reinforcements	Please select whether tower reinforcements are needed:	Minor Reinforcements needed

**Primary  
Tower**

**Tower Rigging Costs**

Section	Question	Response
Tower Rigging Costs	Complex Tower	Located on Building
Helicopter Services Required	Are helicopter services required?	No

**Primary  
Tower**

**Other Tower Expenses Not Listed**

Information not provided.

**Outside  
Professional**

Section	Question	Response
<b>Services Costs Outside Project Management Services</b>	Do you require outside project management services?	Yes
	Number of Hours	35
	Explanation	Insufficient internal resources to manage project due to location at Willis Tower.
<b>Outside RF consulting Engineering Services</b>	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
<b>Attorney and Other Outside Consulting Services</b>	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes



	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	No
	FAA Consultation (including preparation of FAA Form 7460)	No
	Negotiation of Lease and other Matter for Shared Locations	Yes
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
<b>RF Field Engineering Services</b>	Comprehensive coverage verification via field study	No
	RF exposure measurements	Yes
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

**Outside Professional Services Costs**

**Other Professional Services Expenses Not Listed**

Name	Description
<b>Required Willis Tower RF Safety Coordination</b>	Required RF safety coordination during antenna change.

## Other Expenses

Section	Question	Response
<b>AM Pattern Disturbance</b>	Is an Impact Study needed?	No
	Is Remediation needed?	No
<b>Facility Expenses</b>	Name	N/A
	Other Distributed Transmission System Expenses Not listed	N/A
	Name	N/A
	Is Notification of a Medical Facility required as a result of DTV broadcasting?	Yes
<b>Permit and Filing Costs</b>	Local Zoning	No
	Non-zoning permits	Yes
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	Yes
	FCC License to Cover Application	Yes
	FCC Special Temporary Authority Application	No
<b>Other Miscellaneous Expenses</b>	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
	Does this relocation require Equipment Storage?	No
	Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	Yes
	Does this relocation require MVPD Notification of a Channel Change?	Yes

<b>Other Expenses</b>	<b>Other Expenses Not Listed</b>
	Information not provided.

Cost  
Information

Transmitters

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Transmitter UAX-500A7	\$108,230.00	\$52,800.00		\$0.00	
UHF and VHF - minor banding issues	\$105,200.00	\$50,000.00	N/A	N/A	N/A
1.5 kW mask filter	\$3,030.00	\$2,800.00	N/A	N/A	N/A
Sub-total	\$108,230.00	\$52,800.00	N/A	\$0.00	N/A
Total for all systems	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

Components

Information not provided.

## Cost Information

### Antennas

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
<b>Primary Antenna TUL-C2-2/4-1 Kit</b>	<b>\$50,530.00</b>	<b>\$48,900.00</b>		<b>\$0.00</b>	
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
UHF - Lower Power Side Mount, Class A One Station antenna -- basic	\$26,300.00	\$25,000.00	N/A	N/A	N/A
Antenna reassembly on Willis Rooftop	<i>\$5,000.00</i>	\$5,000.00	Reassembly of antenna on rooftop in preparation for installation.	N/A	N/A
Antenna handling and storage	<i>\$2,500.00</i>	\$2,500.00	Receiving and handling of antenna at installation contractor facility. Includes material storage fees.	N/A	N/A

Antenna delivery to Willis Tower	<b>\$10,000.00</b>	\$10,000.00	Delivery of antenna from installation contractor facility to Willis Tower. Includes shipping to Willis Tower from contractor yard, unloading antenna at dock, and transport to rooftop of building. After hours work due to size and elevators.	N/A	N/A
<b>Sub-total</b>	\$50,530.00	\$48,900.00	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

## Components

Information not provided.

Cost  
Information

Transmission Line

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Transmission Line	\$6,000.00	\$6,000.00		\$0.00	
Transmission line routing change material	<i>\$2,000.00</i>	\$2,000.00	Cable refit kits and connectors, and other hardware for transmission line relocation due to new antenna installation.	N/A	N/A
Transmission line routing change	<i>\$4,000.00</i>	\$4,000.00	Labor for rerouting of existing transmission line due to antenna change.	N/A	N/A
Sub-total	\$6,000.00	\$6,000.00	N/A	\$0.00	N/A
Total for all systems	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

Components

Information not provided.

Cost  
Information

Tower Equipment and Rigging Costs

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower BTWR	\$591,600.00	\$245,000.00		\$0.00	
Minor tower reinforcement /modifications	\$158,000.00	\$150,000.00	Cost expected to include design and fabrication of modified antenna mounting brackets for west bridge location.	N/A	N/A
Structural engineering tower load study for well documented tower	\$12,600.00	\$15,000.00	Willis Tower location. Structural analysis for antenna change on west bridge.	N/A	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$80,000.00	N/A	N/A	N/A
Sub-total	\$591,600.00	\$245,000.00	N/A	\$0.00	N/A
Total for all systems	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

Components

Information not provided.



## Cost Information

### Outside Professional Services

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
<b>Outside Professional Services</b>	<b>\$65,210.00</b>	<b>\$60,540.00</b>		<b>\$0.00</b>	
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A
RF Exposure Measurements	\$21,050.00	\$12,500.00	Required RFR survey of Willis Tower rooftops following antenna change.	N/A	N/A
Required Willis Tower RF Safety Coordination	<i>\$9,440.00</i>	\$9,440.00	Cost assumes four nights of work, plus related expenses, per diem, and mileage.	N/A	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	N/A	N/A

Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$4,000.00	N/A	N/A	N/A
Project management of the transition	\$5,530.00	\$10,850.00	Catalog hourly rate is insufficient to cover work at Willis Tower due to insurance requirements. Cost assumes on site work from consulting engineer, including mileage, travel, and expenses.	N/A	N/A

Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A
<b>Sub-total</b>	\$65,210.00	\$60,540.00	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

### Components

Information not provided.

## Cost Information

### Other Expenses

Where no predetermined cost estimate is available, any estimate provided will also become the predetermined cost (displayed in italics).

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
<b>Other Expenses</b>	<b>\$84,995.00</b>	<b>\$84,395.00</b>		<b>\$0.00</b>	
Non-zoning permits	<i>\$2,000.00</i>	\$2,000.00	City of Chicago permitting	N/A	N/A
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	N/A	N/A
FCC Filing Fees - Form 2100 minor change CP application	\$1,110.00	\$1,070.00	N/A	N/A	N/A
FCC Filing Fees - Form 2100 license to cover application	\$335.00	\$325.00	N/A	N/A	N/A
MVPD Notification of Channel Change	<i>\$5,000.00</i>	\$5,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$30,000.00</i>	\$30,000.00	Removal of old antenna and associated material from Willis Tower.	N/A	N/A
Develop and air announcement of upcoming channel change	<i>\$5,000.00</i>	\$5,000.00	N/A	N/A	N/A

Equipment Delivery and Handling Charges	<b>\$30,000.00</b>	\$30,000.00	Based on delivery and staging of equipment, and subsequent transfer to Willis Tower from installation contractor.	N/A	N/A
<b>Sub-total</b>	\$84,995.00	\$84,395.00	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$906,565.00	\$497,635.00	N/A	\$0.00	N/A

### Components

Information not provided.

Cost Information	Grand Total		
		Predetermined Cost Estimate	Estimated Cost
			Actual Cost
	Total for all systems	\$906,565.00	\$497,635.00
			\$0.00

Reimbursement Status	Question	Response
	The facility has ceased operating on its pre-auction channel.	No
	Construction of final facilities or all necessary modifications are complete.	No
	All receipts for reimbursement have been submitted no further costs are expected to be incurred. Note this will lock the Form 399 from further editing and begin close-out procedures with the Fund Administrator.	No

Certification	Section	Question	Response
	Submission of Estimated Expenses Statements	<p>WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a) (1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.</p>	
		<ol style="list-style-type: none"> <li>1. The Authorized Person signing below certifies that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity.</li> <li>2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> <li>3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.</li> </ol>	

4. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (broadcasters) or to continue to carry the signal of a broadcaster that changes channels (MVPD).
5. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
6. The above-named entity certifies that it will maintain and provide to the Commission detailed records, including receipts, of all costs eligible for reimbursement actually incurred.
7. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.



	<p>8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.</p>	
	<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p><b>Joseph Stroud</b> <i>President</i></p> <p>07/12/2017</p>

## Attachments