



(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility **22211** | Service: **DTV** | Call **WFLD** | Channel: **31 (UHF)** |
ID: | Sign:
File **0000027829**
Number:
FRN: **0005795067** | Date **09/17**
Submitted: **/2017**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
FOX TELEVISION STATIONS, LLC	Joseph M. Di Scipio 400 N. CAPITOL STREET, NW SUITE 890 WASHINGTON, DC 20001 United States	+1 (202) 824-6522	JDISCIPIO@21CF.COM	Limited Liability Company

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
Dennis Wallace <i>Managing Partner</i> <i>Meintel, Sgrignoli & Wallace, LLC</i>	Dennis Wallace 1282 Smallwood Drive Suite 372 Waldorf, MD 20603 United States	+1 (202) 251-7589	Dennis.Wallace@mswdtv.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		WFLD plans to install interim facilities in cooperation with other stations at Willis Tower, replace existing antennna, transmission line, and Transmitter. Complex site on top of Willis Tower. The building is still working on transition plan for the site.

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	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	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	
	Model	CD2200P3
	Year	1999
	Type	Inductive Output Tube
	IOT Power Type	Three
	Power Capacity	75 kW

**Primary
Transmitter**

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	Paragon
	Transmitter Type	Inductive Output Tube
	IOT Power Type	Three
	Power capacity	75 kW
	Justification for New Transmitter	New transmitter required as existing unit is obsolete and no longer supported by manufacturer. Existing transmitter is rated 75KW. New TPO cannot be determined at this time.

**Primary
Transmitter**

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	300 kVA

	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	400.0 feet
	Other Electrical Service	Yes
	Description	IOT Transmitter Electrical Installation Costs Willis Tower
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	50 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leasehold improvement?	Yes
	Size	1000.0 square feet
Channel 14 Costs	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

Name	Description
Plumbing Demolition	Disconnect Piping for transmitter (Great Lakes)
Water Glycol System	Building Chilled Water System Connection. (ZonaTherm)

Remove Existing Main Transmitter	Remove existing main transmitter from Willis Tower
ThermoFlo Leibert system	ThermoFlo Leibert Installation
Remote Control Wiring	Wire up existing remote control to new transmitter

**Interim
Transmitter**

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Interim
	Description of Use	N/A
	Change Type	Purchase
	Manufacturer	
	Model	THU9EVO-40
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	60 kW
	Justification for New Transmitter	Interim transmitter will be required to operate interim facilities while building is changing out antennas and other stations make changes.

**Interim
Transmitter**

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes
	Power	500 kVA

	Rigid Conduit and Wiring	Yes
	Size	3 inches
	Length	300.0 feet
	Other Electrical Service	Yes
	Description	Interim Transmitter Electrical Installation - Willis Tower
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	50 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leasehold improvement?	Yes
	Size	1000.0 square feet
Channel 14 Costs	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
Inside RF System	Is an additional interior RF system required to support this interim transmitter?	Yes

Interim Transmitter

Other Transmitter Cost Not Listed

Name	Description
Willis Tower Fees	Fees to Willis Tower for Interim Transmitter Installation & Operation

Remove existing equipment	Removal of existing equipment in interim transmitter area
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Antennas

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

**Auxiliary
Antenna****Existing Antenna Information**

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Licensed Aux Antenna
	Ownership	Leased
	Owner	Willis Tower
	Site	N/A
	Is the existing antenna shared with another station or stations?	Yes
	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
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Bottom
	Polarization	Circular
	Type	Broadband Panel
	Number of Stations Supported	2
	Number of Panels	24
	Design power capacity in use	100.0 %
	Lower Limit	572.00 MHz
	Upper Limit	578.00 MHz
	Other Antenna Type	N/A

ERP: (Effective Radiated Power)	475.0 kW
Manufacturer	
Model	PHP24C
Year	1999

**Facility ID's and Call Signs of
all stations with whom the
antenna is shared.**

Facility ID	Call Sign
47905	WMAQ-TV
22211	WFLD

**Auxiliary
Antenna****New Antenna Costs**

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Aux Antenna
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Ownership	Leased
	Owner	Willis Tower
	Is antenna shared?	Yes
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	Yes
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Bottom
	Polarization	Elliptical
	Type	Broadband Panel
	Number of Stations Supported	2
	Number of Panels/Bays	24
	Lower Limit	470.00 MHz
	Upper Limit	600.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	475.0 kW
	Manufacturer	
	Model	TBD

Year	2018
Justification for New Antenna	Replacement of Aux Antenna as needed to move antennas on top of building. Final Aux antenna configuration yet to be determined.

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	2
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	Yes
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Broadband
	Feed Line Size	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes

Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes
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Enter a list of RF channel numbers.

RF Channel Number
29
24

Auxiliary Antenna

Other Antenna Cost Not Listed
Information not provided.

**Primary
Antenna**

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	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
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Middle
	Polarization	Elliptical
	Type	Slotted Coaxial
	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	N/A
	ERP: (Effective Radiated Power)	1000.0 kW

Manufacturer	
Model	ATW14H3H-ETC2-31H
Year	1999

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	Full Power
	Mounting	Top Mount
	Antenna position in stack	Top
	Polarization	Elliptical
	Type	Slotted Coaxial
	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	N/A
	ERP: (Effective Radiated Power)	859.0 kW
	Manufacturer	

Model	To Be Determined
Year	2018
Justification for New Antenna	New antenna required for new channel. Slot antenna. Final antenna configuration has not been determined yet.

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	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
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	7 3/16 inches inches

Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

**Primary
Antenna**

Other Antenna Cost Not Listed

Name	Description
West Tower Stack Project	Willis Tower West Tower Stack Project per Willis Spreadsheet.
Combiner Room Costs	Willis Tower Combiner Room Modification Cost Estimate. Per Willis Tower Spreadsheet.
Southwest Pole Decommissioning	Willis Tower Decommissioning of SW Pole. per Willis Tower Spreadsheet.

Transmission Line

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

Auxiliary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Licensed Aux
	Ownership	Leased
	Owner	Willis Tower
	Site	N/A
	Is the existing transmission line shared with another station or stations?	Yes
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	2
	Length	400 feet per run

Facility ID's and Call Signs of all stations with whom the transmission line is shared.

Facility ID	Call Sign
47905	WMAQ-TV

Auxiliary **New Transmission Line**
Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Auxiliary (Backup)
	Description of Use	Licensed Aux
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	19 3/4 inches
	Other Segment Length	N/A
	Number of parallel runs	2
	Length	400 feet per run
	Justification for New Transmission Line	Replacement of Aux Antenna Transmission Line. The new Aux Combiner will be in a new location within the building and will require new transmission line.

Auxiliary **Other Transmission Line Expenses Not Listed**
Transmission Line

Name	Description
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Transmission Line Layout	Develop Transmission line layout and installation drawings for Aux Antenna.
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Primary
Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	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	
	Type	Rigid
	Diameter	8 3/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	400 feet per run

Primary
Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Type	Rigid
	Diameter	7 3/16 inches
	Other Diameter	N/A
	Segment Length	19 3/4 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	300 feet per run

	<p>Justification for New Transmission Line</p>	<p>Current Transmission line does not extend to the top of the west tower and it routed to the top of the SW Pole Outrigger. The New Antenna location requires new transmission line. However, applicant will re-use as much as possible of the existing line.</p>
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Primary

Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Transmission Line Layout Installation Drawings	Develop and play transmission line layout and installation drawings. See attached Quote.

**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	Yes
	Is tower documented for structural analysis?	Yes
	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
71283	WCFS-FM	FM
73226	WLS-TV	DTV
60539	WXFT-DT	DTV
72115	WGN-TV	DTV
10802	WTTW	DTV
6377	WTMX	FM
10801	WFMT	FM
51165	WGCI-FM	FM
74178	WKSC-FM	FM
22211	WFLD	DTV
70042	WLIT-FM	FM
48772	WPWR-TV	DTV
71425	WWME-CD	DTV
28621	WJMK	FM
12498	WGBO-DT	DTV
47905	WMAQ-TV	DTV

9617	WBBM-TV	DTV
32334	WJYS	DTV
9613	WBBM-FM	FM
73228	WLS-FM	FM
53971	WEBG	FM
10981	WCPX-TV	DTV

Other Types of Users

Users

Willis Tower

Microwave

Two Way

Primary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for tower with candelabra
Tower Reinforcements	Please select whether tower reinforcements are needed:	Serious 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?	Yes

**Primary
Tower**

Other Tower Expenses Not Listed
Information not provided.

**Outside
Professional Services Costs**

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	1500
	Explanation	Outside Project Management to coordinate with Willis Tower, Antenna, Helicopter, Rigging, and Transmitter Replacements.
Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	2
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes

	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	2
	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
RF Field Engineering Services	Comprehensive coverage verification via field study	Yes
	RF exposure measurements	Yes
	Additional Field Engineering Service	Yes
	Number of Days	45
	Justification	On Site RF Engineering to supervise equipment installation, performance measurements, and compliance with project requirements.

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Prepare and File FCC Progress Reports	Prepare and File FCC Progress Reports

Other Expenses

Section	Question	Response
AM Pattern Disturbance	Is an Impact Study needed?	No
	Is Remediation needed?	No
Facility Expenses	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
Permit and Filing Costs	Local Zoning	Yes
	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	Yes
Other Miscellaneous Expenses	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?	Yes
	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

**Other
Expenses**

Other Expenses Not Listed

Name	Description
Illinois and Chicago Sales Tax	Estimated Sales tax on equipment.

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
Interim Transmitter THU9EVO-40	\$2,554,860.00	\$2,447,560.00		\$0.00	
Remove existing equipment	<i>\$92,860.00</i>	\$92,860.00	Remove existing equipment from interim transmitter space. Willis Tower Building. Does not include disposal of equipment. See attached quote.	N/A	N/A
Willis Tower Fees	<i>\$0.00</i>	\$0.00	Willis Tower Fees for Interim transmitter installation	N/A	N/A
Transformer 3 phase/480v - 500 KVA	\$48,400.00	\$46,000.00	Catalog	N/A	N/A
Other -- Building Addition Size: 1000.0	<i>\$150,000.00</i>	\$150,000.00	Building Space Modifications for Interim Transmitter Space at Willis Tower Building.	N/A	N/A

UHF inside RF system including switching	\$147,500.00	\$140,000.00	Catalog	N/A	N/A
50 Ton system	\$172,500.00	\$164,000.00	Catalog HVAC /Mechanical Mods - Willis Tower Space	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	\$1,788,000.00	\$1,700,000.00	Interim Transmitter	N/A	N/A
3" Rigid Conduit and Wiring (Cost per foot)	\$15,600.00	\$14,700.00	Catalog	N/A	N/A
Other Electrical Service: Interim Transmitter Electrical Installation - Willis Tower	\$140,000.00	\$140,000.00	Interim Transmitter Electrical Installation Willis Tower Building	N/A	N/A
Primary Transmitter Paragon	\$2,766,670.00	\$3,433,107.00		\$0.00	
ThermoFlo Leibert system	\$360,000.00	\$360,000.00	ThermoFlo Quote Attached. Leibert Units Installation at Willis Tower	N/A	N/A
Water Glycol System	\$75,750.00	\$75,750.00	ZonaTherm Quote attached. Water/Glycol System	N/A	N/A

Plumbing Demolition	\$13,220.00	\$13,220.00	Plumbing Demolition. Pipefitter Scope. Quote Attached.	N/A	N/A
Remote Control Wiring	\$3,600.00	\$3,600.00	Wire up existing remote control to new transmitter. See attached vendor quote.	N/A	N/A
Three IOT system (75 kW)	\$1,415,000.00	\$2,094,837.00	Comark Quote 3 tube Paragon Transmitter is attached.	N/A	N/A
Remove Existing Main Transmitter	\$180,000.00	\$180,000.00	Quote to remove existing equipment. Beam Supplies, HE Glycol, Etc. Down Elevator. Rigging, Labor Overtime on Weekends /Nights. See attached quote. Does not include disposal.	N/A	N/A
Other -- Building Addition Size: 1000.0	\$250,000.00	\$250,000.00	Modifications to building space for new transmitter. Willis Tower Building.	N/A	N/A

Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	Catalog	N/A	N/A
Transformer 3 phase/480v - 300 KVA	\$36,800.00	\$35,000.00	Catalog	N/A	N/A
3" Rigid Conduit and Wiring (Cost per foot)	\$20,800.00	\$19,600.00	Catalog	N/A	N/A
Other Electrical Service: IOT Transmitter Electrical Installation Costs Willis Tower	\$200,800.00	\$200,800.00	Electrical Installation for new transmitter. Willis Tower Building. See Okeh Electric Quote attached.	N/A	N/A
50 Ton system	\$172,500.00	\$164,000.00	Modifications to HVAC /Mechanical Systems Willis Tower Building	N/A	N/A
Sub-total	\$5,321,530.00	\$5,880,667.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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
Primary Antenna To Be Determined	\$2,862,997.00	\$2,967,207.00		\$0.00	
Elbow complex, single channel, at antenna input, per 7 3/16. feedline (if needed)	\$13,900.00	\$13,200.00	Catalog Costs.	N/A	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$5,000.00	Catalog Cost.	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	Catalog Cost.	N/A	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	\$289,500.00	\$395,000.00	Custom Three Station Stack Antenna designed for Willis Tower Building West Pylon. Final Antenna Configuration is not known at this time. This antenna will require special structural design.	N/A	N/A

Southwest Pole Decommissioning	\$1,110,500.00	\$1,110,500.00	Willis Tower Spreadsheet. WFLD Allocated costs of project per Willis Tower Engineering Statement attached.	N/A	N/A
Combiner Room Costs	\$12,857.00	\$12,857.00	Willis Tower Spreadsheet. Costs for modification of combiner room per Willis Tower Engineering Statement attached.	N/A	N/A
West Tower Stack Project	\$1,424,250.00	\$1,424,250.00	Willis Tower Triple Destack and Double Stack per attached spreadsheet from Willis Tower and attached Willis Tower Engineering Statement.	N/A	N/A
Auxiliary Antenna TBD	\$1,027,040.00	\$630,567.00		\$0.00	
UHF - High Power Top Mount (200-1000 kW), Two Station broadband panel antenna, elliptically or circularly polarized	\$768,000.00	\$0.00	Catalog	N/A	N/A

New combiner, cost per channel (without antenna)	\$84,200.00	\$464,167.00	Willis Tower Aux Combiner / East Tower per Willis Tower Spreadsheet. See attached Willis Tower Engineering Statement.	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	Catalog Costs.	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$22,000.00	Catalog Costs.	N/A	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$5,000.00	Catalog Costs.	N/A	N/A
Elbow complex, broadband, at antenna input, per 6 1/8. feedline (if needed)	\$13,700.00	\$13,000.00	Catalog	N/A	N/A
Combiner output splitting /switching for dual feed lines, if applicable	\$126,000.00	\$120,000.00	Catalog	N/A	N/A
Sub-total	\$3,890,037.00	\$3,597,774.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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	\$122,000.00	\$250,000.00		\$0.00	
Transmission Line Layout Installation Drawings	<i>\$35,000.00</i>	\$35,000.00	Develop transmission line layout and installation drawings. See attached vendor quote.	N/A	N/A
Rigid Transmission Line - copper, 7 3/16"	\$87,000.00	\$215,000.00	Custom Transmission line fabrication required. Each section will need to be a custom made section length in order to fit within the existing hallways and vertical shafts within Willis Tower. Standard Line section costs is not applicable.	N/A	N/A
Auxiliary Transmission Line	\$186,600.00	\$200,000.00		\$0.00	

Transmission Line Layout	\$25,000.00	\$25,000.00	Develop transmission line layout and installation drawings. See attached vendor quote.	N/A	N/A
Rigid Transmission Line - copper, 6 1/8"	\$161,600.00	\$175,000.00	Custom transmission line fabrication required. Each line section will need to be custom made based upon CAD drawings in order to fit within the existing hallway and vertical shafts within the Willis Tower Building. Standard line sections will not fit.	N/A	N/A
Sub-total	\$308,600.00	\$450,000.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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	\$1,493,000.00	\$0.00		\$0.00	
Tower Helicopter Lift	<i>\$0.00</i>	\$0.00	See attached Willis Tower Engineering Statement and Spreadsheet.	N/A	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$0.00	See attached Willis Tower Spreadsheet and Engineering Statement.	N/A	N/A
Serious tower reinforcement /modifications	\$1,052,000.00	\$0.00	See attached Willis Tower spreadsheet and engineering statement.	N/A	N/A
Structural engineering tower load study for a documented tower with candelabra	\$20,000.00	\$0.00	See attached Willis Tower Engineering Statement.	N/A	N/A
Sub-total	\$1,493,000.00	\$0.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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
Outside Professional Services	\$521,175.00	\$544,130.00		\$0.00	
Prepare and File FCC Progress Reports	<i>\$34,980.00</i>	\$34,980.00	Prepare and File FCC Progress Reports. See attached vendor quote.	N/A	N/A
Additional Field Engineering Service, 45 Days	<i>\$95,400.00</i>	\$95,400.00	See attached vendor quote. On Site RF Engineering for complex project. Supervision of installation and commissioning of new systems.	N/A	N/A
RF Exposure Measurements	\$21,050.00	\$20,000.00	Catalog	N/A	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$80,000.00	Catalog	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$7,360.00	\$7,000.00	Catalog	N/A	N/A

Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$35,000.00	Willis Tower Building Lease Modifications	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	Catalog	N/A	N/A
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	\$4,210.00	\$4,000.00	Catalog	N/A	N/A
Project management of the transition	\$237,000.00	\$225,000.00	Very large scope project management.	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	Catalog	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	Catalog	N/A	N/A
Prepare request for Special Temporary Authorization	\$4,100.00	\$3,000.00	Catalog	N/A	N/A

Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	Catalog	N/A	N/A
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	\$2,105.00	\$2,000.00	Catalog	N/A	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$15,000.00	Coordination for Chicago Market and Willis Tower Building Testing and Transition End Dates	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	Catalog	N/A	N/A
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	\$1,580.00	\$1,500.00	Catalog	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	Catalog	N/A	N/A

Sub-total	\$521,175.00	\$544,130.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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
Other Expenses	\$891,190.00	\$890,585.00		\$0.00	
Equipment Delivery and Handling Charges	<i>\$250,000.00</i>	\$250,000.00	Delivery and Logistics for Equipment to Willis Tower Building. Elevator and Freight Dock Considerations. Special elevator lifts. See attached rate sheet from Willis Tower Building Management.	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$45,000.00</i>	\$45,000.00	Disposal of Glycol, Transformer Oil, Old Antenna, etc. from Willis Tower Building.	N/A	N/A
Non-zoning permits	<i>\$19,000.00</i>	\$19,000.00	Building Permits, Electrical, and Mechanicals. Willis Tower Building City of Chicago	N/A	N/A
Local Zoning	<i>\$0.00</i>	\$0.00	N/A	N/A	N/A

Illinois and Chicago Sales Tax	\$512,500.00	\$512,500.00	Estimated Chicago and Illinois Sales Tax on Equipment. The sales tax rate in the City of Chicago is 10.25%. Total Estimated Sales Tax on equipment at the 10.25% rate.	N/A	N/A
MVPD Notification of Channel Change	\$5,000.00	\$5,000.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	\$1,500.00	\$1,500.00	N/A	N/A	N/A
Equipment Storage	\$45,000.00	\$45,000.00	Equipment Storage off site until needed on site.	N/A	N/A
FCC Filing Fees - Form 2100 license to cover application	\$335.00	\$325.00	N/A	N/A	N/A
FCC Filing Fees - Special Temporary Authorization request	\$195.00	\$190.00	Catalog	N/A	N/A
FCC Filing Fees - Form 2100 minor change CP application	\$1,110.00	\$1,070.00	Catalog	N/A	N/A

DTV Medical Facility Notification	\$11,550.00	\$11,000.00	Catalog	N/A	N/A
Sub-total	\$891,190.00	\$890,585.00	N/A	\$0.00	N/A
Total for all systems	\$12,425,532.00	\$11,363,156.00	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	\$12,425,532.00	\$11,363,156.00	\$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"> 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. 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 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. 	

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>Joseph M. Di Scipio <i>SVP, Legal and FCC Compliance</i></p> <p>09/17/2017</p>

Attachments