



(REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility **10802** | Service: **DTV** | Call **WTTW** | Channel: **47 (UHF)** |  
ID: | Sign: |  
File **0000028360**  
Number: |  
FRN: **0002860179** | Date **08/23**  
Submitted: **/2018**

## Applicant Information

### Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
<b>WINDOW TO THE WORLD COMMUNICATIONS, INC.</b>	Eshed Halpern	+1 (773) 509-5412	ehalpern@wttw.com	Not-for-Profit
Doing Business As: WINDOW TO THE WORLD COMMUNICATIONS, INC.	5400 NORTH ST. LOUIS AVE CHICAGO, IL 60625 United States			

## 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>Mike Tompary</b> <i>Window to the World Communications, Inc.</i>	5400 N. St. Louis Ave Chicago, IL 60625 United States	+1 (773) 509-2460	mtompary@wttw.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	Replace aux transmitter with new transmitter and place on air. Replace main transmitter and antenna and place on air at end of phase six. Reconfigure aux and antenna and place into standby.

**Transmitters**

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

**Auxiliary  
Transmitter****Existing Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	For backup if main transmitter fails
	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
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	Sigma CD Diamond Drive
	Year	2001
	Type	Inductive Output Tube
	IOT Power Type	Single
	Power Capacity	24 kW

**Auxiliary  
Transmitter****New Transmitter Costs**

Section	Question	Response
New Transmitter	Use	Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	ULXTED-20
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	10.8 kW
	Justification for New Transmitter	Due to channel reassignment need lower power transmitter and new exciters.

**Auxiliary  
Transmitter****Other Transmitter Costs**

Section	Question	Response
Electrical Service	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

**Auxiliary  
Transmitter**

**Other Transmitter Cost Not Listed**

Information not provided.

**Primary  
Transmitter**

**Existing Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	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
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	Sigma CD Diamond Drive
	Year	2001
	Type	Inductive Output Tube
	IOT Power Type	Single
	Power Capacity	24 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?	Yes
	Manufacturer	
	Model	ULXTED-20
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	10.8 kW
	Justification for New Transmitter	Due to channel reassignment need lower power transmitter and new exciters.

**Primary  
Transmitter**

**Other Transmitter Costs**

Section	Question	Response
Electrical Service	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	Yes

	Description	Electricians to remove old equipment and install new equipment. Relocate or remove and reinstall all electric work. To remove existing and hang new transmission line. To remove offsite all old equipment.
<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**

Name	Description
S and H	Shipping and Handling

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**Great Lakes Plumbing**

GL Plumbing to connect cooling system to  
building water

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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	Retune Existing
	Antenna Use	Auxiliary (Backup)
	Description of Use	Used as backup if main antenna fails
	Ownership	Owned
	Owner	N/A
	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	Side Mount
	Antenna position in stack	Middle
	Polarization	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	7
	Number of Panels	8

Design power capacity in use	100.0 %
Lower Limit	470.00 MHz
Upper Limit	700.00 MHz
Other Antenna Type	N/A
ERP: (Effective Radiated Power)	300.0 kW
Manufacturer	RFS
Model	PHP24C
Year	2004

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

Facility ID	Call Sign
10981	WCPX-TV
22211	WFLD
32334	WJYS
47905	WMAQ-TV
71428	WCIU-TV
72115	WGN-TV

**Auxiliary Antenna**

**Adjustment to Existing Antenna**

Section	Question	Response
<b>Sweep Test of Existing Antenna</b>	Do you need a sweep test of existing antenna?	Yes

**Auxiliary 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	

**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	Side Mount
	Antenna position in stack	Middle
	Polarization	Horizontal
	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) .....	300.0 kW

Manufacturer	
Model	ATW13H4 - HSC1 - 47S
Year	2001

**Primary  
Antenna**

**New Antenna Costs**

Section	Question	Response
<b>New Antenna Description</b>	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	Yes
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	Yes
<b>New Antenna Manufacturer and Types</b>	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Middle
	Polarization	Elliptical
	Type	Broadband Panel
	Number of Stations Supported	2
	Number of Panels/Bays	24
	Lower Limit	488.00 MHz
	Upper Limit	608.00 MHz
	Design power capacity in use	100.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power) .....	193.0 kW
	Manufacturer	
	Model	PEPL24C

	Year	2017
	Justification for New Antenna	Channel reassignment from repack

## Primary Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	2
	Frequencies of channels supported	Upper and lower frequency
	Frequency	488.0 MHz - 608.0 MHz
	Do you need a combiner output splitter /switcher for dual feed lines?	No
<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?	Yes
<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes

**Primary  
Antenna**

**Other Antenna Cost Not Listed**

Name	Description
<b>Radome Modifications</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Transmission Line Mounts</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Commissioning</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>RF Safety Coordination</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Outside Project Management</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Internal Transmission Line</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Equipment Storage</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Freight</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Transmission Line Installation</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Spine</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Delivery to Willis</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Structional Engineering</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System

<b>RFR Measurements</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Permitting</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Module</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Antenna Freight</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Antenna Installation</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Transmission Line</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Antenna Mounts</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Combiner Room Construction</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Tower Modifications</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Antenna Commissioning</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System
<b>Antenna Delivery to Willis</b>	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System

**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
<b>Existing Transmission Line Description</b>	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Use if main line fails
	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
<b>Existing Transmission Line Manufacturer and Type</b>	Manufacturer	
	Type	Rigid
	Diameter	4 1/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	100 feet per run

**Auxiliary** **New Transmission Line**  
**Transmission Line**

Section	Question	Response
<b>New Transmission Line Costs</b>	Use	Auxiliary (Backup)
	Description of Use	Use if main fails
	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	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	100 feet per run
	Justification for New Transmission Line	Additional power to antenna. See exhibit attached page 6

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

Name	Description
<b>Electrician Hanging</b>	Electrician to hang and remove old transmission lines.

**Primary**  
**Transmission Line**

**Existing Transmission Line**

Section	Question	Response
<b>Existing Transmission Line Description</b>	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
<b>Existing Transmission Line Manufacturer and Type</b>	Manufacturer	
	Type	Rigid
	Diameter	4 1/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	100 feet per run

**Primary**  
**Transmission Line**

**New Transmission Line**

Section	Question	Response
<b>New Transmission Line Costs</b>	Use	Primary (Main)
	Description of Use	N/A
	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	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	100 feet per run
	Justification for New Transmission Line	Additional power to antenna. See exhibit attached page 6

**Primary**  
**Transmission Line**

**Other Transmission Line Expenses Not Listed**

Name	Description
<b>Electrician Hanging</b>	Electrician to hang and remove old transmission line

**Tower Equipment And Rigging Costs**

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

**Auxiliary Tower**

**Existing Tower**

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Auxiliary (Backup)
	Description of Use	Use if main tower fails
	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?	Yes
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1032960
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	41° 52' 44.0" N-
	Longitude (NAD83)	087° 38' 08.0" W-
	Overall Structure Height	1722.09 feet
	Support Structure Height	1435.35 feet

	Ground Elevation Above Mean Sea Level (AMSL)	595.14 feet
	Structure Type	BMAST - Building with Mast
	Tower Owner	233 Broadcast, LLC
	Date Constructed	09/30/2012

**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
70042	WLIT-FM	FM
22211	WFLD	DTV
73226	WLS-TV	DTV
9617	WBBM-TV	DTV
47906	KNBC	DTV
51165	WGCI-FM	FM
74178	WKSC-FM	FM
28621	WJMK	FM
71428	WCIU-TV	DTV
72115	WGN-TV	DTV
48772	WPWR-TV	DTV
70119	WSNS-TV	DTV
32334	WJYS	DTV
71283	WCFS-FM	FM
9613	WBBM-FM	FM
10802	WTTW	DTV

10801	WFMT	FM
73228	WLS-FM	FM
10981	WCPX-TV	DTV
53971	WEBG	FM
6377	WTMX	FM
168662	WMEU-CD	DTV
71425	WWME-CD	DTV
66978	WEDE-CD	DTV

### Auxiliary Tower

#### Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	No study needed
Tower Reinforcements	Please select whether tower reinforcements are needed:	Major Reinforcements needed

### Auxiliary Tower

#### Tower Rigging Costs

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

### Auxiliary Tower

#### Other Tower Expenses Not Listed

Information not provided.

## 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?	Yes
	Is tower compliant with Rev G?	Yes
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
6377	WTMX	FM
66978	WEDE-CD	DTV
74178	WKSC-FM	FM
48772	WPWR-TV	DTV
71428	WCIU-TV	DTV
51165	WGCI-FM	FM
71283	WCFS-FM	FM
73228	WLS-FM	FM
73226	WLS-TV	DTV
47906	KNBC	DTV
28621	WJMK	FM
168662	WMEU-CD	DTV
22211	WFLD	DTV
10801	WFMT	FM
10802	WTTW	DTV
70119	WSNS-TV	DTV
10981	WCPX-TV	DTV
32334	WJYS	DTV
53971	WEBG	FM

71425	WWME-CD	DTV
70042	WLIT-FM	FM
9617	WBBM-TV	DTV
9613	WBBM-FM	FM
72115	WGN-TV	DTV

## Primary Tower

### Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	No study needed
Tower Reinforcements	Please select whether tower reinforcements are needed:	Major 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

Name	Description
WTTW T L Removal to 100 in smoke shaft	Removal of line in shaft from 109 to 100.
WTTW T L Removal RF Safety Coordination	RF safety coordination during line removal to shaft
SW Pole Decommission Prep. Work RF Safety Coord.	RF safety coordination for SW pole decom. prep work
Willis Tower Project Management	Willis Tower Project Management
WTTW Antenna Removal	Helicopter not required. Estimated 4 nights.

<b>SW Pole Material Removal and Disposal</b>	Removal and disposal of remaining SW pole material
<b>SW Pole Decommission Engineering</b>	Pole Decommission Engineering
<b>WTTW Transmission Line Removal to Smoke Shaft</b>	Estimated 5 nights of work to complete.
<b>WTTW Antenna Removal Engineering</b>	Antenna Removal Engineering
<b>WTTW Antenna Removal RF Safety Coordination</b>	Antenna Removal RF Safety Coordination
<b>SW Pole Decommission Preparation Work</b>	Estimated 10 nights of work for preparation.

**Outside  
Professional**

Section	Question	Response
<b>Services Costs Outside Project Management Services</b>	Do you require outside project management services?	Yes
	Number of Hours	500
	Explanation	Outside services, such as legal, engineering, consultant.
<b>Outside RF consulting Engineering Services</b>	Perform engineering study for new channel assignment and antenna development	No
	Prepare engineering section of Form FCC Construction Permit Application	No
	For Auxiliary Facility	N/A
	For Main Facility	N/A
	Prepare engineering section of Form FCC License to Cover Application	No
	For Auxiliary Facility	N/A
	For Main Facility	N/A
	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	No
	For Auxiliary Facility	N/A
	For Main Facility	N/A
	Prepare and file Form FCC License to Cover Application	Yes

	For Auxiliary Facility	Yes
	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	No
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	No
<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**

Services not provided.

## 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?	No
<b>Permit and Filing Costs</b>	Local Zoning	No
	Non-zoning permits	No
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	Yes
	FCC License to Cover Application	No
	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?	No
	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?	No

<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
<b>Primary Transmitter ULXTED-20</b>	<b>\$715,700.00</b>	<b>\$501,785.15</b>		<b>\$0.00</b>	
UHF - Liquid Cooled Solid State Transmitter 8.2 - 13 kW	\$494,500.00	\$280,585.15	N/A	N/A	N/A
Other Electrical Service: Electricians to remove old equipment and install new equipment. Relocate or remove and reinstall all electric work. To remove existing and hang new transmission line. To remove offsite all old equipment.	<i>\$174,400.00</i>	\$174,400.00	N/A	N/A	N/A
Great Lakes Plumbing	<i>\$35,000.00</i>	\$35,000.00	N/A	N/A	N/A
S and H	<i>\$11,800.00</i>	\$11,800.00	N/A	N/A	N/A
<b>Auxiliary Transmitter ULXTED-20</b>	<b>\$494,500.00</b>	<b>\$280,585.15</b>		<b>\$0.00</b>	

UHF - Liquid Cooled Solid State Transmitter 8.2 - 13 kW	\$494,500.00	\$280,585.15	N/A	N/A	N/A
<b>Sub-total</b>	\$1,210,200.00	\$782,370.30	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$5,551,221.67	\$3,295,221.97	N/A	\$322,116.60	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 PEPL24C</b>	<b>\$1,499,705.00</b>	<b>\$1,380,365.00</b>		<b>\$318,685.60</b>	
Transmission Line	<i>\$105,000.00</i>	\$105,000.00	N/A	\$111,298.10	Price increases since the Estimated Costs were entered,
Combiner Module	<i>\$60,000.00</i>	\$60,000.00	N/A	\$60,980.00	Price increases since the cost estimates were entered.
Combiner Commissioning	<i>\$7,720.00</i>	\$7,720.00	N/A	\$9,062.50	The combiner commissioning went through several different configurations based on the future participants. The settled upon configuration included additional days of installation and supervision on site.

Antenna Commissioning	<b>\$10,782.50</b>	\$10,782.50	N/A	\$16,482.50	The type of antenna was changed to a modular one of 10-foot sections to allow for transportation to the roof through the freight elevator to assemble and install. This would save money on hiring a helicopter to lift entire antenna to the roof.
UHF - High Power, Side Mount, broadband panel, 24 bay,, 193 kW input, directional,, elliptically or circularly polarized	<b>\$120,862.50</b>	\$120,862.50	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System	\$120,862.50	N/A
Antenna Delivery to Willis	<b>\$10,000.00</b>	\$10,000.00	N/A	N/A	N/A
Tower Modifications	<b>\$200,000.00</b>	\$200,000.00	N/A	N/A	N/A
Combiner Room Construction	<b>\$45,000.00</b>	\$45,000.00	See Willis Tower Preliminary Budget Overview WEST Tower RFS Antenna /Combiner System	N/A	N/A

Antenna Mounts	<b>\$15,000.00</b>	\$15,000.00	N/A	N/A	N/A
Antenna Installation	<b>\$200,000.00</b>	\$200,000.00	N/A	N/A	N/A
Antenna Freight	<b>\$12,500.00</b>	\$12,500.00	N/A	N/A	N/A
Permitting	<b>\$20,000.00</b>	\$20,000.00	N/A	N/A	N/A
RFR Measurements	<b>\$5,000.00</b>	\$5,000.00	N/A	N/A	N/A
Structional Engineering	<b>\$150,000.00</b>	\$150,000.00	N/A	N/A	N/A
Combiner Delivery to Willis	<b>\$10,000.00</b>	\$10,000.00	N/A	N/A	N/A
Combiner Spine	<b>\$20,000.00</b>	\$20,000.00	N/A	N/A	N/A
Transmission Line Installation	<b>\$75,000.00</b>	\$75,000.00	N/A	N/A	N/A
Combiner Freight	<b>\$5,000.00</b>	\$5,000.00	N/A	N/A	N/A
Equipment Storage	<b>\$1,000.00</b>	\$1,000.00	N/A	N/A	N/A
Internal Transmission Line	<b>\$75,000.00</b>	\$75,000.00	N/A	N/A	N/A
Outside Project Management	<b>\$92,500.00</b>	\$92,500.00	N/A	N/A	N/A
RF Safety Coordination	<b>\$75,000.00</b>	\$75,000.00	N/A	N/A	N/A
Transmission Line Mounts	<b>\$15,000.00</b>	\$15,000.00	N/A	N/A	N/A
Radome Modifications	<b>\$50,000.00</b>	\$50,000.00	N/A	N/A	N/A

Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$0.00	N/A	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$0.00	N/A	N/A	N/A
New combiner, cost per channel (without antenna)	\$84,200.00	\$0.00	N/A	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$0.00	N/A	N/A	N/A
<b>Auxiliary Antenna PHP24C</b>	<b>\$476,156.67</b>	<b>\$464,166.67</b>		<b>\$0.00</b>	
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	\$5,260.00	\$0.00	N/A	N/A	N/A
Sweep test of existing antenna	\$6,730.00	\$0.00	N/A	N/A	N/A

UHF – Broadband Panel, Side Mount Auxiliary /Interim, 300 horizontally polarized	<b>\$464,166.67</b>	\$464,166.67	N/A	N/A	N/A
<b>Sub-total</b>	\$1,975,861.67	\$1,844,531.67	N/A	\$318,685.60	N/A
<b>Total for all systems</b>	\$5,551,221.67	\$3,295,221.97	N/A	\$322,116.60	N/A

## Components

Actual Information	
Description	File Name
Transmission Line	<b>Component Description:</b> Transmission Line <b>Amount:</b> \$111,298.10
Combiner Module	<b>Component Description:</b> Combiner, Module <b>Amount:</b> \$60,980.00
Combiner Commissioning	<b>Component Description:</b> Combiner Commissioning <b>Amount:</b> \$9,062.50
Antenna Commissioning	<b>Component Description:</b> Antenna Commissioning <b>Amount:</b> \$16,482.50

UHF - High Power, Side Mount, broadband panel, 24 bay,, 193 kW input, directional,, elliptically or circularly polarized	<p><b>Component Description:</b></p> <p>UHF High Power, Side Mount, Broadband panel, 24Bay 193kW input, Directional, Elliptically or circular polarized</p> <p><b>Amount:</b></p> <p>\$120,862.50</p>
Antenna Delivery to Willis	Information not provided.
Tower Modifications	Information not provided.
Combiner Room Construction	Information not provided.
Antenna Mounts	Information not provided.
Antenna Installation	Information not provided.
Antenna Freight	Information not provided.
Permitting	Information not provided.
RFR Measurements	Information not provided.
Structional Engineering	Information not provided.
Combiner Delivery to Willis	Information not provided.
Combiner Spine	Information not provided.
Transmission Line Installation	Information not provided.
Combiner Freight	Information not provided.
Equipment Storage	Information not provided.
Internal Transmission Line	Information not provided.
Outside Project Management	Information not provided.
RF Safety Coordination	Information not provided.
Transmission Line Mounts	Information not provided.
Radome Modifications	Information not provided.

Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.
New combiner, cost per channel (without antenna)	Information not provided.
Sweep test of existing antenna	Information not provided.
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.
Sweep test of existing antenna	Information not provided.
UHF – Broadband Panel, Side Mount Auxiliary /Interim, 300 horizontally polarized	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	\$30,200.00	\$29,000.00		\$0.00	
Electrican Hanging	<i>\$10,000.00</i>	\$10,000.00	N/A	N/A	N/A
Rigid Transmission Line - copper, 6 1/8"	\$20,200.00	\$19,000.00	N/A	N/A	N/A
Auxiliary Transmission Line	\$30,200.00	\$29,000.00		\$0.00	
Electrican Hanging	<i>\$10,000.00</i>	\$10,000.00	N/A	N/A	N/A
Rigid Transmission Line - copper, 6 1/8"	\$20,200.00	\$19,000.00	N/A	N/A	N/A
Sub-total	\$60,400.00	\$58,000.00	N/A	\$0.00	N/A
Total for all systems	\$5,551,221.67	\$3,295,221.97	N/A	\$322,116.60	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
Auxiliary Tower BMAST	\$842,000.00	\$0.00		\$0.00	
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$0.00	N/A	N/A	N/A
Major tower reinforcement /modifications	\$421,000.00	\$0.00	N/A	N/A	N/A
Primary Tower BTWR	\$1,349,500.00	\$507,500.00		\$0.00	
WTTW Antenna Removal Engineering	\$30,000.00	\$30,000.00	N/A	N/A	N/A
WTTW Antenna Removal RF Safety Coordination	\$10,000.00	\$10,000.00	N/A	N/A	N/A
WTTW T L Removal RF Safety Coordination	\$12,500.00	\$12,500.00	N/A	N/A	N/A
Willis Tower Project Management	\$27,500.00	\$27,500.00	N/A	N/A	N/A

SW Pole Decommission Prep. Work RF Safety Coord.	<b>\$12,500.00</b>	\$12,500.00	N/A	N/A	N/A
SW Pole Decommission Preparation Work	<b>\$50,000.00</b>	\$50,000.00	N/A	N/A	N/A
WTTW Transmission Line Removal to Smoke Shaft	<b>\$50,000.00</b>	\$50,000.00	N/A	N/A	N/A
SW Pole Decommission Engineering	<b>\$32,500.00</b>	\$32,500.00	N/A	N/A	N/A
WTTW T L Removal to 100 in smoke shaft	<b>\$40,000.00</b>	\$40,000.00	N/A	N/A	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$0.00	N/A	N/A	N/A
SW Pole Material Removal and Disposal	<b>\$25,000.00</b>	\$25,000.00	N/A	N/A	N/A
WTTW Antenna Removal	<b>\$40,000.00</b>	\$40,000.00	N/A	N/A	N/A
Tower Helicopter Lift	<b>\$177,500.00</b>	\$177,500.00	N/A	N/A	N/A
Major tower reinforcement /modifications	\$421,000.00	\$0.00	N/A	N/A	N/A

<b>Sub-total</b>	\$2,191,500.00	\$507,500.00	N/A	\$0.00	N/A
<b>Total for all systems</b>	\$5,551,221.67	\$3,295,221.97	N/A	\$322,116.60	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>\$107,150.00</b>	<b>\$96,750.00</b>		<b>\$3,431.00</b>	
Project management of the transition	\$79,000.00	\$70,000.00	N/A	\$1,797.50	N/A
RF Exposure Measurements	\$21,050.00	\$20,000.00	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	\$274.50	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	\$783.00	N/A
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	\$2,105.00	\$2,000.00	N/A	\$576.00	N/A
<b>Sub-total</b>	<b>\$107,150.00</b>	<b>\$96,750.00</b>	<b>N/A</b>	<b>\$3,431.00</b>	<b>N/A</b>
<b>Total for all systems</b>	<b>\$5,551,221.67</b>	<b>\$3,295,221.97</b>	<b>N/A</b>	<b>\$322,116.60</b>	<b>N/A</b>

### Components

Actual Information	
Description	File Name
Project management of the transition	<b>Component Description:</b> Preparation of 2100 CP application and maximization application <b>Amount:</b> \$1,657.50
	<b>Component Description:</b> email on FCC post-auction transition procedures and payments <b>Amount:</b> \$50.50
	<b>Component Description:</b> Email regarding auction closing and channel reassignment <b>Amount:</b> \$50.50
	<b>Component Description:</b> Analysis and review of FCC online databases, etc. <b>Amount:</b> \$39.00
RF Exposure Measurements	Information not provided.

Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	<div> <b>Component Description:</b> ungranted repack applications</div> <div> <b>Amount:</b> \$50.50</div>
	<div> <b>Component Description:</b> regarding repack transition report and form 2100 schedule 387 availability</div> <div> <b>Amount:</b> \$56.00</div>
	<div> <b>Component Description:</b> repack process and timing</div> <div> <b>Amount:</b> \$168.00</div>
Prepare and or review reimbursement form	<div> <b>Component Description:</b> Analysis of reimbursement form</div> <div> <b>Amount:</b> \$78.00</div>
	<div> <b>Component Description:</b> Analysis and research for reimbursement form</div> <div> <b>Amount:</b> \$156.00</div>
	<div> <b>Component Description:</b> Prepare &amp; review reimbursement form</div> <div> <b>Amount:</b> \$112.00</div>
	<div> <b>Component Description:</b> Email regarding form 1876</div> <div> <b>Amount:</b> \$101.00</div>
	<div> <b>Component Description:</b> Review form 399 estimates</div> <div> <b>Amount:</b> \$336.00</div>

Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	<b>Component Description:</b>		preparation of construction permit application and form 399 application
	<b>Amount:</b>		\$498.00
	<b>Component Description:</b>		review construction permit application
	<b>Amount:</b>		\$78.00

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	\$6,110.00	\$6,070.00		\$0.00	
Develop and air announcement of upcoming 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>\$0.00</i>	\$0.00	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
Equipment Storage	<i>\$0.00</i>	\$0.00	N/A	N/A	N/A
Sub-total	\$6,110.00	\$6,070.00	N/A	\$0.00	N/A
Total for all systems	\$5,551,221.67	\$3,295,221.97	N/A	\$322,116.60	N/A

Components

Information not provided.

**Cost  
Information****Grand Total**

	<b>Predetermined Cost Estimate</b>	<b>Estimated Cost</b>	<b>Actual Cost</b>
<b>Total for all systems</b>	\$5,551,221.67	\$3,295,221.97	\$322,116.60

**Reimbursement Status**

<b>Question</b>	<b>Response</b>
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>Paul Gosiewski</b> <i>Director of Finance</i></p> <p>08/23/2018</p>

Certification	Section	Question	Response
	Submission of Actual Cost Documentation Statements	<p>WILLFUL FALSE, FRAUDULENT, OR FICTITIOUS 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 AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).</p>	
		<ol style="list-style-type: none"> <li>1. The Authorized Person signing below certifies and represents 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 certifies that the statements in this form and attached documentation are true, complete, and correct.</li> <li>3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> </ol>	

4. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.
5. 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 (full power and Class A stations) and/or otherwise modify a television station's facility as a result of the spectrum repack (LPTV/TV Translator stations); or to minimize service disruption resulting from a repacked television station (FM stations); or to continue to carry the signal of a broadcaster that changes channels (MVPD) .
6. 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.
7. The above-named entity certifies that the cost information /documents submitted reflect costs actually incurred.

<p>8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.</p> <p>9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite 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>Paul Gosiewski</b>  <i>Director of Finance</i></p> <p>08/23/2018</p>

## Attachments