Approved by OMB (Office of Management and Budget) 3060-1178

Federal Communications Commission

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility ID: **12499** | Service: **DTV** | Call Sign: **WPSG** | Channel: **33 (UHF)**

File Number: **0000027372**

FRN: **0003742608** | Date Submitted: **09/06/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
PHILADELPHIA TELEVISION STATION WPSG, INC. Doing Business As: PHILADELPHIA TELEVISION STATION WPSG, INC.	Daniel G. Ryson 1725 DESALES ST NW SUITE 501 WASHINGTON, DC 20036 United States	+1 (202) 457-4074	DRYSON@CBS.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
Daniel G Ryson *Associate Director of Spectrum Management* *CBS*	Daniel G. Ryson 1725 DeSales Street NW Suite 501 Washington, DC 20036 United States	+1 (202) 457-4074	dryson@cbs.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	New side mount antenna for interim use will be installed on tower ASR 1023152 while new top mount stacked UHF ch 33 antenna is mounted on tower ASR 1035474.

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	Sigma CD200P2
	Year	1999
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	50 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-80
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	50.6 kW
	Justification for New Transmitter	Manufacturer cannot retune any IOT transmitters (Attachment 1) and the proposed solid-state transmitter (Attachment 2) is less expensive than a new IOT transmitter (Attachment 3). See Statement and Attachment 7 for additional justification.

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	Yes
	Size	4 inches
	Length	75.0 feet
	Other Electrical Service	Yes
	Description	100 feet each of two-inch and three-inch conduit.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	5 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	No
	Size	N/A
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
Shipping	Transmitter Shipping. See Attachment 18, Page 1.
RF Accessories, Switching	Various RF Accessories and Inside RF Switching required by repack transmitter. See Attachment 18, Item C.
Electrical Accessories	150 kVA Transformer and Parallel Surge Suppressor. Required for reliable operation of primary transmitter. See Attachment 18, Item D.

Interim Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Interim
	Description of Use	N/A
	Change Type	Purchase
	Manufacturer	
	Model	Maxiva ULXTE-40
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	25 kW
	Justification for New Transmitter	Interim transmitter for UHF 32 use while main transmitter, antenna, and T/L are replaced for operation on UHF 33.

Interim 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	Yes
	Size	4 inches

	Length	50.0 feet
	Other Electrical Service	Yes
	Description	One hundred feet each of two-inch and three-inch conduit.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	5 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	No
	Size	N/A
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
Shipping	Transmitter Shipping. See Attachment 4, Page 1.
RF Accessories	Various RF Accessories required by repack transmitter. See Attachment 4, Item C.

Electrical Accessories	150 kVA Transformer and Parallel Surge Suppressor. Required for reliable operation of primary transmitter. See Attachment 4, Item D.

Antennas

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

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	Bottom
	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)	800.0 kW

Manufacturer	
Model	TFU-26GTH-R-C190SP
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?	Yes
	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)	800.0 kW
	Manufacturer	

Model	TFU-24ETT /VP-R 4C150
Year	2019
Justification for New Antenna	Existing antenna cannot be retuned.

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	6 1/8 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?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Name	Description
Wedding Cake Adapter	Mechanical adapter for top mounting in a stack. See Attachment 5.
Feed Through Components	Elbows, cut lengths and hangers required to route transmission line from antenna input through antenna below into tower. See Attachment 5.

Interim Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	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 Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	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)	190.6 kW
	Manufacturer	
	Model	TFU-16WB /VP C160
	Year	2018

	Justification for New Antenna	Off site use due to construction of post transition facility.

Interim Antenna

Other Antenna Costs

Section	Question	Response
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	No
	Broadband or Single Channel?	N/A
	Feed Line Size	N/A
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an 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

Interim Antenna

Other Antenna Cost Not Listed

Information not provided.

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	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	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1241 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	6 1/8 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1386 feet per run
	Justification for New Transmission Line	Existing segments incorrect match for new channel.

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

Interim Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	6 1/8 inches
	Segment Length	Broadband
	Other Segment Length	
	Number of parallel runs	1
	Length	800 feet per run
	Justification for New Transmission Line	New interim site requires new T/L

Interim Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

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

Add Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Auxiliary (Backup)
	Description of Use	Post-Transition Primary
	Ownership	Leased
	Is this tower consider Complex?	No
	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?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1035474
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	40° 02' 33.0" N-
	Longitude (NAD83)	075° 14' 32.0" W-
	Overall Structure Height	1276.23 feet
	Support Structure Height	1272.95 feet

Ground Elevation Above Mean Sea Level (AMSL)	242.78 feet
Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	ABC, INC. DBA = WPVI-TV
Date Constructed	10/23/1998

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
8616	WPVI-TV	DTV
25453	KYW-TV	DTV

Auxiliary Tower

Tower Modification Costs

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

Auxiliary Tower

Tower Rigging Costs

Section	Question	Response

Tower Rigging Costs	Complex Tower	N/A
Helicopter Services Required	Are helicopter services required?	No

Auxiliary Tower

Other Tower Expenses Not Listed

Information not provided.

Auxiliary Tower

Add Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Auxiliary (Backup)
	Description of Use	Interim
	Ownership	Leased
	Is this tower consider Complex?	
	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?	Unknown
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1023152
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	40° 02' 39.0" N-
	Longitude (NAD83)	075° 14' 25.0" W-
	Overall Structure Height	1116.13 feet
	Support Structure Height	1112.85 feet
	Ground Elevation Above Mean Sea Level (AMSL)	252.29 feet
	Structure Type	TOWER - Free Standing or Guyed Structure

Tower Owner	ABC INC DBA = WPVI-TV
Date Constructed	01/01/1957

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
8616	WPVI-TV	DTV
25453	KYW-TV	DTV

Auxiliary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for undocumented /poorly documented tower
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	Other
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?	Candelabra
	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	1231524
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	40° 02' 30.1" N-
	Longitude (NAD83)	075° 14' 10.1" W-
	Overall Structure Height	1254.91 feet
	Support Structure Height	1124.00 feet
	Ground Elevation Above Mean Sea Level (AMSL)	292.98 feet
	Structure Type	GTOWER - Guyed Structure Used for Communication Purposes

Tower Owner	Global Tower, LLC. through American Towers, LLC
Date Constructed	11/02/2011

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
1283	WDPN-TV	DTV
28628	WIP-FM	FM
60560	WUVP-DT	DTV
63153	WCAU	DTV
65190	WRTI	FM
12211	WPPZ-FM	FM
30572	WPHI-FM	FM
7623	WGTW-TV	DTV
51434	WTDY-FM	FM
9622	WOGL	FM
51984	WPPX-TV	DTV
28480	WPPT	DTV
74213	WXTU	FM

Primary Tower

Tower Modification Costs

Section	Question	Response

Engineering Study	Please what type of engineering study is required, if any:	Study needed for undocumented /poorly documented tower
Tower Reinforcements	Please select whether tower reinforcements are needed:	No reinforcements needed

Primary Tower

Tower Rigging Costs

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

Primary Tower

Other Tower Expenses Not Listed

Name	Description
Structural Engineering	Rigorous Structural analysis to access the structural capacity and modifications needed to accommodate the repacked equipment. See Attachment 9 Line 3-A-1.
Site Coordination Meeting	Site coordination meetings with tower owner, other broadcasters, contractors, and vendors involved with the site deliveries and construction. See Attachment 9 Line 1-B-1.
Tower Project Management	Project management fee from tower owner. Scheduling and management of the timelines and schedules occurring during the repack. See Attachment 9 Line 1-A-1.

Outside Professional Services Costs

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	250
	Explanation	Company lacks sufficient internal resources.
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	No
	For Main Facility	Yes
	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	Yes
	Quantity	1
	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	No
	For Auxiliary Facility	N/A
	For Main Facility	N/A
	Prepare and file 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
	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	No
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
RF Field Engineering Services	Comprehensive coverage verification via field study	No
	RF exposure measurements	No
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Information not provided.

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	No
	BLM or NFS Coordination	No
	FCC Construction Permit Minor Change	No
	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?	No
	Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	No
	Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses

Other Expenses Not Listed

Name	Description
Interim Bldg. Electrical Contractor	Interim Building Electrical Contractor.
Interim Bldg. Fire Detection	Interim Building Fire Detection & Suppression System.
Interim Bldg. GC and Mech. Contractor	Interim Building General Contractor and Mechanical Subcontractor
STL to Interim Site	Studio to Transmitter Link Hardware.
FCC Filing Fee - STL	FCC Filing Fee for Studio Transmitter Link Microwave

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 Maxiva ULXTE-40	**$1,220,343.36**	**$1,045,356.88**		**$580,037.92**	
Electrical Accessories	***$7,380.82***	$7,380.82	Transmitter Electrical Accessories. Includes Step-Down Transformer and Surge Suppressor. See Attachment 4, Item D.	$2,460.27	N/A
RF Accessories	***$78,062.54***	$78,062.54	RF Accessories Required for Transmitter. Please See Attachment 4, Item C.	$26,020.85	N/A
Shipping	***$7,700.00***	$7,700.00	Transmitter Shipping. Please see Attachment 4, Page 1.	N/A	N/A
UHF inside RF system including switching	$147,500.00	$140,000.00	N/A	N/A	N/A
5 Ton system	$20,250.00	$19,250.00	Widelity Cost Catalog estimate	N/A	N/A

Other Electrical Service: One hundred feet each of two-inch and three-inch conduit.	***$7,400.00***	$7,400.00	Required to power transmitter equipment.	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW	$947,000.00	$780,763.52	See Attachment 2, Items A, B, and E.	$551,556.80	N/A
4" Rigid Conduit and Wiring (Cost per foot)	$5,050.00	$4,800.00	N/A	N/A	N/A
Primary Transmitter ULXTED-80	**$1,660,840.43**	**$1,659,465.43**		**$502,839.60**	
Electrical Accessories	***$15,592.24***	$15,592.24	Transmitter Electrical Accessories. Includes Step-Down Transformer and Parallel Surge Suppressor. See Attachment 18 - Item D.	N/A	N/A
RF Accessories, Switching	***$204,253.19***	$204,253.19	RF Accessories and Switchless Combiner. Replaces Similar Existing Combiner. See Attachment 18 Item C.	N/A	N/A

Shipping	***$17,300.00***	$17,300.00	Transmitter Shipping from Factory. See Attachment 18, Page 1.	N/A	N/A
5 Ton system	$20,250.00	$19,250.00	Widelity Cost Catalog estimate	N/A	N/A
Other Electrical Service: 100 feet each of two-inch and three-inch conduit.	***$7,400.00***	$7,400.00	100 feet each of two-inch and three-inch conduit. Widelity Cost Catalog pricing used.	N/A	N/A
4" Rigid Conduit and Wiring (Cost per foot)	$7,575.00	$7,200.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 50.6 kW	***$1,388,470.00***	$1,388,470.00	This cost is for an IOT transmitter capable of meeting the HPol-only ERP. See Engineering Statement, Attachment 3, and Attachment 7.	$502,839.60	N/A
Sub-total	$2,881,183.79	$2,704,822.31	N/A	$1,082,877.52	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name	
Electrical Accessories	**Component Description:** **Amount:**	1/3 progress payment. Invoice icludes cost of transmitter, mask filter, installation, RF Accessories, and Electrical. Only the Electrical Accessories are shown here. $2,460.27
RF Accessories	**Component Description:** **Amount:**	1/3 progress payment. Invoice includes cost of transmitter, mask filter, installation, RF Accessories, and Electrical. Only the RF Accessories are shown here. $26,020.85
Shipping	Information not provided.	
UHF inside RF system including switching	Information not provided.	
5 Ton system	Information not provided.	
Other Electrical Service: One hundred feet each of two-inch and three-inch conduit.	Information not provided.	

UHF - Liquid Cooled Solid State Transmitter 21 - 31 kW	**Component Description:** **Amount:** **Component Description:** **Amount:**	1/3 progress payment. Invoice includes cost of transmitter, mask filter, installation, RF Accessories, and Electrical. Only the transmitter, mask filter, and installation is shown here. $260,254.51 1/3 Down Payment, Interim Transmitter. See Quote Provided as Attachment 4. $291,302.29
4" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	
Electrical Accessories	Information not provided.	
RF Accessories, Switching	Information not provided.	
Shipping	Information not provided.	
5 Ton system	Information not provided.	
Other Electrical Service: 100 feet each of two-inch and three-inch conduit.	Information not provided.	
4" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	

UHF - Liquid Cooled Solid State Transmitter 50.6 kW	**Component Description:**	Transmitter 1/3 Down Payment. See Attachment 19 and Attachment 18 - Revised Transmitter Quote Q-74288.
	Amount:	$502,839.60

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
Interim Antenna TFU-16WB /VP C160	**$138,240.00**	**$135,328.00**		**$0.00**	
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	N/A	N/A
UHF - Lower Power Side Mount, One Station antenna . medium power (50-200 kW), elliptically or circularly polarized	$103,100.00	$101,928.00	Please see Attachment 8, Line 1. The estimate includes a broadband elbow complex (Attachment 8, Line 3) and excludes vertical polarization cost.	N/A	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	$23,150.00	$22,000.00	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	$5,000.00	N/A	N/A	N/A
Primary Antenna TFU-24ETT /VP-R 4C150	**$357,486.00**	**$263,962.00**		**$237,565.80**	
Feed Through Components	***$20,906.00***	$20,906.00	Required elbows, cut lengths and hangers to route line from antenna input through antenna below into tower. See Attachment 23.	$18,815.40	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	See Attachment 5.	$5,760.00	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$198,308.00	See Attachment 23 Line 1 (cost of vertical polarization component subtracted from cost shown.)	$178,477.20	N/A

Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$10,298.00	See Attachment 23.	$9,268.20	N/A
Wedding Cake Adapter	***$28,050.00***	$28,050.00	Required to top mount antenna in a stack. See Attachment 23.	$25,245.00	N/A
Sub-total	$495,726.00	$399,290.00	N/A	$237,565.80	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name
Sweep test of existing antenna	Information not provided.
UHF - Lower Power Side Mount, One Station antenna . medium power (50-200 kW), elliptically or circularly polarized	Information not provided.
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	Information not provided.

Feed Through Components	**Component Description:**	Invoice includes cost of antenna, upgraded V-Pol, and Wedding Cake Adapter. Only the Feed Through Components Progress Payment is shown here.
	Amount:	$9,407.70
	Component Description:	Invoice includes cost of antenna, line, and various other components. Only the Feed Through Components Down Payment is shown here.
	Amount:	$9,407.70
Sweep test of existing antenna	**Component Description:**	Invoice includes cost of antenna, line, and various other components. Only the Antenna Sweep Down Payment is shown here.
	Amount:	$2,880.00
	Component Description:	Invoice includes cost of antenna, line, and various other components. Only the Antenna Sweep Progress Payment is shown here.
	Amount:	$2,880.00

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	**Component Description:**	Invoice includes cost of antenna, line, and various other components. Only the comparable antenna progress payment is shown here. CBS will not seek reimbursement for the V-Pol upgrade now or in the future.
	Amount:	$89,238.60
	Component Description:	Invoice includes cost of antenna, line, and various other components. Only the comparable antenna down payment is shown here. CBS will not seek reimbursement for the V-Pol upgrade now or in the future.
	Amount:	$89,238.60

Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:**	Invoice includes cost of antenna, line, and various other components. Only the Elbow Complex Progress Payment is shown here.
	Amount:	$4,634.10
	Component Description:	Invoice includes cost of antenna, line, and various other components. Only the Elbow Complex Down Payment is shown here.
	Amount:	$4,634.10
Wedding Cake Adapter	**Component Description:**	Invoice includes cost of antenna, upgraded V-Pol, and Wedding Cake Adapter. Only the Wedding Cake Adapter Progress Payment is shown here.
	Amount:	$12,622.50
	Component Description:	Invoice includes cost of antenna, upgraded V-Pol, and Wedding Cake Adapter. Only the Wedding Cake Adapter Down Payment is shown here.
	Amount:	$12,622.50

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
Interim Transmission Line	**$185,600.00**	**$153,130.60**		**$0.00**	
Rigid Transmission Line - copper, 6 1 /8" broadband	$185,600.00	$153,130.60	See Attachment 8, Line 2.	N/A	N/A
Primary Transmission Line	**$279,972.00**	**$190,666.00**		**$171,599.40**	
Rigid Transmission Line - copper, 6 1/8"	$279,972.00	$190,666.00	See Attachment 5 Line 6.	$171,599.40	N/A
Sub-total	$465,572.00	$343,796.60	N/A	$171,599.40	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name
Rigid Transmission Line - copper, 6 1/8" broadband	Information not provided.

Rigid Transmission Line - copper, 6 1/8"	**Component Description:**	Invoice includes cost of antenna, line, and various other components. Only the Transmission Line Progress Payment is shown here.
	Amount:	$85,799.70
	Component Description:	Invoice includes cost of antenna, line, and various other components. Only the Transmission Line Down Payment is shown here.
	Amount:	$85,799.70

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 TOWER	**$236,800.00**	**$112,500.00**		**$3,950.00**	
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$12,500.00	50% of Widelity Cost Catalog pricing. Half of cost is shared with KYW-TV (Facility ID 25453).	$3,950.00	N/A
Tall Tower (greater than 500')	$210,500.00	$100,000.00	50% of Widelity Cost Catalog pricing. Half of cost is shared with KYW-TV.	N/A	N/A
Auxiliary Tower TOWER	**$868,300.00**	**$412,500.00**		**$8,750.00**	
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$12,500.00	50% of Widelity Cost Catalog pricing. Half of cost is shared with KYW-TV.	$8,750.00	N/A

Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$200,000.00	50% of Widelity Cost Catalog pricing. Half of cost is shared with KYW-TV (Facility ID 25453). Tower is complex due to stacked antennas.	N/A	N/A
Major tower reinforcement /modifications	$421,000.00	$200,000.00	50% of Widelity Cost Catalog pricing. Half of cost is shared with KYW-TV.	N/A	N/A
Primary Tower GTOWER	**$456,355.00**	**$199,255.00**		**$0.00**	
Site Coordination Meeting	***$1,667.00***	$1,667.00	Site coordination meetings with tower owner, other broadcasters, contractors, and vendors involved with the site deliveries and construction. See Attachment 9 Line 1-B-1.	N/A	N/A

Tower Project Management	***$2,500.00***	$2,500.00	Project management fee from tower owner. Scheduling and management of the timelines and schedules occurring during the repack. See Attachment 9 Line 1-A-1.	N/A	N/A
Structural Engineering	***$4,888.00***	$4,888.00	Rigorous Structural analysis to access the structural capacity and modifications needed to accommodate the repacked equipment. See Attachment 9 Line 3-A-1.	N/A	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$184,000.00	Antenna to be removed is the top of a stack on a candelabra. Transmission line to be removed. See Attachment 9 Line 3-C-1.	N/A	N/A

Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$6,200.00	Structural tower mapping to ensure the proper structural information is relayed to engineering for the rigorous structural assessment for the proposed repack equipment. See Attachment 9 line 3-A-1.	$0.00	N/A
Sub-total	$1,561,455.00	$724,255.00	N/A	$12,700.00	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name

Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	**Component Description:**	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$3,950.00
	Component Description:	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$3,950.00
	Component Description:	This is a duplicated invoice, which has been superseded by Attachment 10C. Please permanently delete or reject this invoice as an administrative correction.
	Amount:	N/A
Tall Tower (greater than 500')	Information not provided.	
Tower mapping for an undocumented/poorly		

documented tower and preparation of documentation necessary for tower load study	**Component Description:**	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$4,375.00
	Component Description:	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$4,375.00
	Component Description:	This is a duplicated invoice, which has been superseded by Attachment 11C. Please permanently delete or reject this invoice as an administrative correction.
	Amount:	N/A

	Component Description:	This is a duplicated invoice, which has been superseded by Attachment 12C. Please permanently delete or reject this invoice as an administrative correction.
	Amount:	N/A
	Component Description:	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$4,375.00
	Component Description:	Invoice is for a 50% Down payment. Because this expense is shared with KYW-TV Facility ID 25453, WPSG seeks reimbursement for only half of the Total Invoice Amount.
	Amount:	$4,375.00
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.	

Major tower reinforcement /modifications	Information not provided.
Site Coordination Meeting	Information not provided.
Tower Project Management	Information not provided.
Structural Engineering	Information not provided.
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.
Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	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	**$58,905.00**	**$55,500.00**		**$2,550.00**	
Project management of the transition	$39,500.00	$37,500.00	N/A	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
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$1,175.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	$3,155.00	$3,000.00	N/A	$1,375.00	N/A
Prepare request for Special Temporary Authorization	$2,050.00	$1,500.00	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
Sub-total	$58,905.00	$55,500.00	N/A	$2,550.00	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name
Project management of the transition	Information not provided.
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.
Perform engineering study for new channel assignment and antenna development	**Component Description:** Further interference study **Amount:** $562.50 **Component Description:** Preliminary interference study. **Amount:** $612.50
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	**Component Description:** Prepare FCC Form 2100 CP Application, Engineering Section. **Amount:** $1,375.00
Prepare request for Special Temporary Authorization	Information not provided.

Attorney Fees - Negotiation of lease and other matters for shared locations	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	**$951,982.29**	**$945,092.29**		**$340,146.20**	
FCC Filing Fee - STL	***$170.00***	$170.00	See FCC Wireless Bureau Fee Filing Guide (Attachment 32) page 19.	$170.00	N/A
Interim Bldg. Fire Detection	***$75,240.00***	$75,240.00	Interim Building Fire Detection and Suppression System. See Attachment 27. Site is to be used by KYW-TV and WPSG so only half of the quoted cost is shown here.	$30,096.00	N/A
MVPD Notification of Channel Change	***$1,000.00***	$1,000.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	***$15,000.00***	$15,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$20,000.00***	$20,000.00	N/A	N/A	N/A

FCC Filing Fees - Special Temporary Authorization request	$195.00	$190.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$4,675.00	See Quote in Attachment 32.	N/A	N/A
Interim Bldg. Electrical Contractor	***$449,270.50***	$449,270.50	Interim Building Electrical Contractor. See Attachment 27. Site is to be used by KYW-TV and WPSG so only half of the quoted cost is shown here.	$179,708.20	N/A
FCC Filing Fees - Form 2100 license to cover application	$335.00	$325.00	N/A	N/A	N/A
Local Zoning	***$5,000.00***	$5,000.00	N/A	N/A	N/A

STL to Interim Site	***$49,604.29***	$49,604.29	Studio-to-Transmitter link equipment, including transmitters, receivers, antennas, waveguide, and frequency coordination. See Attachments 29 and 31. System will be shared between repack stations KYW-TV and WPSG so 50% of cost is shown here.	$325.00	N/A
Interim Bldg. GC and Mech. Contractor	***$324,617.50***	$324,617.50	Interim Building General Contractor and Mechanical Subcontractor. See Attachment 27. Site is to be used by KYW-TV and WPSG so only half of the quoted cost is shown here.	$129,847.00	N/A
Sub-total	$951,982.29	$945,092.29	N/A	$340,146.20	N/A
Total for all systems	$6,414,824.08	$5,172,756.20	N/A	$1,847,438.92	N/A

Components

Actual Information Description	File Name	
FCC Filing Fee - STL	**Component Description:** **Amount:**	Please see Attachment 33. $170.00
Interim Bldg. Fire Detection	**Component Description:** **Amount:**	Invoice is down payment for building General Contractor, Mech subcontractor, Elec Contractor, and Fire Detection and Suppression. This cost is Fire Detection and Suppression. Site used by KYW-TV and WPSG so 50% of the quoted cost is shown here. $30,096.00
MVPD Notification of Channel Change	Information not provided.	
Equipment Delivery and Handling Charges	Information not provided.	
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.	
FCC Filing Fees - Special Temporary Authorization request	Information not provided.	
DTV Medical Facility Notification	Information not provided.	

Interim Bldg. Electrical Contractor	**Component Description:** **Amount:**	Invoice is down payment for building General Contractor, Mech subcontractor, Elec Contractor, and Fire Detection and Suppression. This cost is Elec. Contractor. Site used by KYW-TV and WPSG so 50% of the quoted cost is shown here. $179,708.20
FCC Filing Fees - Form 2100 license to cover application	Information not provided.	
Local Zoning	Information not provided.	
STL to Interim Site	**Component Description:** **Amount:**	Invoice is for frequency coordination of studio transmitter link. The non-reimbursable expedited Service Charge has been excluded. This system will be used by WPSG and KYW-TV so only 50% of reimbursable cost is shown here. $325.00

Interim Bldg. GC and Mech. Contractor	**Component Description:**	Invoice is down payment for building General Contractor, Mech subcontractor, Elec Contractor, and Fire Detection and Suppression. This cost is GC and Mech Contractor. Site used by KYW-TV and WPSG so 50% of the quoted cost is shown here.
	Amount:	$129,847.00

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$6,414,824.08	$5,172,756.20	$1,847,438.92

Reimbursement Status

Question	Response
The facility has ceased operating on its pre-auction channel.	Yes
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	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.	
	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.

	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.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Andrew J Siegel** *Assistant Secretary* 09/06/2019

Certification

Section	Question	Response
Submission of Actual Cost Documentation Statements	WILLFUL FALSE, FRAUDULENT, OR FICTITIOUS STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISIONMENT (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).	
	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. 2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct. 3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.	

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.

	8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 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.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Andrew J Siegel** *Assistant Secretary* 09/06/2019

Attachments