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: **72123** | Service: **DTV** | Call Sign: **WWJ-TV** | Channel: **21 (UHF)**

File Number: **0000026787**

FRN: **0003482189** | Date Submitted: **12/21/2018**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
CBS BROADCASTING INC. Doing Business As: CBS BROADCASTING 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) 457-4075	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 channel 21 TFU-18 antenna and 6-1 /8" line to be installed on the south arm of candelabra. Tower owner providing interim broad band antenna system to be leased.

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	SigmaCD-2200P2
	Year	1999
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	46 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-60
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	38.4 kW
	Justification for New Transmitter	GatesAir Won't Re-tune (See Exhibit 1). IOT replacement is more expensive (See Exhibit 2A). Proposed replacement is less expensive (Exhibit 3B). See also May 2018 Statement.

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	Various Main Site Electrical Work (See Exhibit 4).
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	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
State Sales Tax	Michigan Sales Tax of 6% on all products and services shown on Exhibit 3B.
GatesAir Site Survey	Advanced Site Survey Services. Includes as-built and future layout drawings. See Exhibit 3B Item F.

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?	No
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Top
	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)	425.0 kW

Manufacturer	
Model	TFU-18GTH
Year	1998

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?	No
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Top 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)	264.0 kW
	Manufacturer	
	Model	TFU-18GTH

	Year	2018
	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?	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 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

Information not provided.

Interim Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Leased
	Owner	American Tower Corporation
	Is antenna shared?	Yes
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Broadband Slot
	Number of Stations Supported	3
	Number of Panels/Bays	8
	Lower Limit	407.00 MHz
	Upper Limit	698.00 MHz
	Design power capacity in use	0.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	264.0 kW
	Manufacturer	
	Model	TFU-24 WB /VP-C160

	Year	2018
	Justification for New Antenna	Required for continued operation while main WWJ-TV antenna is replaced.

Interim 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	3
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	No
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	B
	Feed Line Size	7 3/16 inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an 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

Enter a list of RF channel numbers.

RF Channel Number
44
21
43

Interim Antenna

Other Antenna Cost Not Listed

Name	Description
Interim Antenna Rigging	Cost is for the labor to remove the old side-mount analog channel 62 antenna and waveguide, install the new transmission line, and install interim antenna.
Combiner Cage	24X20 fenced combiner cage area materials and installation. See Exhibit 7A
Install Combiner	Cost is for installing and proofing combiner.
Nitrogen Generator	Nitrogen Generator Upgrade. See Exhibit 7A.
New Electrical Panel	New HVAC electrical sub-panel for new AC unit required for the repack combiner area fed off of existing 480/208 main panel. This equipment is required to provide the existing power to the HVAC unit.
Interim Tower Rental	ATC site and tower rental Required for station to minimize on-air disruption, maintain coverage, and complete the tower work in a safe, timely manner. See Exhibit 7A.
Conduit	This cost includes 200 L/F of 2" conduit and conductor to adequately supply the HVAC unit.

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	1150 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	Broadband
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1150 feet per run
	Justification for New Transmission Line	Existing line segment length cannot be used on new channel.

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
RF Accessories	Coaxial Switch, Switch Controller, Dummy Load, etc. See Exhibit 9, Item C.

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	7 3/16 inches
	Segment Length	Broadband
	Other Segment Length	
	Number of parallel runs	1
	Length	995 feet per run
	Justification for New Transmission Line	Material costs for 995 foot 7-3/16" Broadband transmission line, three (3) elbows and a nitrogen generator for pressurization control on the line.

Interim Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Interim Coax Switch	Coaxial switch between interim transmitter and interim antenna combiner. Permits transmitter testing. (See Exhibit 3B, Items D and G.)
TX Line to Interim Combiner	Horizontal run of transmission line between transmitter and interim combiner. (See Exhibit 7A, last Page. Please disregard identical Items shown on Exhibit 3A, Items I and K.)

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?	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?	Unknown
	Is tower compliant with Rev G?	Unknown
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1003429
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	42° 26' 52.5" N-
	Longitude (NAD83)	083° 10' 23.1" W-
	Overall Structure Height	1086.93 feet
	Support Structure Height	1012.13 feet
	Ground Elevation Above Mean Sea Level (AMSL)	662.07 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	American Tower, LLC
Date Constructed	06/11/1999

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
6594	WNIC	FM
6592	WKQI	FM
16817	WTVS	DTV
59592	WJLB	FM
6056	WRCJ-FM	FM
59952	WDTW-FM	FM
74211	WMYD	DTV

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:	Minor 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
Permit Drawing Packages	Construction drawing packages for Tower and Ground Permits.
Structural Engineering	Rigorous Structural analysis to access the structural capacity and modifications needed to accommodate the repacked equipment (see Exhibit 6).
Tower Project Management	Project management fee for both the primary and interim antenna. See Exhibits 6B, 1-A-1 ($9,480) and 7B, 3-D-1 ($5,000). Scheduling and management of the timelines and schedules occurring during the repack.

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 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	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	No
	Quantity	N/A
	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	Yes
	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	Yes
	Additional Field Engineering Service	No
	Number of Days	N/A
	Justification	N/A

Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Site Coordination Meeting	Meeting to coordinate efforts among broadcasters, tower owner, and tower contractor.

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	No
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
Deinstall Old Transmitter	Deinstallation of present primary transmitter. (See Exhibit 3A Item G.)

Cost Information

Transmitters

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Transmitter ULXTED-60	**$1,625,834.31**	**$1,524,783.17**		**$424,059.72**	
GatesAir Site Survey	***$9,685.80***	$9,685.80	GatesAir Advanced Site Survey. Provides as-built and proposed facility layout drawings. (See Exhibit 3B, Item F.)	N/A	N/A
State Sales Tax	***$89,429.51***	$89,429.51	6% Michigan State Sales Tax on products and services shown on Exhibit 3B.	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	$1,473,000.00	$1,371,948.86	Please see May 2018 Statement and Exhibit 3B, Items A, B, C, and H.	$424,059.72	N/A

Other Electrical Service: Various Main Site Electrical Work (See Exhibit 4).	***$53,719.00***	$53,719.00	Various primary transmitter site electrical work. (See Exhibit 4)	N/A	N/A
Sub-total	$1,625,834.31	$1,524,783.17	N/A	$424,059.72	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information Description	**File Name**	
GatesAir Site Survey	Information not provided.	
State Sales Tax	Information not provided.	
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	**Component Description:** **Amount:**	1/3 Down payment for ULXTE-60 Main Transmitter. $424,059.72
Other Electrical Service: Various Main Site Electrical Work (See Exhibit 4).	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
Interim Antenna TFU-24 WB /VP-C160	**$301,213.00**	**$276,766.00**		**$207,575.00**	
Conduit	***$833.00***	$833.00	This cost includes 200 L/F of 2" conduit and conductor to adequately supply the HVAC unit (see Exhibit 7B).	$625.01	N/A
Interim Tower Rental	***$57,600.00***	$57,600.00	Rental fee for tower and ground space to support interim antenna, combiner, and interim transmitter. See Exhibit 7B.	$43,200.00	N/A

New Electrical Panel	***$1,667.00***	$1,667.00	New HVAC electrical sub-panel for new AC unit required for the repack combiner area HVAC unit and combiner monitoring (see Exhibit 7B).	$1,250.00	N/A
Nitrogen Generator	***$5,000.00***	$5,000.00	Please see Exhibit 7B	$3,750.00	N/A
Install Combiner	***$8,333.00***	$8,333.00	Cost is for installing and proofing combiner. See Exhibit 7B.	$6,250.00	N/A
Combiner Cage	***$5,000.00***	$5,000.00	24x20' fenced combiner cage area materials and installation with 10' privacy slats. See Exhibit 7B.	$3,750.00	N/A

Interim Antenna Rigging	***$55,000.00***	$55,000.00	Cost is for the labor to remove the old side-mount analog channel 62 antenna and waveguide and install new line and interim antenna. See Exhibit 7B.	$41,250.00	N/A
Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	$16,850.00	$3,333.00	Pro-rata share (see Exhibit 7B).	$2,500.00	N/A
New combiner, cost per channel (without antenna)	$84,200.00	$76,667.00	Pro-rata share (see Exhibit 7B).	$57,500.00	N/A
Sweep test of existing antenna	$6,730.00	$3,333.00	See Exhibit 7B	$2,499.99	N/A
UHF - High Power, Side Mount, basic slot antenna, 8 bay,, 264 kW input, directional,, elliptically or circularly polarized	***$60,000.00***	$60,000.00	Pro-rata share (see Exhibit 7B).	$45,000.00	N/A

Primary Antenna TFU-18GTH	**$296,230.00**	**$167,396.00**		**$0.00**	
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	$289,500.00	$160,996.00	Exhibit 5 Items 1 and 2, minus $16,950 cost of V-Pol.	N/A	N/A
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	N/A	N/A
Sub-total	$597,443.00	$444,162.00	N/A	$207,575.00	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information Description	File Name

Conduit	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 25% of the Interim Conduit. (See Exhibit 6C, 3-C-1)
	Amount:	$208.34
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 50% of the Interim Conduit. (See Exhibit 6C, 3-C-1)
	Amount:	$416.67

Interim Tower Rental	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This amount is 25% of Interim Site Rent, Exhibit 6C 1-B-1.
	Amount:	$14,400.00
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This amount is 50% of Interim Site Rent, Exhibit 6C 1-B-1.
	Amount:	$28,800.00

New Electrical Panel	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 25% of the Interim Site Electrical Sub Panels. (See Exhibit 6C, 3-C-6.)
	Amount:	$416.67
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 50% of the Interim Site Electrical Sub Panels. (See Exhibit 6C, 3-C-6.)
	Amount:	$833.33

Nitrogen Generator	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 25% of the Interim Nitrogen Generator. See Exhibit 6C, 3-D-1.
	Amount:	$1,250.00
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 50% of the Interim Nitrogen Generator. (See Exhibit 6C, 3-D-1.)
	Amount:	$2,500.00

Install Combiner	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Interim Combiner Installation, Exhibit 6C, 3-C-2.)
	Amount:	$2,083.33
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Interim Combiner Installation, Exhibit 6C, 3-C-2.)
	Amount:	$4,166.67

Combiner Cage	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 50% of the Interim Combiner Cage. (See Exhibit 6C, 3-C-3.)
	Amount:	$2,500.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 25% of the Interim Combiner Cage. (See Exhibit 6C, 3-C-3.)
	Amount:	$1,250.00

Interim Antenna Rigging	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Interim Antenna Installation, pro rata share. (See Exhibit 6C, 3-C-1.)
	Amount:	$13,750.00
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Interim Antenna Installation, pro rata share. (See Exhibit 6C, 3-C-1.)
	Amount:	$27,500.00

Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 50% of the Interim Antenna Elbow Complex. (See Exhibit 6C, 3-C-2.)
	Amount:	$1,666.67
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is for 25% of the Interim Antenna Elbow Complex. (See Exhibit 6C, 3-C-2.)
	Amount:	$833.33

New combiner, cost per channel (without antenna)	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of the Interim Combiner. (See Exhibit 6C, 3-C-1.)
	Amount:	$38,333.33
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of the Interim Combiner. (See Exhibit 6C, 3-C-1.)
	Amount:	$19,166.67

Sweep test of existing antenna	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Antenna Line sweep test. (See Exhibit 6C, 3-C-2.)
	Amount:	$1,666.66
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Antenna Line sweep test. (See Exhibit 6C, 3-C-2.)
	Amount:	$833.33

UHF - High Power, Side Mount, basic slot antenna, 8 bay,, 264 kW input, directional,, elliptically or circularly polarized	**Component Description:** <

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	**$417,247.54**	**$163,522.54**		**$84,375.00**	
Rigid Transmission Line - copper, 7 3 /16" broadband	$331,335.00	$77,610.00	Pro-rata Material costs for 995 foot 7-3 /16" Broadband transmission line and three (3) elbows (see Exhibit 7B).	$58,207.50	N/A
Interim Coax Switch	***$51,022.54***	$51,022.54	Coaxial switch between interim transmitter and combiner. Permits off-air testing of interim transmitter. Includes Installation. (See Exhibit 3B, Items D and G.)	N/A	N/A

TX Line to Interim Combiner	***$34,890.00***	$34,890.00	Horizontal run of transmission line between transmitter and interim combiner. Includes Installation. (See Exhibit 7B.)	$26,167.50	N/A
Primary Transmission Line	**$340,932.42**	**$252,598.12**		**$0.00**	
RF Accessories	***$74,132.42***	$74,132.42	Coaxial Switch, Switch Controller, Dummy Load, etc. See Exhibit 9, Item C.	N/A	N/A
Rigid Transmission Line - copper, 6 1 /8" broadband	$266,800.00	$178,465.70	Required for new antenna (see Exhibit 5).	N/A	N/A
Sub-total	$758,179.96	$416,120.66	N/A	$84,375.00	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information Description	File Name

Rigid Transmission Line - copper, 7 3/16" broadband	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Interim Transmission Line, pro rata share. (See Exhibit 6C, 3-A.)
	Amount:	$38,805.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Interim Transmission Line, pro rata share. (See Exhibit 6C, 3-A.)
	Amount:	$19,402.50
Interim Coax Switch	Information not provided.	

TX Line to Interim Combiner	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of materials and labor to connect Interim transmitter to combiner. (See Exhibit 6C, 1-B-1.)
	Amount:	$17,445.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of materials and labor to connect Interim transmitter to combiner. (See Exhibit 6C, 1-B-1.)
	Amount:	$8,722.50
RF Accessories	Information not provided.	
Rigid Transmission Line - copper, 6 1/8" broadband	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 GTOWER	**$635,513.00**	**$442,480.00**		**$31,860.00**	
Structural Engineering	***$6,333.00***	$6,333.00	Rigorous Structural analysis to access the structural capacity and modifications needed to accommodate the repacked equipment. Cost decreased since last estimate. See Exhibit 6B.	$4,749.99	N/A
Tower Project Management	***$14,480.00***	$14,480.00	Project management fee for both the primary and interim antenna. See Exhibits 6B, 1-A-1 ($9,480) and 7B, 3-D-1 ($5,000). Scheduling and management of the timelines and schedules occurring during the	$10,860.00	N/A

Permit Drawing Packages	***$9,400.00***	$9,400.00	Permit drawing packages for tower ($4,700) and building A&E. See Exhibit 6B.	$7,050.00	N/A
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	$26,300.00	$8,267.00	Cost decreased from prior estimate. See Exhibit 6B.	$6,200.01	N/A
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$400,000.00	N/A	N/A	N/A
Minor tower reinforcement /modifications	$158,000.00	$4,000.00	Cost for plumb and tension after customer installation is complete. See Exhibit 6B.	$3,000.00	N/A
Sub-total	$635,513.00	$442,480.00	N/A	$31,860.00	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information Description	File Name

Structural Engineering	**Component Description:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Structural Analysis, pro rata share. (See Exhibit 6C, 3-A-1.)
	Amount:	$1,583.33
	Component Description:	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Structural Analysis, pro rata share. (See Exhibit 6C, 3-A-1.)
	Amount:	$3,166.66

Tower Project Management	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Interim plus Primary project management. (See Exhibit 6C, 1-A-1 plus Exhibit 7C, 3-D-1.)
	Amount:	$7,240.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Interim plus Primary project management. (See Exhibit 6C, 1-A-1 plus Exhibit 7C 3-D-1.)
	Amount:	$3,620.00

Permit Drawing Packages	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Tower plus Building Permit Packages, pro rata share. (See Exhibit 7C, 3-D-1 ($4,700 twice).
	Amount:	$4,700.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Tower plus Building Permit Packages, pro rata share. (See Exhibit 7C, 3-D-1 ($4,700 twice).
	Amount:	$2,350.00

Tower mapping for an undocumented/poorly documented tower and preparation of documentation necessary for tower load study	**Component Description:** **Amount:** **Component Description:** **Amount:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Tower Mapping, pro rata share. (See Exhibit 7C, 3-A-1.) $4,133.34 Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Tower Mapping, pro rata share. (See Exhibit 7C, 3-A-1.) $2,066.67
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.	

Minor tower reinforcement /modifications	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of tower Plumb and Tension, pro rata share. (See Exhibit 7C, 3-A-2.)
	Amount:	$2,000.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of tower Plumb and Tension, pro rata share. (See Exhibit 7C, 3-A-2.)
	Amount:	$1,000.00

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	**$87,775.00**	**$65,083.00**		**$6,550.00**	
Site Coordination Meeting	***$2,500.00***	$2,500.00	Meeting to coordinate efforts between broadcasters, tower owner, and tower contractors.	$1,875.00	N/A
RF Exposure Measurements	$21,050.00	$3,333.00	RF Exposure measurements. See Exhibit 7B.	$2,500.00	N/A
ASR modification (prepare FCC Form 854)	$2,105.00	$250.00	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
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	$1,580.00	$1,500.00	N/A	N/A	N/A

RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	$1,580.00	$1,500.00	N/A	N/A	N/A
Project management of the transition	$39,500.00	$37,500.00	Company lacks internal resources.	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	$875.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	$3,155.00	$3,000.00	N/A	N/A	N/A

RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	$2,105.00	$2,000.00	N/A	$1,300.00	N/A
Sub-total	$87,775.00	$65,083.00	N/A	$6,550.00	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information	
Description	**File Name**

Site Coordination Meeting	**Component Description:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Site Coordination Meetings, pro rata share. (See Exhibit 7C, 1-B-1.)
	Amount:	$1,250.00
	Component Description:	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Site Coordination Meetings, pro rata share. (See Exhibit 7C, 1-B-1.)
	Amount:	$625.00

RF Exposure Measurements	**Component Description:** **Amount:** **Component Description:** **Amount:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Interim RF Exposure Measurements, pro rata share. (See Exhibit 6C, 1-A-4.) $1,666.67 Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Interim RF Exposure Measurements, pro rata share. (See Exhibit 6C, 1-A-4.) $833.33
ASR modification (prepare FCC Form 854)	Information not provided.	
Attorney Fees - Negotiation of lease and other matters for shared locations	Information not provided.	
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	Information not provided.	

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:** **Amount:**	Conduct review of channel assignment. Determine Max ERP. $875.00
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Information not provided.	
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	**Component Description:** **Amount:**	Prepare Engineering Section of FCC Construction Permit Application. $1,300.00

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	**$83,139.80**	**$76,539.80**		**$562.50**	
Deinstall Old Transmitter	***$21,844.80***	$21,844.80	Complete disconnection of Harris Sigma CD transmitter and move to staging area on site. (See Exhibit 3B, Item I.)	N/A	N/A
Equipment Delivery and Handling Charges	***$17,300.00***	$17,300.00	Primary transmitter shipping. See Exhibit 3B, Page 1.	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
Non-zoning permits	***$5,000.00***	$5,000.00	Local permits and drawings. See ATC quotes.	$562.50	N/A
Local Zoning	***$5,000.00***	$5,000.00	N/A	N/A	N/A

FCC Filing Fees - Form 2100 license to cover application	$335.00	$325.00	N/A	N/A	N/A
FCC Filing Fees - Form 2100 minor change CP application	$1,110.00	$1,070.00	N/A	N/A	N/A
DTV Medical Facility Notification	$11,550.00	$5,000.00	N/A	N/A	N/A
MVPD Notification of Channel Change	***$1,000.00***	$1,000.00	N/A	N/A	N/A
Sub-total	$83,139.80	$76,539.80	N/A	$562.50	N/A
Total for all systems	$3,787,885.07	$2,969,168.63	N/A	$754,982.22	N/A

Components

Actual Information Description	File Name
Deinstall Old Transmitter	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.

Non-zoning permits	**Component Description:** **Amount:**	Invoice is 50% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 50% of Building Permit costs. (See Exhibit 7C, 1-A-3.) $375.00
	Component Description: **Amount:**	Invoice is 25% Down Payment for $438,330 ATC total estimated cost, main plus interim. (See Exhibits 6C and 7C). This cost is 25% of Building Permit costs. (See Exhibit 7C, 1-A-3.) $187.50
Local Zoning	Information not provided.	
FCC Filing Fees - Form 2100 license to cover application	Information not provided.	
FCC Filing Fees - Form 2100 minor change CP application	Information not provided.	
DTV Medical Facility Notification	Information not provided.	
MVPD Notification of Channel Change	Information not provided.	

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$3,787,885.07	$2,969,168.63	$754,982.22

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	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* 12/21/2018

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* 12/21/2018

Attachments