



(REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility **25932** | Service: **DTV** | Call **WHRO-TV** | Channel: **31 (UHF)** |  
ID:  
File **0000027736**  
Number:  
FRN: **0002062511** | Date **01/30**  
Submitted: **/2020**

## Applicant Information

### Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
<b>HAMPTON ROADS EDUCATIONAL TELECOMMUNICATIONS ASSOC., INC.</b>	Chris G. Gunnufsen 5200 HAMPTON BOULEVARD NORFOLK, VA 23508 United States	+1 (757) 889- 9394	chris. gunnufsen@whro. org	Not-for- Profit
Doing Business As: HAMPTON ROADS EDUCATIONAL TELECOMMUNICATIONS ASSOC., INC.				

## 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
The Preparer is same as the reimbursement contact.			

## Broadcaster Information and Transition Plan

Question	Response
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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	The transition plan is being handled by the Owner of the Tower, American Tower Corporation. The tower is complicated due to the total number of broadcasters collocated on the tower. There will be a Wide Band interim antenna side mounted on the tower 987'

## Transmitters

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

**Primary  
Transmitter**

**Existing Transmitter Information**

Section	Question	Response
<b>Existing Transmitter Description</b>	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
<b>Existing Transmitter Manufacturer and Type</b>	Manufacturer	
	Model	DCX Millenium
	Year	2001
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	60 kW

**Primary  
Transmitter**

**New Transmitter Costs**

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	DCX Parallax U32HPTV- PRLX-U36
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	58 kW
	Justification for New Transmitter	The Channels are to Far apart for Re- tuning. Channel 16 Pre and Channel 31 post Repacking. This has been verified with Hitachi Comark LLC. Manufacturer of the existing channel 16 antenna. The IOT Transmitters has been replaced by the Parallax SS

**Primary  
Transmitter**

**Other Transmitter Costs**

Section	Question	Response
<b>Electrical Service</b>	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	Yes
	Transformer (480V)	Yes
	Power	500 kVA
	Rigid Conduit and Wiring	Yes
	Size	4 inches
	Length	300.0 feet
	Other Electrical Service	Yes
	Description	Installation of Transmitter Electrical systems
<b>HVAC Service</b>	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	15 tons
	Other Size	N/A
<b>Transmitter Building Addition/Modification or Leasehold Improvement</b>	Does the Transmitter Building require an addition, modification, other leasehold improvement?	Yes
	Size	4500.0 square feet
<b>Channel 14 Costs</b>	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

Primary Transmitter	Other Transmitter Cost Not Listed
	Information not provided.

**Antennas**

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

## Primary Antenna

### Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Lease 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)	1000.0 kW
	Manufacturer	



Model	TFU- 24GBH-R 08SP
Year	2000

**Primary  
Antenna**

**New Antenna Costs**

Section	Question	Response
<b>New Antenna Description</b>	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Lease New
	Is this a request for upgraded equipment?	No
	Ownership	Leased
	Owner	American Tower LLC
	Is antenna shared?	Yes
	Is antenna directional?	No
	Will antenna be located on or in close proximity to an antenna farm?	Yes
<b>New Antenna Manufacturer and Types</b>	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Broadband Panel
	Number of Stations Supported	4
	Number of Panels/Bays	70
	Lower Limit	470.00 MHz
	Upper Limit	700.00 MHz
	Design power capacity in use	41.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power) .....	1950.0 kW
	Manufacturer	

Model	PEP70E-05-2-T
Year	2019
Justification for New Antenna	Combining Stations to reduce load and Total FCC Costs

## Primary Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	4
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	Yes
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Broadband
	Feed Line Size	8 3/16 inches inches
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for a high power antenna?	
<b>Pattern Scatter Analysis</b>	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
<b>Sweep Test</b>	Do you require the sweep testing of transmission line and antenna?	Yes

Enter a list of RF channel numbers.

RF Channel Number
20
16
31
33

Primary  
Antenna

Other Antenna Cost Not Listed

Name	Description
Combiner Installation	ATC Estimated Costs for line item 3-C-2

**Interim  
Antenna**

**New Antenna Costs**

Section	Question	Response
<b>New Antenna Description</b>	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Leased
	Owner	American Tower Corp
	Is antenna shared?	Yes
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	Yes
<b>New Antenna Manufacturer and Type</b>	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Elliptical
	Type	Broadband Slot
	Number of Stations Supported	5
	Number of Panels/Bays	24
	Lower Limit	482.00 MHz
	Upper Limit	590.00 MHz
	Design power capacity in use	75.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power) .....	60.0 kW
	Manufacturer	
	Model	TFU-24-WB /VP C160

Year	2018
Justification for New Antenna	Complex antenna structure with multiple stations trying to remain on the air during the transition to new channels. See American Tower Plan.

## Interim Antenna

### Other Antenna Costs

Section	Question	Response
<b>Combiner for Shared Antenna</b>	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	5
	Frequencies of channels supported	RF channel
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	Yes
<b>Elbow Complex</b>	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	B
	Feed Line Size	8 3/16 inches
<b>Side Mount Brackets</b>	Do you require the separate purchase of side mount brackets for an antenna?	Yes

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

**Enter a list of RF channel numbers.**

RF Channel Number
16
20
31
32
33

**Interim  
Antenna**

**Other Antenna Cost Not Listed**

Name	Description
Interim Tower Rental	One time tower rental during repack line item 1-B-1

**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
<b>Existing Transmission Line Description</b>	Type of change	Lease New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Leased
	Owner	American Tower LLC
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
<b>Existing Transmission Line Manufacturer and Type</b>	Manufacturer	
	Type	Rigid
	Diameter	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	1307 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	Lease New
	Is this a request for upgraded equipment?	No
	Type	Rigid
	Diameter	8 3/16 inches
	Other Diameter	N/A
	Segment Length	Broadband
	Other Segment Length	N/A
	Number of parallel runs	2
	Length	1350 feet per run
	Justification for New Transmission Line	Part of a shared Broadband antenna system

Primary  
Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Combiner system	Combiner system for shared Broadband antenna

**Interim**  
**Transmission Line**

**New Transmission Line**

Section	Question	Response
<b>New Transmission Line Costs</b>	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	8 3/16 inches
	Segment Length	Broadband
	Other Segment Length	
	Number of parallel runs	1
	Length	1100 feet per run
	Justification for New Transmission Line	Single run Dielectric 8-3/16" Digitline with 950 ft vertical plus 150 ft. run equals 1100 ft. total; Includes nitrogen generator plus 200' of vertical run to get to the combiner network in ATC owned building located in the compound total WHRO 1300

Interim  
Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Transmission line interim	200 Ft of 6 1/8 " line to connect to the Wibeband Interim antenna located in the ATC building approx 200 ft away.
Elbows	3 Elbows are needed to connect a new sections of 6 1/8' line to the interim broadband antenna located in American Tower owned building.

**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?	Yes
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1057874
Coordinates (NAD83 ( North American Datum of 1983))	Latitude (NAD83)	36° 48' 31.8" N-
	Longitude (NAD83)	076° 30' 11.3" W-
	Overall Structure Height	1258.84 feet
	Support Structure Height	1254.91 feet
	Ground Elevation Above Mean Sea Level (AMSL)	22.97 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	American Towers, LLC
Date Constructed	02/03/2006

**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
9762	WGNT	DTV
67077	WPXV-TV	DTV
47401	WTKR	DTV
82574	WTPC-TV	DTV
40759	WTVZ-TV	DTV
25940	WHRO-FM	FM
25933	WHRV	FM
25932	WHRO-TV	DTV

**Primary  
Tower**

**Tower Modification Costs**

Section	Question	Response
<b>Engineering Study</b>	Please what type of engineering study is required, if any:	Study needed for tower with candelabra
<b>Tower Reinforcements</b>	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**

Information not provided.

**Outside  
Professional Services Costs**

Section	Question	Response
<b>Outside Project Management Services</b>	Do you require outside project management services?	Yes
	Number of Hours	175
	Explanation	This is for the project management costs associated with American Tower Corporation. This is a very complicated site and will require Project management from all Broadcasters collocated on the tower. Est is based on Previous conversion to digital in 2001
<b>Outside RF consulting Engineering Services</b>	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes



	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
<b>Attorney and Other Outside Consulting Services</b>	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	No
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	Yes
	Quantity	1
	NEPA Section 106 environmental review	Yes
	Environmental Assessment	Yes
	ASR Modification	Yes
	FAA Consultation (including preparation of FAA Form 7460)	Yes
	Negotiation of Lease and other Matter for Shared Locations	Yes
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
<b>RF Field Engineering Services</b>	Comprehensive coverage verification via field study	Yes

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
RF System Test	Testing of the combiner to ensure all one (1) frequencies are tuned for optimal patterns.
Migratory Bird Assessment	Tower located in a migratory Bird Path
Site Coordination Meeting	Site coordination meetings with all broadcasters, contractors and vendors involved with the site deliveries and construction. This cost is for travel and logistics expenses accrued.

## Other Expenses

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

**Other  
Expenses**

**Other Expenses Not Listed**

Name	Description
<b>ATC One Time Tower Rental</b>	ATC have 3 repack customers, one non repacked customer and one new customer on the Norfolk TT. The interim Main side mount antenna will allow the broadcasters to minimize their OTA disruption, maintain their coverage contour, complete in safe manner
<b>Grading Road</b>	The Gravel Road Will be destroyed during the repacking and will require several Gradings during the process due to the complexity of the site and total number of broadcasters impacted
<b>Public Hearing</b>	Cost associated with Public hearings that might be required due to the repacking process and proximity of houses located around the tower
<b>Site Security</b>	Site Security Company during construction for theft prevention and vandalism
<b>Special Insurance Rider</b>	Special insurance rider will need to be purchased by WHRO for the Homes located within 1000' ft of the tower. WHRO owns all of the property surrounding the tower America Tower Leases only a small portion of the ground space, Anchor point Base and Buildin
<b>Comark System Design and Site Survey</b>	Cost associated with Hitachi Comark to do a site visit and design for the Transmitter installation

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 DCX Parallax U32HPTV- PRLX-U36	\$3,685,700.00	\$4,531,135.00		\$4,061,429.00	
Other -- Building Addition Size: 4500.0	<i>\$52,000.00</i>	\$52,000.00	Walls have to be removed to install the new transmitter. This includes removing a mezzanine to mount and install the magic Tee and Mask filter.	N/A	N/A

15 Ton system	\$55,800.00	\$53,000.00	The new transmitter, CIF and Magic Tee will need to be located in a room that does not have AC at this time. A new AC will be needed to keep the CIF, magic tee, Combiner and temperature from Overheating and drifting in power.	N/A	N/A
Other Electrical Service: Installation of Transmitter Electrical systems	<b>\$200,000.00</b>	\$200,000.00	N/A	N/A	N/A
4" Rigid Conduit and Wiring (Cost per foot)	\$30,300.00	\$28,800.00	After Digital conversion in 2009 all conduits and switch gear was removed that connected to the analog transmitter.	N/A	N/A

Transformer 3 phase /480v - 500 KVA	\$48,400.00	\$276,401.00	This is to replace the existing 3 wire 600 KVA Clean source UPS with a 4 wire 500KVA Clean Source UPS from Pillar Formerly Active Power	\$276,401.00	The Existing 3 wire 600 Kva UPS from Active power is not compatible with any solid state transmitter. The replacement is a 4 wire 500 kva UPS from Active power a division of Pillar power systems.
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	\$1,788,000.00	\$1,992,120.00	Includes 342,120 dollars for the RFS 6 pole filter and switches to change from the interim antenna to the main antenna	\$1,892,514.00	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	N/A	N/A

UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	\$1,473,000.00	\$1,892,514.00	***System Notice: Estimate adjusted and locked because line has been superseded. ***The options are needed to make the performance equal to the existing Transmitter and Filters. The additional filters are needed due to adjacent channel back feeding down the antenna and into the transmitter	\$1,892,514.00	The original quote was for a small transmitter then we currently have on Air. The quote Was changed to get as close to a 60 kw as possible to match the current headroom in the existing transmitter.
<b>Sub-total</b>	\$3,685,700.00	\$4,531,135.00	N/A	\$4,061,429.00	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

Actual Information	
Description	File Name
Other -- Building Addition Size: 4500.0	Information not provided.
15 Ton system	Information not provided.
Other Electrical Service: Installation of Transmitter Electrical systems	Information not provided.



4" Rigid Conduit and Wiring (Cost per foot)	Information not provided.	
Transformer 3 phase/480v - 500 KVA	<b>Component Description:</b>  <b>Amount:</b>	4 wire 500 Kva Clean source UPS to Replace 3 wire 600Kva Clean Source UPS that will not work with 4 wire Solid state transmitter  \$276,401.00
UHF - Liquid Cooled Solid State Transmitter 52 - 61 kW	<b>Component Description:</b>  <b>Amount:</b>  <b>Component Description:</b>  <b>Amount:</b>	45% payment for Transmitter. Additional 5% remaining after proof of performance.  \$896,454.00  50 Percent Payment on Transmitter  \$996,060.00
Switchgear - industrial 800 amp	Information not provided.	

UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW		
	<b>Component Description:</b>	45 percent of transmitter costs. Additional invoice of 5% due after Proof of Performance testing.
	<b>Amount:</b>	\$896,454.00
	<b>Component Description:</b>	50 percent of Transmitter costs
	<b>Amount:</b>	\$996,060.00

## Cost Information

### Antennas

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
<b>Interim Antenna TFU-24-WB /VP C160</b>	<b>\$376,630.00</b>	<b>\$237,266.33</b>		<b>\$127,450.00</b>	
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$8,500.00	Shared cost with Other Broadcasters being repacked See WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	N/A	N/A
Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)	\$18,950.00	\$4,500.00	Shared expense with Other Broadcasters being repacked See American Tower Document: WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	N/A	N/A

Combiner output splitting /switching for dual feed lines, if applicable	\$126,000.00	\$50,000.00	Shared Costs See American Tower document: WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates plus 10,000.00 as shared installation Costs line item 3-C-2	\$0.00	25 percent payment on combiners
New combiner, cost per channel (without antenna)	\$84,200.00	\$48,333.00	Shared Costs with other Broadcasters being repacked see American Tower Project Costs Estimate. Microsoft Excel Document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$33,000.00	Combiner 25 % payment

Sweep test of existing antenna	\$6,730.00	\$8,333.33	Shared expense with Other Broadcasters Being repacked See American Tower Document: WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$6,250.00	25 percent payment for sweep tests
UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, directional,, elliptically or circularly polarized	<b>\$60,000.00</b>	\$60,000.00	the original number of 235,000 has been reduced to 60,000 due to the number of Broadcasters using the Broadband antenna. See American Tower Project Costs Est. Microsoft Excel Document: WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$45,000.00	N/A
Interim Tower Rental	<b>\$57,600.00</b>	\$57,600.00	Interim antenna Tower rental during repack	\$43,200.00	N/A
<b>Primary Antenna PEP70E-05-2-T</b>	<b>\$1,339,213.33</b>	<b>\$421,883.33</b>		<b>\$220,112.50</b>	

Combiner Installation	\$13,333.33	\$13,333.33	Per station combiner installation costs	\$10,000.00	N/A
Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)	\$18,950.00	\$12,000.00	N/A	\$12,000.00	N/A
Combiner output splitting /switching for dual feed lines, if applicable	\$126,000.00	\$126,000.00	N/A	N/A	N/A
New combiner, cost per channel (without antenna)	\$84,200.00	\$66,000.00	N/A	\$49,500.00	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	N/A	N/A
UHF - High Power Top Mount (200-1000 kW), Four Station broadband panel antenna, elliptically or circularly polarized	\$1,090,000.00	\$198,150.00	This is the per cost per station with 4 station total using the BBA	\$148,612.50	N/A
<b>Sub-total</b>	\$1,715,843.33	\$659,149.66	N/A	\$347,562.50	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

Actual Information	File Name	
Description		
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	
Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)	Information not provided.	
Combiner output splitting /switching for dual feed lines, if applicable	Information not provided.	
New combiner, cost per channel (without antenna)	<b>Component Description:</b>	ATC MS2 3-C-1 additional 50% payment 25% remaining on final invoice
	<b>Amount:</b>	\$22,000.00
	<b>Component Description:</b>	Combiner 25 % payment
	<b>Amount:</b>	\$11,000.00
Sweep test of existing antenna	<b>Component Description:</b>	ATC MS2 3-C-2 50% additional payment final 25% remaining
	<b>Amount:</b>	\$4,166.67
	<b>Component Description:</b>	25 Percent of combiner sweep test
	<b>Amount:</b>	\$2,083.33

<p>UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, directional,, elliptically or circularly polarized</p>	<table> <tr> <td data-bbox="726 168 1037 212"><b>Component Description:</b></td><td data-bbox="1165 168 1364 324">ATC milestone 2 3-B 50% 25% remaining to be invoiced</td></tr> <tr> <td data-bbox="726 324 837 369"><b>Amount:</b></td><td data-bbox="1165 324 1300 369">\$30,000.00</td></tr> <tr> <td data-bbox="726 470 1037 515"><b>Component Description:</b></td><td data-bbox="1165 470 1300 582">Milestone 1 invoice for antenna</td></tr> <tr> <td data-bbox="726 582 837 627"><b>Amount:</b></td><td data-bbox="1165 582 1300 627">\$15,000.00</td></tr> </table>	<b>Component Description:</b>	ATC milestone 2 3-B 50% 25% remaining to be invoiced	<b>Amount:</b>	\$30,000.00	<b>Component Description:</b>	Milestone 1 invoice for antenna	<b>Amount:</b>	\$15,000.00
<b>Component Description:</b>	ATC milestone 2 3-B 50% 25% remaining to be invoiced								
<b>Amount:</b>	\$30,000.00								
<b>Component Description:</b>	Milestone 1 invoice for antenna								
<b>Amount:</b>	\$15,000.00								
<p>Interim Tower Rental</p>	<table> <tr> <td data-bbox="726 761 1037 806"><b>Component Description:</b></td><td data-bbox="1165 761 1356 918">ATC MS2 1-B-1 additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="726 918 837 963"><b>Amount:</b></td><td data-bbox="1165 918 1300 963">\$28,800.00</td></tr> <tr> <td data-bbox="726 1064 1037 1108"><b>Component Description:</b></td><td data-bbox="1165 1064 1372 1131">Per line item 1-B- 1 MS1 25%</td></tr> <tr> <td data-bbox="726 1131 837 1176"><b>Amount:</b></td><td data-bbox="1165 1131 1300 1176">\$14,400.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 1-B-1 additional 50% payment 25% remaining	<b>Amount:</b>	\$28,800.00	<b>Component Description:</b>	Per line item 1-B- 1 MS1 25%	<b>Amount:</b>	\$14,400.00
<b>Component Description:</b>	ATC MS2 1-B-1 additional 50% payment 25% remaining								
<b>Amount:</b>	\$28,800.00								
<b>Component Description:</b>	Per line item 1-B- 1 MS1 25%								
<b>Amount:</b>	\$14,400.00								
<p>Combiner Installation</p>	<table> <tr> <td data-bbox="726 1310 1037 1355"><b>Component Description:</b></td><td data-bbox="1165 1310 1356 1512">ATC MS2 3-C-2 comb install additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="726 1512 837 1556"><b>Amount:</b></td><td data-bbox="1165 1512 1284 1556">\$6,666.67</td></tr> <tr> <td data-bbox="726 1657 1037 1702"><b>Component Description:</b></td><td data-bbox="1165 1657 1364 1769">3-C-2 Combiner installation Costs MS1 at 25%</td></tr> <tr> <td data-bbox="726 1769 837 1814"><b>Amount:</b></td><td data-bbox="1165 1769 1284 1814">\$3,333.33</td></tr> </table>	<b>Component Description:</b>	ATC MS2 3-C-2 comb install additional 50% payment 25% remaining	<b>Amount:</b>	\$6,666.67	<b>Component Description:</b>	3-C-2 Combiner installation Costs MS1 at 25%	<b>Amount:</b>	\$3,333.33
<b>Component Description:</b>	ATC MS2 3-C-2 comb install additional 50% payment 25% remaining								
<b>Amount:</b>	\$6,666.67								
<b>Component Description:</b>	3-C-2 Combiner installation Costs MS1 at 25%								
<b>Amount:</b>	\$3,333.33								



<p>Elbow complex, broadband, at antenna input, per 8 3/16. feedline (if needed)</p>	<table> <tr> <td data-bbox="726 168 1037 212"><b>Component Description:</b></td><td data-bbox="1165 168 1420 414">           ATC MS2 3-C-2 additional 50% payment 25% remaining complex elbows 73/16" and 8 3/16"         </td></tr> <tr> <td data-bbox="726 414 1037 459"><b>Amount:</b></td><td data-bbox="1165 414 1420 459">\$8,000.00</td></tr> <tr> <td data-bbox="726 548 1037 593"><b>Component Description:</b></td><td data-bbox="1165 548 1420 660">           line items 3-C-2 MS 1 at 25% of total         </td></tr> <tr> <td data-bbox="726 660 1037 705"><b>Amount:</b></td><td data-bbox="1165 660 1420 705">\$4,000.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 3-C-2 additional 50% payment 25% remaining complex elbows 73/16" and 8 3/16"	<b>Amount:</b>	\$8,000.00	<b>Component Description:</b>	line items 3-C-2 MS 1 at 25% of total	<b>Amount:</b>	\$4,000.00
<b>Component Description:</b>	ATC MS2 3-C-2 additional 50% payment 25% remaining complex elbows 73/16" and 8 3/16"								
<b>Amount:</b>	\$8,000.00								
<b>Component Description:</b>	line items 3-C-2 MS 1 at 25% of total								
<b>Amount:</b>	\$4,000.00								
<p>Combiner output splitting /switching for dual feed lines, if applicable</p>	<p>Information not provided.</p>								
<p>New combiner, cost per channel (without antenna)</p>	<table> <tr> <td data-bbox="726 996 1037 1041"><b>Component Description:</b></td><td data-bbox="1165 996 1420 1153">           ATC MS2 3-C-1 additional 50% payment 25% remaining         </td></tr> <tr> <td data-bbox="726 1153 1037 1198"><b>Amount:</b></td><td data-bbox="1165 1153 1420 1198">\$33,000.00</td></tr> <tr> <td data-bbox="726 1288 1037 1332"><b>Component Description:</b></td><td data-bbox="1165 1288 1420 1400">           ATC MS1 25% of line item 3-C-1 main antenna         </td></tr> <tr> <td data-bbox="726 1400 1037 1444"><b>Amount:</b></td><td data-bbox="1165 1400 1420 1444">\$16,500.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 3-C-1 additional 50% payment 25% remaining	<b>Amount:</b>	\$33,000.00	<b>Component Description:</b>	ATC MS1 25% of line item 3-C-1 main antenna	<b>Amount:</b>	\$16,500.00
<b>Component Description:</b>	ATC MS2 3-C-1 additional 50% payment 25% remaining								
<b>Amount:</b>	\$33,000.00								
<b>Component Description:</b>	ATC MS1 25% of line item 3-C-1 main antenna								
<b>Amount:</b>	\$16,500.00								
<p>Sweep test of existing antenna</p>	<p>Information not provided.</p>								

UHF - High Power Top Mount (200-1000 kW), Four Station broadband panel antenna, elliptically or circularly polarized		
	<b>Component Description:</b>	ATC MS2 3-B additional 50% payment 25% remaining
	<b>Amount:</b>	\$99,075.00
	<b>Component Description:</b>	Line 3-B MS 1 25 % of antenna costs
	<b>Amount:</b>	\$49,537.50

## 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	\$503,230.70	\$157,097.70		\$118,424.90	
Transmission line interim	<i>\$35,600.00</i>	\$35,600.00	200 Ft of 6 1/8" line to connect to the interim antenna per American Tower Document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$21,250.00	N/A
Rigid Transmission Line - copper, 8 3/16" broadband	\$438,900.00	\$92,767.00	The remaining costs are covered by other broadcasters collocated on the same tower that will be repacked Per American Tower Document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$79,257.00	N/A

Elbows	<b>\$28,730.70</b>	\$28,730.70	Elbows to connect the vertical run to the interim antenna 3 Total @ 1930.00 each per Dielectric Quote	\$17,917.90	Includes additional items not in the original quote
<b>Primary Transmission Line</b>	<b>\$1,121,300.00</b>	<b>\$264,671.00</b>		<b>\$165,503.25</b>	
Rigid Transmission Line - copper, 8 3/16" broadband	\$1,077,300.00	\$220,671.00	N/A	\$165,503.25	N/A
Combiner system	<b>\$44,000.00</b>	\$44,000.00	N/A	N/A	N/A
<b>Sub-total</b>	\$1,624,530.70	\$421,768.70	N/A	\$283,928.15	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

Actual Information	
Description	File Name

Transmission line interim	<div> <b>Component Description:</b> ATC MS2 additional 50% payment 25% remaining         </div> <div> <b>Amount:</b> \$14,166.67         </div>
	<div> <b>Component Description:</b> Line item 1-B-1 interim installation of side mount antenna and transmission line MS1 at 25% of total         </div> <div> <b>Amount:</b> \$7,083.33         </div>
Rigid Transmission Line - copper, 8 3/16" broadband	<div> <b>Component Description:</b> ATC MS2 additional 50% payment 25% remaining         </div> <div> <b>Amount:</b> \$44,000.00         </div>
	<div> <b>Component Description:</b> Per line item 1-B-1 interim Broadband TX line MS1 @ 25%         </div> <div> <b>Amount:</b> \$22,000.00         </div>
	<div> <b>Component Description:</b> Product 58792 6 sticks         </div> <div> <b>Amount:</b> \$13,257.00         </div>

Elbows	<div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Item 400010391  gas stop  \$2,790.00 </div> </div> <div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> item 2 R4522  quantity 4 elbows  \$8,676.00 </div> </div> <div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> item 4  R0026518501  946.80 item 5  R68187 1058.40  item 6  R0018135501  760.50 Item 7  R72735 2250  \$5,015.40 </div> </div> <div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> item 1  R0004542501 field  Flange 5 at 287.30  \$1,436.50 </div> </div>
Rigid Transmission Line - copper, 8 3/16" broadband	<div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> ATC MS2 3-A  additional 50%  payment 25%  remaining  \$110,335.50 </div> </div> <div> <div> <b>Component Description:</b>  <b>Amount:</b> </div> <div> Per line item 3-A  MS1 at 25% of  Total  \$55,167.75 </div> </div>
Combiner system	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
<b>Primary Tower GTOWER</b>	<b>\$599,000.00</b>	<b>\$270,000.00</b>		<b>\$145,712.63</b>	
Structural engineering tower load study for a documented tower with candelabra	\$20,000.00	\$20,000.00	Part of the total tower rebuild with 4 other broadcasters American Tower Document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$8,212.50	this included structural and tower mapping for structural
Minor tower reinforcement /modifications	\$158,000.00	\$50,000.00	Shared cost with Other Broadcasters that are being repacked per ATC document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$37,500.00	N/A

Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$200,000.00	Shared cost of the broadcasters that are going to be repacked per American Tower Document WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$100,000.13	N/A
<b>Sub-total</b>	\$599,000.00	\$270,000.00	N/A	\$145,712.63	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

Actual Information	
Description	File Name
Structural engineering tower load study for a documented tower with candelabra	<b>Component Description:</b>
	ATC MS2 3-A-1 additional 50% payment 25% remaining this is for both T4 items
	<b>Amount:</b>
	\$5,475.00
	<b>Component Description:</b>
	ATC MS1 3-A-1 T4 at 25% of total this is for both T4 items
	<b>Amount:</b>
	\$2,737.50



Minor tower reinforcement /modifications	<div> <b>Component Description:</b> ATC MS2  additional 50%  payment 25%  remaining </div> <div> <b>Amount:</b> \$25,000.00 </div>
	<div> <b>Component Description:</b> 3-A-2 MS1 at  25% of total </div> <div> <b>Amount:</b> \$12,500.00 </div>
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	<div> <b>Component Description:</b> ATC 3-C-1  additional 50%  payment 25%  remaining </div> <div> <b>Amount:</b> \$66,666.75 </div>
	<div> <b>Component Description:</b> Tower rigging 3-  C-1 MS1 at 25% </div> <div> <b>Amount:</b> \$33,333.38 </div>

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 Cos Justificatio
Outside Professional Services	\$195,610.00	\$160,650.00		\$24,188.12	
Site Coordination Meeting	\$1,250.00	\$1,250.00	Complex tower rebuild multiple Broadcaster involvement ATC Doc WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$1,875.00	Complex tower with many broadcaste to coordinate WTKR, WGNT, WTVZ-TV WHRO-TV
Migratory Bird Assessment	\$500.00	\$500.00	estimated costs for being in a bird migration mitigation ATC DocWHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$437.49	N/A

RF System Test	<b>\$5,000.00</b>	\$5,000.00	Perform systems checks on Combiner network due to the volume of broadcaster using the antenna ATC Doc WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$3,750.00	N/A
RF Exposure Measurements	\$21,050.00	\$6,500.00	Shared Expense	N/A	N/A
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$80,000.00	N/A	N/A	N/A
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	\$2,105.00	\$700.00	To reimburse American Tower if needed	N/A	N/A
ASR modification (prepare FCC Form 854)	\$2,105.00	\$800.00	Shared cost of the Broadcasters being repacked	N/A	N/A
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	\$10,520.00	\$3,500.00	Per ATC Doc WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	N/A	N/A

NEPA Section 106 environmental review, if needed	\$6,310.00	\$2,000.00	Per ATC Doc WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$3,680.00	\$3,500.00	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
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A
Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	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

Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$3,750.00	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	\$1,875.00	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Project management of the transition	\$27,650.00	\$27,650.00	Shared Expense via American Tower Doc WHRO IM Norfolk Tall Tower 10152 Repack Cost Estimates	\$12,500.63	N/A
<b>Sub-total</b>	\$195,610.00	\$160,650.00	N/A	\$24,188.12	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

**Actual Information**  
**Description**

**File Name**

Site Coordination Meeting	<b>Component Description:</b>	ATC MS2 1-B-1 Site Coord additional 50% payment 25% remaining
	<b>Amount:</b>	\$1,250.00
	<b>Component Description:</b>	ATC MS1 tem 1-B-1 at 25 % of total
	<b>Amount:</b>	\$625.00
Migratory Bird Assessment	<b>Component Description:</b>	ATC MS2 item 1-A-1 Migratory birds additional 50% payment 25% remaining
	<b>Amount:</b>	\$291.66
	<b>Component Description:</b>	1-B-1 T1 MS1 at 25% of total
	<b>Amount:</b>	\$145.83
RF System Test	<b>Component Description:</b>	ATC MS2 1-B-1 RF test 50% additional payment 25% remaining
	<b>Amount:</b>	\$2,500.00
	<b>Component Description:</b>	ATC MS1 1-B-1 at 25% of total
	<b>Amount:</b>	\$1,250.00
RF Exposure Measurements	Information not provided.	
Comprehensive coverage verification via field study, if needed	Information not provided.	

FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	Information not provided.
ASR modification (prepare FCC Form 854)	Information not provided.
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	Information not provided.
NEPA Section 106 environmental review, if needed	Information not provided.
Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.
Attorney Fees - Negotiation of lease and other matters for shared locations	Information not provided.
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Information not provided.
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	Information not provided.
Prepare request for Special Temporary Authorization	Information not provided.
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Information not provided.

Perform engineering study for new channel assignment and antenna development	<table> <tr> <td data-bbox="713 174 1023 208"><b>Component Description:</b></td><td data-bbox="1157 174 1331 327">ATC MS2 additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="713 338 826 371"><b>Amount:</b></td><td data-bbox="1157 338 1275 371">\$2,500.00</td></tr> <tr> <td data-bbox="713 477 1023 510"><b>Component Description:</b></td><td data-bbox="1157 477 1374 544">ATC MS1 item 1- A-2 at 25% of total</td></tr> <tr> <td data-bbox="713 555 826 589"><b>Amount:</b></td><td data-bbox="1157 555 1275 589">\$1,250.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 additional 50% payment 25% remaining	<b>Amount:</b>	\$2,500.00	<b>Component Description:</b>	ATC MS1 item 1- A-2 at 25% of total	<b>Amount:</b>	\$1,250.00
<b>Component Description:</b>	ATC MS2 additional 50% payment 25% remaining								
<b>Amount:</b>	\$2,500.00								
<b>Component Description:</b>	ATC MS1 item 1- A-2 at 25% of total								
<b>Amount:</b>	\$1,250.00								
Address transition timing and coordination issues w/ other stations and wireless	<table> <tr> <td data-bbox="713 723 1023 757"><b>Component Description:</b></td><td data-bbox="1157 723 1342 916">ATC MS2 1-A-1 Trans timing additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="713 927 826 960"><b>Amount:</b></td><td data-bbox="1157 927 1275 960">\$1,250.00</td></tr> <tr> <td data-bbox="713 1066 1023 1099"><b>Component Description:</b></td><td data-bbox="1157 1066 1374 1133">1-A-1 Outside ms1 at 25 % of total</td></tr> <tr> <td data-bbox="713 1144 826 1178"><b>Amount:</b></td><td data-bbox="1157 1144 1254 1178">\$625.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 1-A-1 Trans timing additional 50% payment 25% remaining	<b>Amount:</b>	\$1,250.00	<b>Component Description:</b>	1-A-1 Outside ms1 at 25 % of total	<b>Amount:</b>	\$625.00
<b>Component Description:</b>	ATC MS2 1-A-1 Trans timing additional 50% payment 25% remaining								
<b>Amount:</b>	\$1,250.00								
<b>Component Description:</b>	1-A-1 Outside ms1 at 25 % of total								
<b>Amount:</b>	\$625.00								
Prepare and or review reimbursement form	Information not provided.								



Project management of the transition		
	<b>Component Description:</b>	ATC MS2 1-A-1 additional 50% payment 25% remaining
	<b>Amount:</b>	\$4,740.00
	<b>Component Description:</b>	Const PM 3-D-1 of MS1 at 25% of total
	<b>Amount:</b>	\$1,796.88
	<b>Component Description:</b>	1-A-1 PM management MS1 at 25% of total
	<b>Amount:</b>	\$2,370.00
	<b>Component Description:</b>	ATC MS2 item 3-D-1 Const Proj MGT additional 50% payment 25% remaining
	<b>Amount:</b>	\$3,593.75

## Cost Information

### Other Expenses

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
<b>Other Expenses</b>	<b>\$172,930.00</b>	<b>\$172,365.00</b>		<b>\$27,954.36</b>	
Comark System Design and Site Survey	<i>\$15,300.00</i>	\$15,300.00	This is to visit the tower site location and design the transmitter installation locations and RF plumbing of the system.	\$15,300.00	See P3921E WHRO Site design and Survey quote.
Special Insurance Rider	<i>\$2,500.00</i>	\$2,500.00	Special insurance Rider to cover the costs of the homes that are within 2000 ft of the tower. ATC owes the tower WHRO Owns all the Land. ATC Lease the Base, Anchors and Building land from WHRO	N/A	N/A

Site Security	<b>\$16,200.00</b>	\$16,200.00	Very complicated site installation. lots o expensive materials lying around very easy to steal. The compound is gated but access under ditch area is possible	N/A	N/A
Public Hearing	<b>\$500.00</b>	\$500.00	Costs associated with Public hearing materials sent to surrounding homes, newspapers ETC.	N/A	N/A
Grading Road	<b>\$4,500.00</b>	\$4,500.00	Regrading drive access to the site for at least 1 year	N/A	N/A
ATC One Time Tower Rental	<b>\$57,600.00</b>	\$57,600.00	Rental Fee associated with repacking for the Interim antenna	N/A	N/A
MVPD Notification of Channel Change	<b>\$500.00</b>	\$500.00	N/A	N/A	N/A
Equipment Storage	<b>\$24,000.00</b>	\$24,000.00	N/A	N/A	N/A

Equipment Delivery and Handling Charges	<b>\$12,500.00</b>	\$12,500.00	N/A	\$5,041.86	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	<b>\$3,500.00</b>	\$3,500.00	N/A	N/A	N/A
BLM or NFS Coordination	<b>\$2,000.00</b>	\$2,000.00	N/A	N/A	N/A
Non-zoning permits	<b>\$5,000.00</b>	\$5,000.00	N/A	\$7,050.00	Includes multiple broadcasters coordination
Local Zoning	<b>\$1,750.00</b>	\$1,750.00	N/A	\$562.50	N/A
FCC Filing Fees - Special Temporary Authorization request	\$195.00	\$190.00	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
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	<b>\$15,000.00</b>	\$15,000.00	N/A	N/A	N/A
<b>Sub-total</b>	\$172,930.00	\$172,365.00	N/A	\$27,954.36	N/A
<b>Total for all systems</b>	\$7,993,614.03	\$6,215,068.36	N/A	\$4,890,774.76	N/A

## Components

Actual Information	
Description	File Name
Comark System Design and Site Survey	<p><b>Component Description:</b> Transmitter Site visit and system Design</p> <p><b>Amount:</b> \$15,300.00</p>
Special Insurance Rider	Information not provided.
Site Security	Information not provided.
Public Hearing	Information not provided.
Grading Road	Information not provided.
ATC One Time Tower Rental	Information not provided.
MVPD Notification of Channel Change	Information not provided.
Equipment Storage	Information not provided.
Equipment Delivery and Handling Charges	<p><b>Component Description:</b> ATC MS2 item 1-A-4 T5 additional 50% payment 25% remaining</p> <p><b>Amount:</b> \$3,333.33</p> <p><b>Component Description:</b> ATC MS1 1-A-4 at 25% of total</p> <p><b>Amount:</b> \$1,666.67</p> <p><b>Component Description:</b> Dielectric Freight Charges</p> <p><b>Amount:</b> \$41.86</p>
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
BLM or NFS Coordination	Information not provided.

Non-zoning permits	<table> <tr> <td data-bbox="724 174 1031 210"><b>Component Description:</b></td><td data-bbox="1166 174 1374 367">ATC MS2 item 3-D-1 Tower Permit additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="724 376 831 412"><b>Amount:</b></td><td data-bbox="1166 376 1283 412">\$2,350.00</td></tr> <tr> <td data-bbox="724 515 1031 551"><b>Component Description:</b></td><td data-bbox="1166 515 1350 748">ATC MS2 3-D-1 Ground and building Permit additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="724 757 831 792"><b>Amount:</b></td><td data-bbox="1166 757 1283 792">\$2,350.00</td></tr> <tr> <td data-bbox="724 896 1031 931"><b>Component Description:</b></td><td data-bbox="1166 896 1350 1003">3-D-1 Tower Permits drawing package</td></tr> <tr> <td data-bbox="724 1012 831 1048"><b>Amount:</b></td><td data-bbox="1166 1012 1283 1048">\$1,175.00</td></tr> <tr> <td data-bbox="724 1151 1031 1187"><b>Component Description:</b></td><td data-bbox="1166 1151 1374 1303">3-D-1 Ground and building permit package MS1 at 25% of total</td></tr> <tr> <td data-bbox="724 1312 831 1348"><b>Amount:</b></td><td data-bbox="1166 1312 1283 1348">\$1,175.00</td></tr> </table>	<b>Component Description:</b>	ATC MS2 item 3-D-1 Tower Permit additional 50% payment 25% remaining	<b>Amount:</b>	\$2,350.00	<b>Component Description:</b>	ATC MS2 3-D-1 Ground and building Permit additional 50% payment 25% remaining	<b>Amount:</b>	\$2,350.00	<b>Component Description:</b>	3-D-1 Tower Permits drawing package	<b>Amount:</b>	\$1,175.00	<b>Component Description:</b>	3-D-1 Ground and building permit package MS1 at 25% of total	<b>Amount:</b>	\$1,175.00
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Local Zoning	<table> <tr> <td data-bbox="724 1482 1031 1518"><b>Component Description:</b></td><td data-bbox="1166 1482 1366 1675">ATC MS2 item 1-A-3 permit costs Additional 50% payment 25% remaining</td></tr> <tr> <td data-bbox="724 1684 831 1720"><b>Amount:</b></td><td data-bbox="1166 1684 1262 1720">\$375.00</td></tr> <tr> <td data-bbox="724 1823 1031 1859"><b>Component Description:</b></td><td data-bbox="1166 1823 1350 1890">ATC MS1 1-A-3 at 25% of total</td></tr> <tr> <td data-bbox="724 1899 831 1935"><b>Amount:</b></td><td data-bbox="1166 1899 1262 1935">\$187.50</td></tr> </table>	<b>Component Description:</b>	ATC MS2 item 1-A-3 permit costs Additional 50% payment 25% remaining	<b>Amount:</b>	\$375.00	<b>Component Description:</b>	ATC MS1 1-A-3 at 25% of total	<b>Amount:</b>	\$187.50								
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<b>Amount:</b>	\$187.50																

FCC Filing Fees - Special Temporary Authorization request	Information not provided.
FCC Filing Fees - Form 2100 license to cover application	Information not provided.
DTV Medical Facility Notification	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.

Cost Information	Grand Total			
		Predetermined Cost Estimate	Estimated Cost	Actual Cost
	Total for all systems	\$7,993,614.03	\$6,215,068.36	\$4,890,774.76

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



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

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

<p>8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.</p>	
<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p><b>Chris Gunnar Gunnufsen</b>  <i>Vice President Technology</i>  01/30/2020</p>

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 IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a) (1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).	
		<ol style="list-style-type: none"> <li>1. The Authorized Person signing below certifies and represents that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity.</li> <li>2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct.</li> <li>3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.</li> </ol>	

4. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.
5. The above-named entity certifies that the equipment and services paid for with money from the TV Broadcaster Relocation Fund are necessary to change channels (full power and Class A stations) and/or otherwise modify a television station's facility as a result of the spectrum repack (LPTV/TV Translator stations); or to minimize service disruption resulting from a repacked television station (FM stations); or to continue to carry the signal of a broadcaster that changes channels (MVPD) .
6. The above-named entity certifies that all payments from the TV Broadcaster Relocation Fund (Fund) received by the entity listed on this form will be used only for expenses that are eligible for reimbursement from the Fund.
7. The above-named entity certifies that the cost information /documents submitted reflect costs actually incurred.

<p>8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission.</p> <p>9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.</p>	
<p>I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.</p>	<p><b>Chris Gunnar Gunnufsen</b>  <i>Vice President Technology</i></p> <p>01/30/2020</p>

## Attachments