

Federal Communications Commission

# (REFERENCE COPY - Not for submission)

# FCC Form 399: Reimbursement Request

Facility ID: File Number:	16817 000002	Service: DTV 7891	Call Sign:	WTVS	Channel: 20 (UHF)
FRN: <b>000</b>	2770360	Date Submitted:	04/09 /2020		

#### Applicant Name, Type, and Contact Information

#### Applicant Information

Applicant	Address	Phone	Email	Applicant Type
DETROIT EDUCATIONAL TELEVISION FOUNDATION Doing Business As: WTVS	John Mark RILEY BROADCASTCAST CENTER 1 CLOVER COURT WIXOM, MI 48393 United States	+1 (248) 305- 3788	jmark@dptv. org	Not-for- Profit

#### Reimbursement Contact Name and Information Reimbursement Contact Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer	Preparer Contact Name and Int	parer Contact Name and Information			
Contact Information	Applicant	Address	Phone	Email	
	<b>John Mark</b> VP Engineering Detroit Educational Television Foundation	John Mark 1 Clover Court Wixom, MI 48393 United States	+1 (248) 305- 3760	jmark@dptv. org	

Broadcaster	Question	Response
Information and Transition Plan	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	3 stations Install and operate from a new side mount Broadband Antenna installed before implementation of Phase 3 due to WMYD early transition. Install new transmitter filters coax and antenna to operate on post transition assigned frequency of channel 20

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

Primary	Existing Transmitter Information				
Transmitter	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			
	Manufacturer and Type	Model	Visionary DT Dual HP25SDW		
		Year	1999		
		Туре	Inductive Output Tube		
		IOT Power Type	Two		
		Power Capacity	60 kW		

# **Existing Transmitter Information**

Primary	New Transmitter Costs				
Transmitter	Section	Question	Response		
	New Transmitter	Use	Primary (Main)		
		Change Type	Purchase New		
		Is this a request for upgraded equipment?	Yes		
		Manufacturer			
		Model	ULXTE-60		
		Transmitter Type	Solid State		
		Solid State Cooling	Liquid Cooled		
		Solid State Power capacity	38 kW		
		Justification for New Transmitter	Current Transmitter Manufacture no longer in business Parts unavailable SS transmitter lower cost than IOT See Attached		

Primary	Other Transmitter Costs				
Transmitter	Section	Question	Response		
	Electrical Service	Service Entrance (3 phases 800A 208V)	No		
		Switchgear (industrial 800 amp)	Yes		
		Transformer (480V)	No		
		Power	N/A		
		Rigid Conduit and Wiring	Yes		

	Size	2 inches
	Length	200.0 feet
	Other Electrical Service	Yes
	Description	Generator replacement Electrical installation for Transmitter
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Туре	Cooling Only
	Size	10 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	Yes
	Size	1500.0 square feet
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

# Primary Other Transmitter Cost Not Listed

# Transmitter

•	Name	Description
	electrical Sub panel	power distribution for new combiner room
	HVAC ice shield	protection for external portion of HVAC
	10 ton Heating and cooling unit	antenna combiner room heating and cooling

Antennas Section		Question	Response
Antenna Rela	ated 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	Class	Full Power	
	Manufacturer and Type	Mounting	Top Mount	
		Antenna position in stack	Bottom	
		Polarization	Horizontal	
		Туре	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)	600.0 kW	

	Manufacturer	
	Model	TFU- 18GBH-R04
	Year	1999

Primary	New Antenna Costs			
Antenna	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	
		Туре	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)	345.0 kW	
		Manufacturer		
			1	

Model	TFU- 24GTH-VP R 06
Year	2019
Justification for New Antenna	Current antenna does not support new channel Vertical upgrade will be a separate line item or invoice

# Primary Other Antenna Costs

Antenna	Section	Question	Response
	Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
		Туре	
		Number of channels supported	N/A
		Frequencies of channels supported	N/A
-		Frequency	N/A
		Do you need a combiner output splitter /switcher for dual feed lines?	N/A
	Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
		Broadband or Single Channel?	Single Channel
		Feed Line Size	6 1/8 inches inches
	Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No

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

# Primary<br/>AntennaOther Antenna Cost Not ListedInformation 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	
		Is antenna shared?	Yes	
		Is antenna directional?	No	
		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	
		Туре	Broadband Slot	
		Number of Stations Supported	3	
		Number of Panels/Bays	24	
		Lower Limit	470.00 MHz	
		Upper Limit	698.00 MHz	
		Design power capacity in use	100.0 %	
		Other Antenna Type	N/A	
		ERP: (Effective Radiated Power)	60.0 kW	
		Manufacturer		
		Model	TFU-24WB /VP	

Year	2018
Justification for New Antenna	Candelabra will need extensive upgrades for repack of 3 stations 1 in phase 3 two in phase 8

# Interim Other Antenna Costs

# Antenna

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Туре	New
	Number of channels supported	3
	Frequencies of channels supported	RF channe
	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?	В
	Feed Line Size	7 3/16 inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for an antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	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		
21		
43		
44		

# Interim

#### Other Antenna Cost Not Listed

Antenna

Name	Description
combiner installation	installation of combiner by manufacture
Ice Shield for new Side-Mount Antenna Interim	Ice shield to protect interim antenna

Transmissior	n Seffien	Question	Response
	Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

ransmissio	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	Manufacturer	
Line Ma Type	Line Manufacturer and Type	Туре	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	1200 feet per run

# Primary Existing Transmission Line

Primary	New Transmission Line			
Transmissio	n 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	
		Туре	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	1200 feet per run	
		Justification for New Transmission Line	Cannel reassignment is forbidden channel on current coax	

Other Transmission Line Expenses Not Listed Transmission

Interim	New Transmission Line			
Transmissio	n Line Section	Question	Response	
	New Transmission Line	Use	Interim	
	Costs	Description of Use	N/A	
		Change Type	Purchase New	
		Туре	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	no current interim coax cost for coax, 3 elbows and nitrogen generator for pressurization of line	

Other Transmission Line Expenses Not Listed Transmission

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

# **Existing Tower**

Primary	Existing Tower			
Tower	Section	Question	Response	
	Existing Tower	Type of change	Modify Existing	
	Description	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	Yes	
		Is tower documented for structural analysis?	No	
		Is tower compliant with Rev G?	Yes	
	Existing Tower	Do you have a tower registration number?	Yes	
	Structure Registration	ASR Number	1003429	
	Coordinates (NAD83 (	Latitude (NAD83)	42° 26' 52.5" N-	
	North American Datum of 1983))	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	э Туре	GTOWER - Guyed Structure Used for Communication Purposes
Tower O	wner	American Tower, LLC
Date Co	nstructed	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
6056	WRCJ-FM	FM
72123	WWJ-TV	DTV
74211	WMYD	DTV

## Other Types of Users

Users
T-Mobil
W232CA
W268CN
W224CC
W292DK
WHNE-LD

Primary	Tower Modification Costs		
Tower	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

# **Tower Rigging Costs** Primary Tower

Section	Question	Response
Tower Rigging Costs	Complex Tower	Candelabra
Helicopter Services Required	Are helicopter services required?	Yes

### Other Tower Expenses Not Listed

Primary Tower Information not provided.

Outside Professional	Section	Question	Response
	Services Costs Outside Project Management Services	Do you require outside project management services?	Yes
		Number of Hours	690
		Explanation	Project management fees charged by tower owner
	Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
		Prepare engineering section of Form FCC Construction Permit Application	Yes
		For Auxiliary Facility	No
		For Main Facility	Yes
		Prepare engineering section of Form FCC License to Cover Application	Yes
		For Auxiliary Facility	No
		For Main Facility	Yes
		Prepare request for Special Temporary Authority	Yes
		Quantity	2
		Do you have Distributed Transmission System engineering services?	N/A
		Critical Facility	N/A
		Terrain-Shielded Facility	N/A
	Attorney and Other Outside Consulting	Prepare and file Form FCC Construction Permit Application	Yes
	Services	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	2
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	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
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 Other Professional Services Expenses Not Listed Professional Services Costs Description

ofessional	Services Costs	Description
	Site Coordination meeting	Coordination meeting of tenants tower owner and all contractors and vendors involved with the deliveries and construction. Travel and Logistical expenses incurred
	RF System Test	RF System Test

Other	Section	Question	Response
Expenses	AM Pattern Disturbance	Is an Impact Study needed?	No
		Is Remediation needed?	No
	Facility Expenses	Name	N/A
		Other Distributed Transmission System Expenses Not listed	N/A
		Name	N/A
		Is Notification of a Medical Facility required as a result of DTV broadcasting?	Yes
	Permit and Filing Costs	Local Zoning	Yes
		Non-zoning permits	No
		BLM or NFS Coordination	No
		FCC Construction Permit Minor Change	No
		FCC License to Cover Application	No
		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?	No
		Does this relocation require Equipment Storage?	Yes
		Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	Yes
		Does this relocation require MVPD Notification of a Channel Change?	Yes

# Other Expenses Not Listed

## Other Expenses

Name	Description
tower owner permits	Permits for combiner room electrical and construction permits
Employee time	Employee's time spent working on paperwork accounting, transmitter work, and supervision
Interim antenna connection	Coax, switches, forward/reverse power meters to interconnect with interim antenna
Interim antenna tower lease	Tower rental space for interim antenna
Lift equipment rental	fork lift and/or crane for lifting heavy equipment
Site Security	Due to high value equipment stored outside additional security measures needed

# Transmitters

### Cost Information

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
Primary Transmitter ULXTE-60	\$1,713,618.27	\$1,130,552.20		\$1,077,190.26	
10 ton Heating and cooling unit	\$19,219.00	\$19,219.00	see Justifying Quote WTVS Kropf Mechanical Service Company	\$19,219.00	N/A
HVAC ice shield	\$1,500.00	\$1,500.00	American tower charge	\$0.00	N/A
electrical Sub panel	\$1,700.00	\$1,700.00	American Tower Charge	\$833.34	Х
Other Building Addition Size: 1500.0	\$8,399.27	\$8,399.27	see Estimated Cost Justification WTVS-110-1st Primary Transmitter - Building Addition, 1,500 sq. ft. v0	\$6,524.42	N/A
10 Ton system	\$38,900.00	\$15,864.00	Replace 5 ton unit with 10 ton unit due to increased heat load of transmitter Available wall space will not support 2 5 ton units	\$0.00	N/A

Other Electrical Service: Generator replacement Electrical installation for Transmitter	\$127,500.00	\$127,500.00	Electrical costs for 230KW generator and installation replacement due to inadequate power for new transmitter also transmitter electrical installation and decommissioning cost	\$109,308.67	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$6,050.00	American tower charge	\$0.00	N/A
2" Rigid Conduit and Wiring (Cost per foot)	\$5,200.00	\$1,667.00	American tower charge	\$624.84	N/A
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	\$1,473,000.00	\$948,652.93	GatesAir Quote Q-80362	\$940,679.99	N/A
Sub-total	\$1,713,618.27	\$1,130,552.20	N/A	\$1,077,190.26	N/A
Total for all systems	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A

# Components

Actual Information Description	File Name	
10 ton Heating and cooling unit	Component Description: Amount:	Completed the installation of one \$19,219.00
HVAC ice shield	Information not provided.	

electrical Sub panel		
	Component Description:	WTVS-110-1st Primary Transmitter
		- Electrical Sub
	A	Panel
	Amount:	\$833.34
Other Building Addition		
Size: 1500.0	Component Description:	CAPITAL
		CONTRIBUTION -
		DETROIT - OAK PARK
	Amount:	\$2,730.82
	Component Description: Amount:	1/4" MIP X CLOSE \$43.60
		WTVS-110-1st
	Component Description:	Primary Transmitter
		- Building Addition,
		1,500 sq. ft.
	Amount:	\$2,500.00
	Component Description:	25% downpayment
		on component
	Amount:	\$1,250.00
10 Ton system	Information not provided.	

Other Electrical Service: Generator replacement Electrical installation for Transmitter	Component Description: Amount:	Remove and replace (1) 150 KW generator \$27,223.00
	Component Description: Amount:	Remove and replace (1) 150kw generator \$81,669.00
	Component Description: Amount:	25% deposit on component \$416.67
Switchgear - industrial 800 amp	Information not provided.	
2" Rigid Conduit and Wiring (Cost per foot)	Component Description: Amount:	25% deposit for this component \$208.34
	Component Description: Amount:	Broadcast Repack \$416.50
UHF - Liquid Cooled Solid State Transmitter 35 - 50 kW	Component Description: Amount:	RIGID TRANSMISSION LINE - COPPER \$618.75
	Component Description: Amount:	A. Transmitter \$316,217.64
	Component Description: Amount:	CONTRACT AMOUNT \$14,350.71

Component Description: Amount:	ULXTE-60 Transmitter \$185,777.41
Component Description: Amount:	2nd PROGRESS INVOICE FOR THE TRANSMITTER REPLACEMENT PROJECT \$7,392.79
Component Description: Amount:	OTHER \$40.69
Component Description: Amount:	Cushion Clamp Strut Mount \$79.80
Component Description: Amount:	Cushion Clamp Strut Mount \$26.60
Component Description: Amount:	CHANNEL JOINER FITTINGS \$77.16
Component Description: Amount:	STRUT CHANNEL \$727.92
Component Description: Amount:	Transmitter \$80,602.03
Component Description:	3rd progress invoice for the transmitter replacement
Amount:	\$10,871.75

Component Description: Amount:	BPME6-UH, BPME 6-1/8" Flanged \$7,679.10
Component Description:	ULXTE-60 Transmitter
Amount:	\$316,217.64

#### Antennas

#### Cost Information

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

Description Interim Antenna TFU-24WB /VP	Predetermined Cost Estimate \$268,038.89	Estimated Cost \$253,463.22	Estimated Cost Justification	Actual Cost \$243,771.00	Actual Cost Justification
Ice Shield for new Side- Mount Antenna Interim	\$744.81	\$744.81	Please see American Towers LLC Project Cost Estimation	\$744.81	N/A
Side mount brackets for high power antennas (if not included in antenna base cost)	\$23,150.00	\$22,000.00	N/A	N/A	N/A
Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	\$16,850.00	\$6,000.00	N/A	\$5,260.00	N/A

combiner installation	\$15,962.33	\$15,962.33	see Estimated Cost Justification WTVS-280- Interim Antenna - Combiner Installation v0	\$15,962.33	a
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$3,333.33	Х
New combiner, cost per channel (without antenna)	\$84,200.00	\$81,954.33	see Estimated Cost Justification WTVS-280- Interim Antenna - New Combiner v0	\$81,954.33	N/A
UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, elliptically or circularly polarized	\$120,401.75	\$120,401.75	American Tower cost estimate and PO #13-1652	\$136,516.20	The actual amount reimbursed for invoice 460199507 is \$15,000 (not \$97,901.75)
Primary Antenna TFU- 24GTH-VP- R 06	\$308,530.00	\$293,100.00		\$203,123.24	

UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	\$289,500.00	\$275,000.00	N/A	\$186,590.24	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$5,760.00	N/A
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	\$12,300.00	\$11,700.00	N/A	\$10,773.00	N/A
Sub-total	\$576,568.89	\$546,563.22	N/A	\$446,894.24	N/A
Total for all systems	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A

# Components

Actual Information Description	File Name	
Ice Shield for new Side- Mount Antenna Interim	Component Description: Amount:	WTVS-280-Interim Antenna - Ice Shield \$744.81
Side mount brackets for high power antennas (if not included in antenna base cost)	Information not provided.	

Elbow complex, broadband, at antenna input, per 7 3/16. feedline (if needed)	Component Description:	WTVS-280-Interim Antenna - Elbow Complex,
	Amount:	Broadband, 7 3/16" \$2,760.00
	Component Description:	25% downpayment for compenent
	Amount:	\$833.33
	Component Description:	WTVS-280-Interim Antenna - Elbow Complex, Broadband, 7 3/16"
	Amount:	\$1,666.67
combiner installation		
	Component Description:	WTVS-280-Interim Antenna - Combiner Installation
	Amount:	\$9,712.50
	Component Description:	25% downpayment on component
	Amount:	\$2,083.33
	Component Description:	WTVS-280-Interim Antenna - Combiner Installation
	Amount:	\$4,166.50

antenna	Component Description:	WTVS-280-Interim Antenna - Sweep
	Amount:	Test \$833.16
	Component Description:	WTVS-280-Interim Antenna - Sweep Test
	Amount:	\$833.33
	Component Description:	WTVS-280-Interim Antenna - Sweep Test
	Amount:	\$1,666.84
New combiner, cost per channel (without antenna)		
	Component Description:	WTVS-280-Interim Antenna - New Combiner
	Amount:	\$24,454.16
	Component Description:	PARTIAL
		PAYMENT FOR NEW COMBINER
	Amount:	N/A
	Component Description:	WTVS-280-Interim Antenna - New Combiner
	Amount:	\$38,333.50
	Component Description:	25% downpayment

UHF - High Power, Side Mount, basic slot antenna, 24 bay,, 60 - 65 kW input, elliptically or circularly polarized	Component Description:	WTVS-280-Interim Antenna - UHF High Power Side Mount,
	Amount:	E-POL \$16,114.45
	Component Description:	WTVS-280-Interim Antenna - UHF High Power Side Mount, E-POL
	Amount:	\$22,500.00
	Component Description:	PARTIAL PAYMENT ON UHF HIGH POWER SIDE MOUNT ANTENNA
	Amount:	N/A
	Component Description:	CAPITAL CONTRIBUTION - DETROIT - OAK PARK T1 MI / 282678 / ASSET#282678- BT1 / OAA711327 / FID 1003429 / WTVS Channel 20 Phase 8 / MILESTONE 1 / BROADCAST REPACK / TAX ID: 65-0723837
	Amount:	\$97,901.75

	-	
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	Component Description: Amount:	UHF - High Power Top Mount \$93,295.12
	Component Description: Amount:	UHF - High Power Top Mount \$93,295.12
Sweep test of existing antenna	Component Description:	WTVS-210-Primary Antenna - Sweep Test
	Amount:	\$2,046.67
	Component Description:	25% downpayment on component
	Amount:	\$833.33
	Component Description:	WTVS-210-Primary Antenna - Sweep Test
	Amount:	\$2,880.00
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	Component Description:	WTVS-210-Primary Antenna - Elbow
	Amount:	Complex, 6 1/8" \$5,386.50
	Component Description:	WTVS-210-Primary Antenna - Elbow Complex, 6 1/8"
	Amount:	\$5,386.50

### **Transmission Line**

#### Cost Information

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

Description Interim Transmission Line	Predetermined Cost Estimate \$331,335.00	Estimated Cost \$123,668.30	Estimated Cost Justification	Actual Cost \$123,668.30	Actual Cost Justification
Rigid Transmission Line - copper, 7 3 /16" broadband	\$331,335.00	\$123,668.30	see Estimated Cost Justification WTVS-380- Interim Transmission Line - Rigid, Copper, 7 3_16 v0	\$123,668.30	N/A
Primary Transmission Line	\$242,400.00	\$230,400.00		\$176,171.62	
Rigid Transmission Line - copper, 6 1/8"	\$242,400.00	\$230,400.00	N/A	\$176,171.62	N/A
Sub-total	\$573,735.00	\$354,068.30	N/A	\$299,839.92	N/A
Total for all systems	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A

### Components

Actual Information	
Description	File Name

Rigid Transmission Line - copper, 7 3/16" broadband	Component Description:	WTVS-380-Interim
		Transmission Line - Rigid, Copper, 7 3 /16"
	Amount:	\$44,913.05
	Component Description:	WTVS-380-Interim Transmission Line - Rigid, Copper, 7 3 /16"
	Amount:	\$52,503.50
	Component Description:	PARTIAL PAYMENT FOR RIGID TRANSMISSION LINE
	Amount:	\$26,251.75
Rigid Transmission Line -		
copper, 6 1/8"	Component Description:	WTVS-310-Primary Transmission Line - Rigid, Copper, 6 1 /8"
	Amount:	\$88,085.81
	Component Description:	WTVS-310-Primary Transmission Line -
		Rigid, Copper, 6 1 /8"
	Amount:	\$88,085.81

## **Tower Equipment and Rigging Costs**

#### Cost Information

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	\$838,027.50	\$807,727.50		\$310,959.56	
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$400,000.00	N/A	\$292,192.90	N/A
Minor tower reinforcement /modifications	\$158,000.00	\$150,000.00	N/A	\$4,166.66	N/A
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	\$26,300.00	\$25,000.00	N/A	\$14,600.00	Please remove \$14,600 entry for Tower Mapping & Structural Engineering as FCC did not like two invoices attached in one request.
Tower Helicopter Lift	\$232,727.50	\$232,727.50	Please see attached Dielectric Change Order 169750 and WTVS PO 13-1727	N/A	N/A
Sub-total	\$838,027.50	\$807,727.50	N/A	\$310,959.56	N/A

Total for all	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A
systems					

#### Components

Actual Information Description

File Name

	1	
Complex Tower (includes, for example, those with		
candelabras and/or stacked	Component Description:	WTVS-410- Existing Primary
antennas)		Tower - Tower
		Rigging, Complex
		Tower
	Amount:	\$28,816.66
	Component Description:	WTVS-410-
		Existing Primary
		Tower - Tower
		Rigging, Complex
		Tower
	Amount:	\$27,500.00
	Component Description:	WTVS-410-
	component bescription.	Existing Primary
		Tower - Tower
		Rigging, Complex
		Tower
	Amount:	\$106,363.12
	Component Description:	Tower Permit
	Component Description:	Drawing Package
	Amount:	\$9,400.00
		<i>\$</i> 0,100.00
	Component Description:	25% downpaymen
		on component
	Amount:	\$13,750.00
	Component Description:	WTVS-410-
		Existing Primary
		Tower - Tower Pigging Complex
		Rigging, Complex Tower
	Amount:	\$106,363.12
	Amount	

/modifications Tower mapping for an undocumented/poorly documented tower and	Component Description: Amount:	WTVS-410- Existing Primary Tower - Minor Tower Reinforcement /Modifications \$1,166.66
undocumented/poorly documented tower and	Amount:	Tower - Minor Tower Reinforcement /Modifications
undocumented/poorly documented tower and	Amount:	Tower Reinforcement /Modifications
indocumented/poorly locumented tower and	Amount:	Reinforcement /Modifications
indocumented/poorly locumented tower and	Amount:	/Modifications
undocumented/poorly documented tower and	Amount:	\$1,166.66
undocumented/poorly documented tower and		
undocumented/poorly documented tower and		
undocumented/poorly documented tower and	Component Description:	WTVS-410-
undocumented/poorly documented tower and		Existing Primary
undocumented/poorly documented tower and		Tower - Minor
undocumented/poorly documented tower and		Tower
undocumented/poorly documented tower and		Reinforcement
undocumented/poorly documented tower and	•	/Modifications
undocumented/poorly documented tower and	Amount:	\$2,000.00
undocumented/poorly documented tower and	Component Description:	25% downpayment
undocumented/poorly documented tower and	component Description.	on component
undocumented/poorly documented tower and	Amount:	\$1,000.00
undocumented/poorly documented tower and		
documented tower and		
	Component Description:	Broadcast structural
preparation of documentation necessary	Amount:	\$6,333.00
for tower load study	Component Description:	TOWER MAPPING
		& STRUCTURAL
		ENGINEERING
	Amount:	N/A
	Component Description:	Broadcast Tower
		Mapping Detroit
		OakPark Broadcast
	Amount:	Repack Line 2 \$8,267.00
Tower Helicopter Lift	Information not provided.	

### **Outside Professional Services**

#### Cost Information

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 Justificatior
Outside Professional Services	\$182,430.00	\$178,725.00		\$101,284.63	
RF System Test	\$5,000.00	\$5,000.00	Please see American Towers LLC Project Cost Estimation	\$3,333.33	N/A
RF Exposure Measurements	\$21,050.00	\$20,000.00	N/A	\$2,500.00	N/A
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	\$2,105.00	\$2,000.00	N/A	\$300.00	N/A
ASR modification (prepare FCC Form 854)	\$2,105.00	\$2,000.00	N/A	N/A	N/A
Attorney Fees - Prepare and File request for Special Temporary Authorization	\$7,360.00	\$7,000.00	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	\$407.50	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/#
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	\$90.00	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
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	N/A	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,800.00	see Estimated Cost Justfication WTVS-590- Transition Timing and Coordination v0	\$2,800.00	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	\$1,707.75	N/A
Site Coordination meeting	\$2,500.00	\$2,500.00	N/A	\$2,500.00	N/A

Project management of the transition	\$109,020.00	\$109,175.00	Quote Widelity Project Management and ATC PO 13-1647 permit filing services	\$86,596.05	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 request for Special Temporary Authorization	\$4,100.00	\$3,000.00	N/A	\$1,050.00	N/A
Sub-total	\$182,430.00	\$178,725.00	N/A	\$101,284.63	N/A
Total for all systems	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A

# Components

Actual Information Description	File Name	
RF System Test		
	<b>Component Description:</b>	WTVS-590-RF
		System Test
	Amount:	\$3,333.33

RF Exposure Measurements	Component Description:	WTVS-580-Field Engineering Service - Rf Exposure Measurements
	Amount:	\$1,666.67
	Component Description:	25% down payment for component
	Amount:	\$833.33
FAA consultant, including cost of preparing FAA Form 7460 (Notice of Proposed Construction), if needed for height increase	Component Description: Amount:	FCC repack: Analysis of WTVS impact \$225.00
	Component Description: Amount:	FCC repack Review of WTVS 399 \$75.00
ASR modification (prepare FCC Form 854)	Information not provided.	
Attorney Fees - Prepare and File request for Special Temporary Authorization	Information not provided.	

Attorney Fees - Negotiation		
of lease and other matters	Component Description:	Television
for shared locations		Repacking
		Services-WTVS
	Amount:	\$90.00
	Component Description:	Invoice for legal
		services
	Amount:	\$90.00
	Component Description:	Legal Services -
		Television
		Repacking
		Services - WTVS
	Amount:	\$77.50
	Component Description:	Television
	component Description.	Repacking
		Services - WTVS
	Amount:	\$90.00
	Component Description:	Television
		Repacking
		Services - WTVS
	Amount:	\$60.00
Attorney Fees -Prepare	Information not provided.	
and File FCC Form 2100		
(main), License to Cover Application		
Attorney Fees - Prepare		
and File FCC Form 2100	Component Description:	Television
(main), Construction Permit		Repacking Services
Application	Amount:	\$90.00
Prepare engineering	Information not provided.	
section of FCC Form 2100		
(main) Construction Darmit		
(main), Construction Permit Application		

Perform engineering study for new channel assignment and antenna development	Information not provided.	
Address transition timing and coordination issues w/ other stations and wireless	Component Description: Amount:	WTVS-590- Transition Timing and Coordination \$2,500.00
	Component Description: Amount:	Legal Services \$300.00
Prepare and or review reimbursement form	Component Description:	Legal services to prepare and review reimbursement form in addition to review & filing reports
	Amount: Component Description:	\$1,617.75 Legal services
	Amount:	\$90.00

Component Description:	WTVS-590-Site
	Coordination
	Meeting
Amount:	\$625.00
Component Description:	WTVS-590-Site
	Coordination
•	Meeting
Amount:	\$1,250.00
Component Description:	25%
	downpaymaent for
	this component
Amount:	\$625.00
Component Description:	Project
	Management
Amount:	\$2,590.10
Component Description	Project
Component Description.	Management
Amount:	\$8,134.35
Component Description:	Project
A	Management
Amount:	\$2,802.70
Component Description:	project
	management
Amount:	\$1,152.50
Component Description:	Project
	Management
Amount:	\$4,210.05
	Component Description: Amount: Component Description: Amount: Component Description: Amount: Component Description: Amount: Component Description: Amount: Component Description: Amount:

Component Description: Amount:	project management \$4,293.90
Component Description: Amount:	Project management \$3,287.90
Component Description: Amount:	Project Management \$4,221.70
Component Description: Amount:	Project Management \$2,962.90
Component Description: Amount:	PO Line 1 - NTP Billable - Project Mgmt \$9,480.00
Component Description: Amount:	WTVS-510-Project Management \$1,250.00
Component Description: Amount:	Project Management \$4,064.85
Component Description: Amount:	Project management \$3,512.30
Component Description: Amount:	Project Management \$5,909.75

Component Description: Amount:	Project Management \$2,591.50
Component Description: Amount:	Project Management \$3,779.45
Component Description: Amount:	Project Management \$4,170.20
Component Description: Amount:	Project Management \$4,760.70
Component Description: Amount:	WTVS-510-Project Management \$2,500.00
Component Description: Amount:	Please deny this component N/A
Component Description:	25% downpayment for work being done by American
Amount:	Tower \$1,250.00
Component Description: Amount:	Project Management \$2,411.75

	Component Description:	CONSULTING WORK WITH STAFF TO CREATE A REPACK FACT SHEET.
	Amount:	\$450.00
	Component Description:	Project
	Amount:	Management \$3,642.90
	Component Description:	Project
	Amount:	Management \$3,166.55
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.	
Prepare request for Special Temporary Authorization	Component Description:	Preparation of ST Application for
	Amount:	Operation \$1,050.00

### **Other Expenses**

### Cost Information

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	\$247,328.80	\$246,778.80		\$112,307.00	
Site Security	\$5,000.00	\$5,000.00	N/A	N/A	N/A
Lift equipment rental	\$10,000.00	\$10,000.00	N/A	N/A	N/A
Interim antenna tower lease	\$65,148.39	\$65,148.39	American Tower cost estimate; DPTV WTVS-610- Interim Antenna Tower Lease Budget Increase Justification	\$57,600.00	N/A
Interim antenna connection	\$29,799.31	\$29,799.31	Please see Estimated Cost Justification WTVS-610- Interim Antenna Connection v0	\$29,799.31	N/A
Employee time	\$75,081.10	\$75,081.10	See Attachment	\$16,277.69	Please remove this component. It was resubmitted under outside professional services for repack

permits					
MVPD Notification of Channel Change	\$2,000.00	\$2,000.00	N/A	\$1,250.00	N/A
Develop and air announcement of upcoming channel change	\$5,000.00	\$5,000.00	N/A	N/A	N/A
Equipment Storage	\$8,000.00	\$8,000.00	Outdoor covered storage for equipment and parts	\$2,880.00	N/A
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	\$3,750.00	N/A
Local Zoning	\$10,000.00	\$10,000.00	Permits and inspections	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	\$25,000.00	\$25,000.00	N/A	N/A	N/A
Sub-total	\$247,328.80	\$246,778.80	N/A	\$112,307.00	N/A
Total for all systems	\$4,131,708.46	\$3,264,415.02	N/A	\$2,348,475.61	N/A

# Components

Actual Information Description	File Name
Site Security	Information not provided.
Lift equipment rental	Information not provided.

Interim antenna tower lease		
	Component Description:	WTVS-610-Interim Antenna Tower Lease
	Amount:	\$14,400.00
	Component Description:	WTVS-610-Interim Antenna Tower
	Amount:	Lease \$28,800.00
	Component Description:	25% downpayment on this component \$14,400.00
	Amount.	\$T4,400.00
Interim antenna connection		
	Component Description:	50 Ohm 2 Way N Power Divider from 500 MHz to 1,000 MHz rated at 10 watts
	Amount:	\$151.66
	Component Description:	#2 Acid brush 1/2" x 6"
	Amount:	\$105.00
	Component Description:	50 Ohm 2 Way N Power Divider
		From 500 MHz to 1,000 MHz Rated at 10 watts
	Amount:	\$583.04
	Component Description:	18-8 stainless steel hex head
	Amount:	screw \$66.89

Component Description: Amount:	Hoist block and tackle \$58.29
Component Description:	N Male Right Angle to N Male Right Angle Cable Using LMR-400 Coax and Times Connectors \$875.12
Component Description: Amount:	Switch WR1500 H Plane 115 VAC 60000 SER \$20,095.80
Component Description: Amount:	Clevis Hanger 1 1 /4 IN. 215LB Max Load \$66.73
Component Description: Amount:	Hot-water hose, medium-pressure \$111.66
Component Description: Amount:	Interim antenna connection \$315.53
Component Description: Amount:	BPME4M-UH BPME 4-1/16" Flanged \$7,032.75

	Component Description: Amount:	Insulator Conductor Adapter 4 1/16" Thin-Stand \$336.84
Employee time	Component Description: Amount:	Project Management \$5,558.54
	Component Description: Amount:	Employee Time \$5,822.18
	Component Description: Amount:	Project Management \$4,896.97
	Component Description: Amount:	this component should be removed \$450.00
tower owner permits	Component Description: Amount:	Building permit \$750.00
MVPD Notification of Channel Change	Component Description: Amount:	WTVS-610-MVPD Notification \$1,250.00
Develop and air announcement of upcoming channel change	Information not provided.	

Component Description:	WTVS-610-
	Equipment
A	Storage
Amount:	\$1,440.00
Component Description:	WTVS-610-
	Equipment
	Storage
Amount:	\$1,440.00
Component Description:	Medical Notification
Amount:	\$3,750.00
Information not provided.	
Information not provided.	
	Amount:   Component Description:   Amount:   Component Description:   Amount:   Information not provided.

Cost Information	Grand Total			
		Predetermined Cost Estimate	Estimated Cost	Actual Cost
	Total for all systems	\$4,131,708.46	\$3,264,415.02	\$2,348,475.61

Reimbursem	entestiatus	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.	
		<ol> <li>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>The above-named</li> </ol>	
		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).
- 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.	William Carignan Controller 04/09/2020

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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).	
		<ol> <li>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> </ol>	
		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).
- 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.	
an au name	are, under penalty of perjury, that I am athorized representative of the above- ed applicant for the Authorization(s) fied above.	William Carignan Controller 04/09/2020

## Attachments