



(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility **4318** | Service: **DTV** | Call **WNMU** | Channel: **8 (High VHF)**
ID:
File **0000026956**
Number:
FRN: **0002735751** | Date **01/15**
Submitted: **/2021**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
BOARD OF TRUSTEES, NORTHERN MICHIGAN UNIVERSITY Doing Business As: BOARD OF TRUSTEES, NORTHERN MICHIGAN UNIVERSITY	Mr. Eric Smith WNMU (TV) 1401 PRESQUE ISLE DRIVE MARQUETTE, MI 49855 United States	+1 (906) 227- 1314	esmith@nmu. edu	Government Entity

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
Benjamin Pidek <i>Consulting Engineer</i> <i>Mid-State</i> <i>Consultants</i>	6197 Miller Rd., Suite 1 Swartz Creek, MI 48473 United States	+1 (810) 226- 0750	bpidek@mscon. com

**Broadcaster
Information
and
Transition
Plan**

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	No
Briefly describe transition plan	WNMU must replace its main and auxiliary antenna and main and auxiliary transmitter in order to move it its new channel. See attached narrative for a more detailed explanation.

Transmitters

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

**Primary
Transmitter**

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	Platinum PTCD10P1i
	Year	2009
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	2.26 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	VAXTE-4
	Transmitter Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power capacity	2.8 kW
	Justification for New Transmitter	Current transmitter is no longer supported by the manufacturer except for maintenance. Available parts are in limited supply and in some cases are no longer available. Manufacturer says it cannot be re-tuned.

**Primary
Transmitter**

Other Transmitter Costs

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	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes
	Description	Necessary conduit, wiring and fuse disconnects as quoted by electrical contractor.
HVAC Service	Does the replacement transmitter require HVAC Service?	Yes
	Type	Cooling Only
	Size	5 tons
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leasehold improvement?	No
	Size	N/A
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

**Primary
Transmitter**

Other Transmitter Cost Not Listed

Name	Description
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Transmitter Bldg. Rearrangement	Equipment racks will need to be moved in the transmitter building in order to make space for the new transmitter. HVAC ducting will also need to be rerouted.
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Antennas

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

**Primary
Antenna**

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	No
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Top Mount
	Antenna position in stack	Not in Stack
	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)	15.4 kW

Manufacturer	
Model	ATW9V3- HTO-13-R
Year	2009

**Primary
Antenna**

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	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	Horizontal
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	15.6 kW
	Manufacturer	
	Model	THV-9A8-R

Year	2019
Justification for New Antenna	Existing main antenna is a coaxial slot antenna that is channel specific and cannot be reused on the new channel.

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	Yes
	Broadband or Single Channel?	Single Channel
	Feed Line Size	4 1/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	

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

**Primary
Antenna**

Other Antenna Cost Not Listed

Information not provided.

**Interim
Antenna**

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Ownership	Owned
	Owner	N/A
	Is antenna shared?	No
	Is antenna directional?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	No
New Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Not in Stack
	Polarization	Horizontal
	Type	Broadband Slot
	Number of Stations Supported	1
	Number of Panels/Bays	8
	Lower Limit	174.00 MHz
	Upper Limit	216.00 MHz
	Design power capacity in use	20.0 %
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	20.0 kW
	Manufacturer	
	Model	TLS-V8BB
	Year	2019

	Justification for New Antenna	WNMU will need an interim facility for operation while it changes out the antenna on the main facility. Lower mounting on the tower requires higher ERP antenna in order to replicate coverage.
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Interim Antenna

Other Antenna Costs

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

Interim Antenna

Other Antenna Cost Not Listed

Information not provided.

Transmission Line

Section	Question	Response
Transmission Line Related Expenses	Do you have transmission line related expenses?	Yes

Primary Transmission Line**Add Transmission Line**

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmission currently shared with any other stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	ERI
	Type	Rigid
	Diameter	Other
	Other Diameter	4 inches
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1030 feet per run

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Primary Line - Additional Transmission Line Parts	Additional parts needed in order to reuse existing line

Interim Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Flexible Air
	Diameter	3 inches
	Segment Length	N/A
	Other Segment Length	
	Number of parallel runs	1
	Length	1000 feet per run

Justification for New Transmission Line	WNMU has been assigned Phase 9 for construction which will be during the winter months in Michigan. It will need to construct the new facility in the previous year and will need trans line for the interim facility while it waits for its testing date.
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Interim Transmission Line **Other Transmission Line Expenses Not Listed**

Name	Description
Interim Transmission Line-Nitrogen Regulator Kit	Interim Transmission Line-Nitrogen Regulator Kit

**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**

Add Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Is this tower consider Complex?	No
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1023010
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	46° 21' 10.0" N-
	Longitude (NAD83)	087° 51' 15.0" W-
	Overall Structure Height	1100.71 feet
	Support Structure Height	999.99 feet
	Ground Elevation Above Mean Sea Level (AMSL)	1499.98 feet

	Structure Type	TOWER - Free Standing or Guyed Structure
	Tower Owner	BOARD OF TRUSTEES OF NORTHERN MICHIGAN UNIVERSITY DBA = WNMU TV FM
	Date Constructed	10/09/1972

**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
49572	WNMU-FM	FM

Primary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for documented tower
Tower Reinforcements	Please select whether tower reinforcements are needed:	Major Reinforcements needed

Primary Tower

Tower Rigging Costs

Section	Question	Response
Tower Rigging Costs	Complex Tower	N/A

Helicopter Services Required	Are helicopter services required?	Yes
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**Primary
Tower**

Other Tower Expenses Not Listed

Name	Description
Interim Antenna Rigging	Rigging necessary for installation of interim antenna and transmission line.
PE Review of Rigging Plan	Professional Engineering review of proposed rigging plan as required by ANSI /ASEE A10.48 and ANSI/TIA 322 standards.

**Outside
Professional Services Costs**

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	595
	Explanation	WNMU requires the aid of outside project management services in order to fulfill the requirements of the repack. WNMU does not have sufficient resource capacity and expertise in house to handle reimbursement related tasks
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	1

	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	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	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	Yes
	RF exposure measurements	No
	Additional Field Engineering Service	Yes
	Number of Days	26

	Justification	Installation, testing, and other field engineering work required for repack
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Outside Professional Services Costs

Other Professional Services Expenses Not Listed

Name	Description
Site Survey	GatesAir performed a site survey to access changes to facility as necessary to transition to new channel including, power and HVAC requirements, available transmitter room space and existing antenna and transmission line RF characteristics at new channel.

Other Expenses

Section	Question	Response
AM Pattern Disturbance	Is an Impact Study needed?	No
	Is Remediation needed?	No
Facility Expenses	Name	N/A
	Other Distributed Transmission System Expenses Not listed	N/A
	Name	N/A
	Is Notification of a Medical Facility required as a result of DTV broadcasting?	Yes
Permit and Filing Costs	Local Zoning	No
	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?	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
Performance Bond	NMU typically follows AIA contract guidelines which requires on a project of this magnitude that construction bonds be required as part of the bid process. Bonds are necessary to ensure project completion and to protect necessary down payments.
Employee Time, Travel and Per Diem	Time and travel expenses needed by NMU employees to work on the transition to a new channel.

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 VAXTE-4	\$270,950.00	\$266,882.27		\$154,251.30	
Transmitter Bldg. Rearrangement	<i>\$50,000.00</i>	\$50,000.00	N/A	\$16,098.76	N/A
5 Ton system	\$20,250.00	\$25,582.27	Please see Johnson Controls proposal 1-13RJPFRR	\$25,581.26	N/A
Other Electrical Service: Necessary conduit, wiring and fuse disconnects as quoted by electrical contractor.	<i>\$10,000.00</i>	\$10,000.00	N/A	\$1,945.00	N/A
High VHF - Air Cooled Solid State Transmitter 1.1 - 4.4 kW	\$152,500.00	\$145,000.00	N/A	\$110,626.28	N/A
Switchgear - industrial 800 amp	\$38,200.00	\$36,300.00	N/A	N/A	N/A
Sub-total	\$270,950.00	\$266,882.27	N/A	\$154,251.30	N/A
Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A

Components

Actual Information Description	File Name
Transmitter Bldg. Rearrangement	<div> Component Description: Invoice moved to 1st Primary Transmitter - Other Electrical Service Category </div> <div> Amount: N/A </div>
	<div> Component Description: LOC TITE FOAM GPS AND CRCKS 12-OZ </div> <div> Amount: \$4.00 </div>
	<div> Component Description: SKELETON 10OZ CAULK GUN DRIP FREE 3 </div> <div> Amount: \$94.76 </div>
	<div> Component Description: Labor and material for installation </div> <div> Amount: \$9,000.00 </div>
	<div> Component Description: Fabrication and install of new outside air </div> <div> Amount: \$3,500.00 </div>
	<div> Component Description: ELY TOWNSHIP TOWER SITE </div> <div> Amount: \$3,500.00 </div>

5 Ton system	Component Description: Key pick up Amount: \$2,498.99
	Component Description: Demo existing three supply Amount: \$23,082.27
Other Electrical Service: Necessary conduit, wiring and fuse disconnects as quoted by electrical contractor.	Component Description: Electrical for HVAC and Television equipment Amount: \$1,945.00
High VHF - Air Cooled Solid State Transmitter 1.1 . 4.4 kW	Component Description: A. Transmitter Amount: \$35,170.15
	Component Description: VAXTE-4R44 Transmitter per Quote Q-81435 Amount: \$40,285.96
	Component Description: Downpayment only for channel 8 transmitter Amount: \$35,170.17
Switchgear - industrial 800 amp	Information not provided.

Cost Information

Antennas

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Antenna TLS-V8BB	\$106,730.00	\$106,400.00		\$77,148.13	
High VHF - High Power Side Mount One Station horizontally polarized	<i>\$100,000.00</i>	\$100,000.00	N/A	\$70,748.13	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,400.00	N/A
Primary Antenna THV-9A8-R	\$341,300.00	\$340,696.00		\$277,259.18	
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	\$9,570.00	\$9,296.00	Please see Dielectric quote 700079CMZ-1, plus actual shipping costs on invoices	\$9,231.10	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$6,400.00	N/A
High VHF - High Power Top Mount One Station horizontally polarized	<i>\$325,000.00</i>	\$325,000.00	N/A	\$261,628.08	N/A

Sub-total	\$448,030.00	\$447,096.00	N/A	\$354,407.31	N/A
Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A

Components

Actual Information	
Description	File Name
High VHF - High Power Side Mount One Station horizontally polarized	Component Description:
	WNMU-280-Interim Antenna - High VHF High Power Side Mount Single Station, H-POL
	Amount:
	\$30,724.43
	Component Description:
	WNMU-280-Interim Antenna - High VHF High Power Side Mount Single Station, H-POL
	Amount:
	\$6,798.40
	Component Description:
	WNMU-280-Interim Antenna - High VHF High Power Side Mount Single Station, H-POL
	Amount:
	\$33,225.30

Sweep test of existing antenna	<div> Component Description: WNMU-280-Interim Antenna - Sweep Test </div> <div> Amount: \$2,880.00 </div>
	<div> Component Description: WNMU-280-Interim Antenna - Sweep Test </div> <div> Amount: \$640.00 </div>
	<div> Component Description: WNMU-280-Interim Antenna - Sweep Test </div> <div> Amount: \$2,880.00 </div>
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	<div> Component Description: WNMU-210-Primary Antenna - Elbow Complex </div> <div> Amount: \$4,154.30 </div>
	<div> Component Description: WNMU-210-Primary Antenna - Elbow Complex </div> <div> Amount: \$893.60 </div>
	<div> Component Description: WNMU-210-Primary Antenna - Elbow Complex </div> <div> Amount: \$4,183.20 </div>

Sweep test of existing antenna		
	Component Description:	WNMU-210- Primary Antenna - Sweep Test
	Amount:	\$2,880.00
	Component Description:	WNMU-210- Primary Antenna - Sweep Test
	Amount:	\$640.00
High VHF - High Power Top Mount One Station horizontally polarized		
	Component Description:	WNMU-210- Primary Antenna - Sweep Test
	Amount:	\$2,880.00
	Component Description:	UHF - High Power Top Mount
	Amount:	\$118,638.00
	Component Description:	UHF HIGH POWER TOP MOUNT
	Amount:	\$117,742.08
	Component Description:	UHF - HIGH POWER TOP MOUNT
	Amount:	\$25,248.00

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	\$59,415.55	\$41,760.62		\$41,760.62	
Interim Transmission Line-Nitrogen Regulator Kit	<i>\$415.55</i>	\$415.55	Please see WNMU Interim Transmission Line-Nitrogen Regulator Kit Budget Revision Justification Letter	\$415.55	N/A
Flexible Air Transmission Line - dielectric, 3"	\$59,000.00	\$41,345.07	Estimated Cost Justification WNMU-380-Interim Transmission Line - 3 Flexible Air Dielectric V0	\$41,345.07	N/A
Primary Transmission Line	\$11,854.75	\$11,854.75		\$10,385.61	
Primary Line - Additional Transmission Line Parts	<i>\$11,854.75</i>	\$11,854.75	Please see Dielectric quote 700079CMZ-1, plus actual shipping costs on invoices	\$10,385.61	N/A
Sub-total	\$71,270.30	\$53,615.37	N/A	\$52,146.23	N/A

Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A
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Components

Actual Information		
Description	File Name	
Interim Transmission Line-Nitrogen Regulator Kit	Component Description: Amount:	Nitrogen Regulator Kit \$415.55
Flexible Air Transmission Line - dielectric, 3"	Component Description: Amount:	OTHER \$2,632.00
	Component Description: Amount:	WNMU-380-Interim Transmission Line - 3" Flexible Air Dielectric \$16,821.98
	Component Description: Amount:	WNMU-380-Interim Transmission Line - 3" Flexible Air Dielectric \$3,722.48
	Component Description: Amount:	WNMU-380-Interim Transmission Line - 3" Flexible Air Dielectric \$18,168.61

Primary Line - Additional
Transmission Line Parts

Component Description:

WNMU-310-
Primary
Transmission Line
- Additional
Transmission Line
Parts

Amount:

\$1,996.70

Component Description:

WNMU-310-
Primary
Transmission Line
- Additional
Transmission Line
Parts

Amount:

\$3,054.28

Component Description:

WNMU-310-
Primary
Transmission Line
- Additional
Transmission Line
Parts

Amount:

\$5,334.63

Cost
Information

Tower Equipment and Rigging Costs

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower TOWER	\$866,350.00	\$834,250.00		\$150,609.20	
Interim Antenna Rigging	<i>\$100,000.00</i>	\$100,000.00	N/A	\$125.00	N/A
PE Review of Rigging Plan	<i>\$7,500.00</i>	\$7,500.00	N/A	N/A	N/A
Tower Helicopter Lift	<i>\$114,750.00</i>	\$114,750.00	Please see WNMU FDH Infrastructure Services, LLC quote P18_231409_001A	\$34,425.00	N/A
Major tower reinforcement /modifications	\$421,000.00	\$400,000.00	N/A	\$59,104.20	N/A
Structural engineering tower load study for well documented tower	\$12,600.00	\$12,000.00	N/A	\$10,500.00	N/A
Tall Tower (greater than 500')	\$210,500.00	\$200,000.00	N/A	\$46,455.00	N/A
Sub-total	\$866,350.00	\$834,250.00	N/A	\$150,609.20	N/A
Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A

Components

Actual Information		
Description	File Name	
Interim Antenna Rigging	Component Description: Amount:	Regular Portable Toilet \$125.00
PE Review of Rigging Plan	Information not provided.	
Tower Helicopter Lift	Component Description: Amount:	STNLCN STNL Construction \$34,425.00
Major tower reinforcement /modifications	Component Description: Amount:	WNMU-410-Existing Primary Tower - Major Tower Reinforcement /Modifications \$59,104.20
Structural engineering tower load study for well documented tower	Component Description: Amount: Component Description: Amount: Component Description: Amount: Component Description: Amount:	STNLSA STNL Structural Analysis \$2,750.00 STNLSA STNL Structural Analysis \$2,750.00 001 Engineering \$2,500.00 002 Engineering \$2,500.00

Tall Tower (greater than 500')		
	Component Description:	WNMU-410- Existing Primary Tower - Tower Rigging, Tall Tower
	Amount:	\$46,200.00
	Component Description:	Regular Portable Toilet
	Amount:	\$150.00
	Component Description:	ZEP AP CLEAN & DEGREASE 32OZ
	Amount:	\$105.00

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	\$256,670.87	\$173,572.20		\$108,095.65	
Site Survey	<i>\$15,300.00</i>	\$15,300.00	N/A	\$15,289.50	N/A
Additional Field Engineering Service, 26 Days	<i>\$24,030.87</i>	\$24,030.87	The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time.	\$24,030.87	Please see submitted invoices.
Comprehensive coverage verification via field study, if needed	\$84,200.00	\$516.33	Please see WNMU Outside Professional Services- Engineering - Comprehensive Coverage Verification via Field Study Budget Revision Justification Letter. The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time	\$516.33	see submitted invoices

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	N/A	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	\$3,680.00	\$3,500.00	N/A	\$300.00	N/A
Attorney Fees - Negotiation of lease and other matters for shared locations	\$4,210.00	\$1,300.00	The estimated cost has been adjusted to include all invoices submitted for reimbursement at this time.	\$1,300.00	Please see submitted invoices.
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	\$200.00	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	\$900.00	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	\$225.00	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	\$750.00	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	\$1,125.00	N/A
Address transition timing and coordination issues w/ other stations and wireless	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	\$525.00	N/A
Project management of the transition	\$94,010.00	\$99,675.00	Please see attached Widelity Strategics Support Quote	\$62,933.95	N/A
Sub-total	\$256,670.87	\$173,572.20	N/A	\$108,095.65	N/A

Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A
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Components

Actual Information Description	File Name
Site Survey	<div> <div>Component Description:</div> <div>Field Service</div> <div>Amount:</div> <div>\$15,289.50</div> </div>
Additional Field Engineering Service, 26 Days	<div> <div>Component Description:</div> <div>Attic Mount TV Antenna</div> <div>Amount:</div> <div>\$74.85</div> </div> <div> <div>Component Description:</div> <div>TRAVEL</div> <div>Amount:</div> <div>\$10,342.56</div> </div> <div> <div>Component Description:</div> <div>Drive Madison</div> <div>Amount:</div> <div>\$4,214.56</div> </div> <div> <div>Component Description:</div> <div>Procedure Patch panel</div> <div>Amount:</div> <div>\$2,170.43</div> </div> <div> <div>Component Description:</div> <div>Electrician Coordinate</div> <div>Amount:</div> <div>\$7,228.47</div> </div>
Comprehensive coverage verification via field study, if needed	<div> <div>Component Description:</div> <div>bladeRF 2.0 micro</div> <div>Amount:</div> <div>\$516.33</div> </div>

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.
Attorney Fees - Prepare and File request for Special Temporary Authorization	<div> <div> Component Description: </div> <div> WNMU-550-Attorney - Special Temporary Authorization </div> </div> <div> <div> Amount: </div> <div> \$300.00 </div> </div>

Attorney Fees - Negotiation of lease and other matters for shared locations	Component Description:	Professional Services
	Amount:	\$300.00
	Component Description:	Professional Services
	Amount:	\$100.00
	Component Description:	Draft and File Form 323-E
	Amount:	\$300.00
	Component Description:	Email exchange with Eric Smith
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Amount:	\$100.00
	Component Description:	Professional Services
	Amount:	\$200.00
	Component Description:	Professional Services
	Amount:	\$200.00
	Component Description:	Professional Services
	Amount:	\$100.00
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	Component Description:	WNMU-550- Attorney - License to Cover Application (Main)
	Amount:	\$200.00

<p>Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application</p>	<table> <tr> <td data-bbox="697 100 1114 293"> <p>Component Description:</p> <p>Amount:</p> </td><td data-bbox="1114 100 1428 293"> <p>Professional Services</p> <p>\$800.00</p> </td></tr> <tr> <td data-bbox="697 293 1114 607"> <p>Component Description:</p> <p>Amount:</p> </td><td data-bbox="1114 293 1428 607"> <p>WNMU-550-Attorney - Construction Permit Application (Main)</p> <p>\$100.00</p> </td></tr> <tr> <td data-bbox="697 607 1114 864"> <p>Component Description:</p> <p>Amount:</p> </td><td data-bbox="1114 607 1428 864"> <p>Professional Services</p> <p>\$600.00</p> </td></tr> </table>	<p>Component Description:</p> <p>Amount:</p>	<p>Professional Services</p> <p>\$800.00</p>	<p>Component Description:</p> <p>Amount:</p>	<p>WNMU-550-Attorney - Construction Permit Application (Main)</p> <p>\$100.00</p>	<p>Component Description:</p> <p>Amount:</p>	<p>Professional Services</p> <p>\$600.00</p>
<p>Component Description:</p> <p>Amount:</p>	<p>Professional Services</p> <p>\$800.00</p>						
<p>Component Description:</p> <p>Amount:</p>	<p>WNMU-550-Attorney - Construction Permit Application (Main)</p> <p>\$100.00</p>						
<p>Component Description:</p> <p>Amount:</p>	<p>Professional Services</p> <p>\$600.00</p>						
<p>Prepare request for Special Temporary Authorization</p>	<p>Information not provided.</p>						
<p>Prepare engineering section of FCC Form 2100 (main), License to Cover Application</p>	<table> <tr> <td data-bbox="697 1016 1114 1256"> <p>Component Description:</p> <p>Amount:</p> </td><td data-bbox="1114 1016 1428 1256"> <p>Preparation of Application for License to Cover Repack</p> <p>\$225.00</p> </td></tr> </table>	<p>Component Description:</p> <p>Amount:</p>	<p>Preparation of Application for License to Cover Repack</p> <p>\$225.00</p>				
<p>Component Description:</p> <p>Amount:</p>	<p>Preparation of Application for License to Cover Repack</p> <p>\$225.00</p>						
<p>Prepare engineering section of FCC Form 2100 (main), Construction Permit Application</p>	<table> <tr> <td data-bbox="697 1350 1114 1547"> <p>Component Description:</p> <p>Amount:</p> </td><td data-bbox="1114 1350 1428 1547"> <p>FCC Repack of WNMU</p> <p>\$750.00</p> </td></tr> </table>	<p>Component Description:</p> <p>Amount:</p>	<p>FCC Repack of WNMU</p> <p>\$750.00</p>				
<p>Component Description:</p> <p>Amount:</p>	<p>FCC Repack of WNMU</p> <p>\$750.00</p>						

Perform engineering study for new channel assignment and antenna development	<div> <div> Component Description: Amount: </div> <div> FCC Repack of WNMU \$450.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> WNMU-530-RF Eng - Engineering Study for New Channel Assignment \$675.00 </div> </div>
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.
Prepare and or review reimbursement form	<div> <div> Component Description: Amount: </div> <div> Professional Services \$100.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> Attorney Prepare and Review Reimbursement Form \$100.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> WNMU-590-Prepare/Review Reimbursement Form \$100.00 </div> </div> <div> <div> Component Description: Amount: </div> <div> WNMU-550-Prepare/Review Reimbursement Form \$225.00 </div> </div>
Project management of the transition	

Component Description:	Main and Interim Antenna Construction Planning/Timing and Status Review
Amount:	\$450.00

Component Description:	Project Management
Amount:	\$4,266.70

Component Description:	Project Management
Amount:	\$15,749.80

Component Description:	Project Management
Amount:	\$2,183.70

Component Description:	Project Management
Amount:	\$13,464.15

Component Description:	4/2/19 Office
Amount:	\$3,559.10

Component Description:	Project Management
Amount:	\$12,094.30

Component Description:	Project Management
Amount:	\$2,907.85

Component Description:	Project Management
Amount:	\$4,063.35

Component Description:	Project Management
Amount:	\$1,258.75

Component Description:	Project Management
Amount:	\$86.25

Component Description:	Review and Response to Dielectric Questions Regarding Main and Interim Antennas
Amount:	\$225.00

Component Description:	WNMU-510-Project Management
Amount:	\$400.00

Component Description:	Review of Stainless Tower Study and Discussion on Results with NMU
Amount:	\$225.00

Component Description:	PO026623: Ship to E Smith SRV 906 /227-1314
Amount:	\$1,400.00

Component Description:	WNMU-510-Project Management
Amount:	\$100.00

Component Description:

WNMU-510-Project
Management

Amount:

\$200.00

Component Description:

Repack Status
Review and
Conference Call

Amount:

\$300.00

Cost Information

Other Expenses

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Other Expenses	\$248,019.35	\$239,469.35		\$22,724.85	
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$20,000.00</i>	\$20,000.00	N/A	\$1,478.65	N/A
Employee Time, Travel and Per Diem	<i>\$109,045.00</i>	\$109,045.00	N/A	\$69.60	N/A
Performance Bond	<i>\$83,104.00</i>	\$83,104.00	N/A	N/A	N/A
MVPD Notification of Channel Change	<i>\$2,500.00</i>	\$2,500.00	N/A	\$2,125.00	N/A
Develop and air announcement of upcoming channel change	<i>\$5,000.00</i>	\$5,000.00	N/A	N/A	N/A
Equipment Storage	<i>\$14,430.00</i>	\$14,430.00	Estimated Cost Justification WNMU-610- Equipment Storage V0	\$14,430.00	N/A

Equipment Delivery and Handling Charges	\$2,390.35	\$2,390.35	Please see Estimated Cost Justification WNMU-610-Equipment Delivery V0	\$2,390.35	N/A
DTV Medical Facility Notification	\$11,550.00	\$3,000.00	N/A	\$2,231.25	N/A
Sub-total	\$248,019.35	\$239,469.35	N/A	\$22,724.85	N/A
Total for all systems	\$2,161,290.52	\$2,014,885.19	N/A	\$842,234.54	N/A

Components

Actual Information	
Description	File Name
Disposal Costs (for equipment and other waste, net of any salvage value)	Component Description: Delivery 30 yd open top
	Amount: \$250.00
	Component Description: 30 Yd rolloff
	Amount: \$419.75
	Component Description: Delivery 20 yd open top
	Amount: \$250.00
	Component Description: 20 Yd rolloff
	Amount: \$558.90

Employee Time, Travel and Per Diem	Component Description: Amount:	Repack travel expenses-mileage to transmitter site \$69.60
Performance Bond	Information not provided.	
MVPD Notification of Channel Change	Component Description: Amount:	MVPD Notification Services \$2,125.00
Develop and air announcement of upcoming channel change	Information not provided.	
Equipment Storage	Component Description: Amount:	WNMU-610-Equipment Storage \$14,430.00
Equipment Delivery and Handling Charges	Component Description: Amount: Component Description: Amount:	Truck Driver per hour \$2,095.00 OTHER \$295.35
DTV Medical Facility Notification	Component Description: Amount:	DTV Notification Service \$2,231.25

Cost Information	Grand Total		
	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$2,161,290.52	\$2,014,885.19	\$842,234.54

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

Certification	Section	Question	Response
	Submission of Estimated Expenses Statements	<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"> 1. The Authorized Person signing below certifies that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount. 	

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

<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>Eric L Smith <i>General Manager</i></p> <p>01/15/2021</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"> 1. The Authorized Person signing below certifies and represents that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct. 3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 	

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

<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>Eric L Smith <i>General Manager</i></p> <p>01/15/2021</p>

Attachments