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

Federal Communications Commission

(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility ID: **66781** | Service: **DTV** | Call Sign: **KIRO-TV** | Channel: **23 (UHF)**

File Number: **0000028117**

FRN: **0014361620** | Date Submitted: **12/03/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
KIRO-TV, INC. Doing Business As: KIRO-TV, INC.	Chief Engineer 2807 THIRD AVENUE SEATTLE, WA 98121 United States	+1 (206) 728-7777	knealey@kiro7.com	Corporation

Reimbursement Contact Information

Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
Keith Nealey *Director Of Engineering KIRO TV INC* *KIRO-TV, Inc.*	Keith Nealey 2807 Third Avenue Seattle, WA 98121 United States	+1 (206) 728-7808	knealey@kiro7.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	Phase 1: Raise Aux Antenna & extend current aux transmission line to help match existing coverage using current Main TX on CH-39. Phase 2: Install new main antenna, reuse existing transmission line, install new Main&Aux transmitters, go live on CH 23.

Transmitters

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

Auxiliary Transmitter

Add Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Auxiliary (Backup)
	Description of Use	Aux Transmitter & emergency backup
	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	DHD60-P2
	Year	2004
	Type	Solid State
	Solid State Cooling	Air Cooled
	Solid State Power Capacity	14 kW

Auxiliary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Auxiliary (Backup)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Manufacturer	
	Model	ULXTE-24
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	16.1 kW
	Justification for New Transmitter	Current Gates transmitter cannot be re-tuned-see Gates supporting doc-(Gates Air Channel Change Notice KIRO AUX) for details.

Auxiliary Transmitter

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No

	Size	N/A
	Length	N/A
	Other Electrical Service	Yes
	Description	Electrician will remove existing service connections and dispose. New transformer conduits and heat exchanger feeds will be installed for new Aux. See Schneider proposal Queen Anne for cost details.
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	No
	Size	N/A
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A
	Is a channel 14 Mask Filer needed?	N/A
	Is additional field engineering time needed?	N/A
	Number of Days	N/A

Auxiliary Transmitter	**Other Transmitter Cost Not Listed** Information not provided.

Primary Transmitter

Existing Transmitter Information

Section	Question	Response
Existing Transmitter Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this transmitter currently shared with another station?	No
	Is this transmitter currently in operating condition?	Yes
Existing Transmitter Manufacturer and Type	Manufacturer	
	Model	Sigma CD-40P1
	Year	1999
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	28.2 kW

Primary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Manufacturer	
	Model	ULXTE-50
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	31.7 kW
	Justification for New Transmitter	Current transmitter cannot be retuned to channel 23. See attached supporting docs from Gates and Comark to substantiate solid state vs. IOT. See Gates Air Main Transmitter quote (ULXTE-50 Main TX) for cost breakdowns.

Primary Transmitter

Other Transmitter Costs

Section	Question	Response

Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes
	Power	150 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes
	Description	Electrician will remove existing electrical and install new transformer, conduits, and heat exchanger feeds for primary transmitter. See quote from Schneider for cost breakdowns.
HVAC Service	Does the replacement transmitter require HVAC Service?	No
	Type	N/A
	Size	N/A
	Other Size	N/A
Transmitter Building Addition/Modification or Leasehold Improvement	Does the Transmitter Building require an addition, modification, other leashold improvement?	No
	Size	N/A
Channel 14 Costs	Is an RF Consulting Engineer needed?	N/A

Is a channel 14 Mask Filer needed?	N/A
Is additional field engineering time needed?	N/A
Number of Days	N/A

Primary Transmitter

Other Transmitter Cost Not Listed

Information not provided.

Antennas

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

Auxiliary Antenna

Add Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Auxiliary (Backup)
	Description of Use	Aux Backup
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is this antenna currently shared with any other stations?	No
	Is this antenna directional?	Yes
	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	Class A
	Mounting	Side 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)	1000.0 kW

Manufacturer	
Model	TFU-32DSCC164
Year	2004

Auxiliary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Auxiliary (Backup)
	Description of Use	Aux Antenna
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	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 Types	Class	Class A
	Mounting	Side 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)	715.0 kW
	Manufacturer	

Model	TFU-26JSC /R C164
Year	2019
Justification for New Antenna	Current Aux antenna cannot be retuned to Ch-23. KIRO will require new Dielectric antenna to meet repack assignment. See KIRO AUX Dielectric quote for costs and details

Auxiliary 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	6 1/8 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Freight Charges	Freight Charges for Aux Antenna
Dielectric Custom Flanges	Custom Flanges to connect new Aux Antenna with current Transmission line
Antenna Support Brackets	Custom Support Brackets for Aux Antenna

Primary Antenna

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Purchase New
	Antenna Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing antenna shared with another station or stations?	No
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	No
Existing Antenna Manufacturer and Type	Class	Class A
	Mounting	Side 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)	1000.0 kW

Manufacturer	
Model	TFU-32DSCC164
Year	1999

Primary Antenna

New Antenna Costs

Section	Question	Response
New Antenna Description	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	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 Types	Class	Class A
	Mounting	Side 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)	715.0 kW
	Manufacturer	

Model	TFU-26JSC /R C164
Year	2018
Justification for New Antenna	Current MAIN antenna cannot be retuned to Ch-23. KIRO will require TFU-26JSC /R C164 to meet repack assignments. See Dielectric MAIN ANT quote for cost details

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	6 1/8 inches inches

Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	Yes
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	Yes
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Name	Description
Main Antenna Freight	Primary antenna Freight charges.
Dielectric Custom Flanges	Custom flanges needed to connect current transmission lines to new main antenna
Main antenna Support Brackets	Custom support brackets needed for new primary antenna installation.

Transmission Line

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

Primary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Dielectric
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	27
	Length	20 feet per run

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

Auxiliary Transmission Line

Add Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Auxiliary (Backup)
	Description of Use	Aux Transmission line
	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	Dielectric
	Type	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	16
	Length	20 feet per run

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description

AUX Transmission Extension	9 Transmission line extensions to raise current Aux antenna for better coverage prior to transition.

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?	No
	Is this tower currently shared with any other stations?	No
	One or more FM, AM or TV radio broadcaster(s)	N/A
	Others Types of Users	N/A
	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	1011408
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	47° 37' 58.9" N-
	Longitude (NAD83)	122° 21' 23.9" W-
	Overall Structure Height	607.93 feet
	Support Structure Height	529.85 feet
	Ground Elevation Above Mean Sea Level (AMSL)	399.93 feet

Structure Type	GTOWER - Guyed Structure Used for Communication Purposes
Tower Owner	IWG Towers Assets II, LLC
Date Constructed	07/22/1957

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:	Serious Reinforcements needed

Primary Tower

Tower Rigging Costs

Section	Question	Response
Tower Rigging Costs	Complex Tower	N/A
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
Outside Project Management Services	Do you require outside project management services?	No
	Number of Hours	N/A
	Explanation	N/A
Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare and file Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes

	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	NEPA Section 106 environmental review	Yes
	Environmental Assessment	Yes
	ASR Modification	No
	FAA Consultation (including preparation of FAA Form 7460)	Yes
	Negotiation of Lease and other Matter for Shared Locations	No
	Prepare or Review FCC Form 399 for Reimbursement	Yes
	Address transition timing and coordination issues w/ other stations and wireless providers	No
RF Field Engineering Services	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
DTV Medical Notifications	Hire external service to conduct Medical Notifications related to repack

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	Yes
	FCC Special Temporary Authority Application	No
Other Miscellaneous Expenses	Does this relocation require paying Disposal Costs (for equipment and other waste, net of any salvage value)?	Yes
	Does this relocation require Equipment Delivery or Handling Charges not otherwise included in individual item costs?	Yes
	Does this relocation require Equipment Storage?	No
	Does this relocation require the Development and Airing of an Announcement regarding an upcoming channel change?	No
	Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses

Other Expenses Not Listed

Name	Description
Merrill Weiss Group	Perform RF studies pre and post repack. Assist with CPO applications.

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 ULXTE-50	**$1,222,042.09**	**$1,220,792.09**		**$1,126,946.02**	
UHF - Liquid Cooled Solid State Transmitter 31.7 kW	***$1,134,990.23***	$1,134,990.23	10/15/18: Added Gates Air Change Order Q-7725. Increased ULXTE-50-primary transmitter Cost $8827.93- See Gates Air CO Q-77525 & Gates Air CO Justification for details	$1,062,983.89	N/A
Transformer 3 phase /480v - 150 KVA	$25,550.00	$24,300.00	N/A	$2,460.27	N/A

Other Electrical Service: Electrician will remove existing electrical and install new transformer, conduits, and heat exchanger feeds for primary transmitter. See quote from Schneider for cost breakdowns.	***$61,501.86***	$61,501.86	Labor to remove existing electrical feeds and install new for primary transmitter. Quote includes 150KVA 480V to 208 /120V transformer and wiring /conduit. SEE Schneider Proposal Queen Anne for cost details.	$61,501.86	Includes cost of 150KVA 480V transformer, conduit and wiring.
Auxiliary Transmitter ULXTE-24	**$751,388.00**	**$697,457.46**		**$540,498.55**	

UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	$684,000.00	$631,319.46	10/15/18: Added Change Order Q-77533. Decreases Aux TX cost by -$471.75. See Gates Air CO and CO Aux TX Justification for details. Estimated Cost above reduced -$471.75. Aux transmitter for emergency backup. See Gates KIRO Aux TX quote for details.	$540,498.55	N/A

Other Electrical Service: Electrician will remove existing service connections and dispose. New transformer conduits and heat exchanger feeds will be installed for new Aux. See Schneider proposal Queen Anne for cost details.	***$41,838.00***	$41,838.00	Labor to remove existing electrical feed equipment. Installation labor for new transformer and heat exchanger feeds. Quote includes 150KVA 480V to 208 /120V transformer and wiring /conduit. See Schneider Proposal Queen Anne for details	N/A	N/A
Transformer 3 phase /480v - 150 KVA	$25,550.00	$24,300.00	N/A	$0.00	N/A
Sub-total	$1,973,430.09	$1,918,249.55	N/A	$1,667,444.57	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Actual Information Description	File Name

UHF - Liquid Cooled Solid State Transmitter 31.7 kW	**Component Description:**	KIRO Main transmitter invoice 3 of 4 (after change order Q-77525)
	Amount:	$295,203.21
	Component Description:	Second (1/3) payment for KIRO Main Transmitter
	Amount:	$342,413.66
	Component Description:	KIRO Main transmitter Invoice 4 of 4 (after change order Q-77525)
	Amount:	$88,356.27
	Component Description:	1/3 payment for KIRO Main Transmitter
	Amount:	$337,010.75
Transformer 3 phase/480v - 150 KVA	**Component Description:**	Second (1/3) payment for KIRO Main TX Transformer
	Amount:	$2,460.27
	Component Description:	1/3 payment for KIRO Main Electrical
	Amount:	$2,460.27

Other Electrical Service: Electrician will remove existing electrical and install new transformer, conduits, and heat exchanger feeds for primary transmitter. See quote from Schneider for cost breakdowns.	**Component Description:** **Amount:**	KIRO Main Transmitter Electrical work (Includes 150KVA Transformer) $61,501.86
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	**Component Description:** **Amount:**	Final (1/3) payment for KIRO Aux Transmitter $161,038.28
	Component Description: **Amount:**	1/3 down payment for KIRO Aux Transmitter $188,399.97
	Component Description: **Amount:**	First 1/3 payment for KIRO Aux Transmitter. Change order details included in attachment $189,808.76
	Component Description: **Amount:**	Second (1/3) payment for KIRO Aux Transmitter $189,651.51
Other Electrical Service: Electrician will remove existing service connections and dispose. New transformer conduits and heat exchanger feeds will be installed for new Aux. See Schneider proposal Queen Anne for cost details.	Information not provided.	

Transformer 3 phase/480v - 150 KVA	**Component Description:**	Second (1/3) payment for KIRO Aux transformer.
	Amount:	$1,408.79
	Component Description:	1/3 payment for KIRO Aux transmitter Transformer
	Amount:	$1,408.79

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
Primary Antenna TFU-26JSC /R C164	**$205,396.25**	**$203,063.75**		**$184,014.00**	
Main antenna Support Brackets	***$21,750.00***	$21,750.00	See Dielectric MAIN ANT quote for support bracket cost details.	$19,575.00	N/A
Dielectric Custom Flanges	***$1,841.25***	$1,841.25	Custom flanges and transmission lines needed to connect current transmission line to new antenna. See Dielectric Main antenna quote,(Line 23) for costs and verifications.	$3,453.30	Flange had to be custom made and fitted at greater cost than originally anticipated on quote to attach antenna to feed line.

UHF - Lower Power, Side Mount, Class A, basic slot antenna, 715 kW input, directional,, horizontally polarized	***$145,275.00***	$145,275.00	New primary antenna for repack. See Dielectric MAIN ANTENNA quote for cost details.	$130,747.50	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	$10,297.50	See Dielectric MAIN ANT quote for elbow cost details.	$9,268.20	N/A
Main Antenna Freight	***$17,500.00***	$17,500.00	See Dielectric MAIN Antenna quote for cost details on Freight.	$15,210.00	N/A
Auxiliary Antenna TFU-26JSC /R C164	**$205,396.25**	**$204,736.25**		**$92,007.00**	
Sweep test of existing antenna	$6,730.00	$6,400.00	N/A	$2,880.00	N/A

UHF - Lower Power, Side Mount, Class A, basic slot antenna, 715 kW input, directional,, horizontally polarized	***$145,275.00***	$145,275.00	See Dielectric Aux antenna quote for details	$65,373.75	N/A
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$11,970.00	See Dielectric AUX antenna for cost details	$4,634.10	N/A
Antenna Support Brackets	***$21,750.00***	$21,750.00	Custom antenna support brackets for Aux antenna-see Dielectric aux antenna quote for details.	$9,787.50	N/A
Freight Charges	***$17,500.00***	$17,500.00	Freight charges for aux antenna-see Dielectric Aux antenna quote for details	$7,605.00	N/A

Dielectric Custom Flanges	***$1,841.25***	$1,841.25	Custom flanges to connect the new TFU Aux antenna to current 61 /8" transmission line.	$1,726.65	N/A
Sub-total	$410,792.50	$407,800.00	N/A	$276,021.00	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Actual Information Description	File Name	
Main antenna Support Brackets	**Component Description:**	45 percent 'prior to ship' payment for KIRO main antenna mount brackets
	Amount:	$9,787.50
	Component Description:	45 percent down payment for KIRO main antenna mount brackets
	Amount:	$9,787.50
	Component Description:	45 percent down payment for KIRO main antenna mount brackets
	Amount:	$9,787.50

Dielectric Custom Flanges	**Component Description:**	45 percent 'prior to ship' payment for KIRO main antenna flange. Item number (5) RTLSCR675-20 & Line Item (6) RTT 675 . see attached MAN01166 for details
	Amount:	$1,726.65
	Component Description:	45 percent payment for KIRO main antenna flange. Item number (5) RTLSCR675-20 & Line Item (6) RTT 675 . see attached MAN 00426 for details
	Amount:	$1,726.65
	Component Description:	45 percent payment for KIRO main antenna flange. Item number (5) RTLSCR675-20 & Line Item (6) RTT 675 . see attached MAN 00426 for details
	Amount:	$1,726.65

UHF - Lower Power, Side Mount, Class A, basic slot antenna, 715 kW input, directional,, horizontally polarized	**Component Description:**	45% payment for KIRO Main Ant. Invoice MAN00426. Cover letter for Vpol reimbursement at ($9517.50) removed and detailed in attached cover letter.
	Amount:	$65,373.75
	Component Description:	45% prior to ship payment for KIRO Main Ant.
	Amount:	$65,373.75
Sweep test of existing antenna	**Component Description:**	45 percent 'prior to ship' payment for sweep of main antenna
	Amount:	$2,880.00
	Component Description:	45 percent payment for sweep of main antenna
	Amount:	$2,880.00
	Component Description:	45 percent payment for sweep of main antenna
	Amount:	$2,880.00

Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:**	45 percent 'prior to ship' payment for KIRO Main antenna Elbow complex
	Amount:	$4,634.10
	Component Description:	45 percent down payment for KIRO Main antenna Elbow complex
	Amount:	$4,634.10
	Component Description:	45 percent down payment for KIRO Main antenna Elbow complex
	Amount:	$4,634.10
Main Antenna Freight	**Component Description:**	Dielectric 45% Main Antenna Freight (prior to ship portion)
	Amount:	$7,605.00
	Component Description:	Dielectric 45% Main Antenna Freight
	Amount:	$7,605.00
	Component Description:	45 percent charge for Main antenna Freight
	Amount:	$7,605.00

Sweep test of existing antenna	**Component Description:** **Amount:**	45% payment for KIRO Aux sweep $2,880.00
	Component Description: **Amount:**	45% Dielectric Aux Antenna Sweep Test $2,880.00
UHF - Lower Power, Side Mount, Class A, basic slot antenna, 715 kW input, directional,, horizontally polarized	**Component Description:** **Amount:**	45% payment for KIRO Aux antenna. See attached Cover Letter, Change Order and Invoice MAN00427 attached for details. $65,373.75
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	**Component Description:** **Amount:**	45% Dielectric Aux Antenna Elbow complex $4,634.10
	Component Description: **Amount:**	45% payment for KIRO Aux Elbow $4,634.10
Antenna Support Brackets	**Component Description:** **Amount:**	45% Dielectric Aux Antenna Custom Mounting Brackets $9,787.50
	Component Description: **Amount:**	45% payment for KIRO Aux Mount brackets $9,787.50

Freight Charges	**Component Description:**	45% Payment for KIRO Aux antenna freight
	Amount:	$7,605.00
	Component Description:	45% Dielectric Aux Antenna Freight Charges
	Amount:	$7,605.00
Dielectric Custom Flanges	**Component Description:**	45% payment for KIRO Aux Flange- Line Item (5) RTLSCR675-20 & Line item (6) RTT675-See attached Invoice MAN00427 for details
	Amount:	$1,726.65
	Component Description:	45% Dielectric Aux Antenna Flange Item Numbers (RTLSCR675-20)-(RTT675)
	Amount:	$1,726.65

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
Primary Transmission Line	**$0.00**	**$0.00**		**$0.00**	
Auxiliary Transmission Line	**$20,973.00**	**$20,973.00**		**$0.00**	
AUX Transmission Extension	***$20,973.00***	$20,973.00	9 20' Transmission lines to extend aux antenna prior to transition. see Dielectric Aux Trans Extension quote for details	$0.00	N/A
Sub-total	$20,973.00	$20,973.00	N/A	$0.00	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Information not provided.

Cost Information

Tower Equipment and Rigging Costs

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Primary Tower GTOWER	**$1,275,100.00**	**$1,120,480.00**		**$0.00**	
Tall Tower (greater than 500')	$210,500.00	$200,000.00	Rigging and equipment to remove current Main&Aux antennas, transmission lines. Install new repack antennas and transmission lines.	N/A	N/A
Serious tower reinforcement /modifications	$1,052,000.00	$900,000.00	N/A	$0.00	N/A
Structural engineering tower load study for well documented tower	$12,600.00	$20,480.00	TEC Engineering repack tower load study-see TEC Quote for details.	N/A	N/A
Sub-total	$1,275,100.00	$1,120,480.00	N/A	$0.00	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Information not provided.

Cost Information

Outside Professional Services

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Outside Professional Services	**$161,930.00**	**$154,250.00**		**$0.00**	
DTV Medical Notifications	***$7,500.00***	$7,500.00	Hire external company to perform DTV Medical notifications for Repack.	N/A	N/A
RF Exposure Measurements	$21,050.00	$20,000.00	N/A	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	$2,000.00	N/A	N/A	N/A
Prepare and or review reimbursement form	$2,630.00	$2,500.00	N/A	N/A	N/A

Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	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
RF Consulting Engineer Fees-Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	$2,105.00	$2,000.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	$1,580.00	$1,500.00	N/A	$0.00	N/A
RF Consulting Engineer Fees-Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	$1,580.00	$1,500.00	N/A	N/A	N/A

Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	$5,260.00	$5,000.00	N/A	$0.00	N/A
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	$4,210.00	$4,000.00	N/A	$0.00	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	$2,365.00	$2,250.00	N/A	$0.00	N/A
NEPA Section 106 environmental review, if needed	$6,310.00	$6,000.00	N/A	N/A	N/A
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	$10,520.00	$10,000.00	N/A	N/A	N/A
Sub-total	$161,930.00	$154,250.00	N/A	$0.00	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Actual Information Description	File Name

DTV Medical Notifications	Information not provided.
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.
Prepare and or review reimbursement form	Information not provided.
Perform engineering study for new channel assignment and antenna development	Information not provided.
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Information not provided.
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	Information not provided.
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	**Component Description:** Legal Invoice for 399 and repack **Amount:** $1,500.00
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	Information not provided.

Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	**Component Description:** **Amount:**	Legal Invoices for KIRO 399,2100 and repack prep. $5,000.00
Attorney Fees - Aux Antenna, prepare and File Form 2100 Construction Permit or License Application	**Component Description:** **Amount:**	Legal Invoice for KIRO repack prep and 399 submission $4,000.00
Attorney Fees -Prepare and File FCC Form 2100 (main), License to Cover Application	**Component Description:** **Amount:**	Legal reimbursement for various 399 and repack prep. Invoices have been consolidated in attachment $2,250.00
NEPA Section 106 environmental review, if needed	Information not provided.	
Environmental Assessment, if triggered by NEPA Section 106 review or for certain structures over 450 feet	Information not provided.	

Cost Information

Other Expenses

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Other Expenses	**$84,760.00**	**$76,950.00**		**$5,000.00**	
Merrill Weiss Group	***$32,825.00***	$32,825.00	RF studies pre-post repack. See Merrill Weiss group quote for specifics.	$0.00	N/A
MVPD Notification of Channel Change	***$1,250.00***	$1,250.00	MVPD notifications - See "RF Notifications MVPD - Quote LS-20190410-A. pdf" for quote	$1,250.00	N/A
Equipment Delivery and Handling Charges	***$32,300.00***	$32,300.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$6,500.00***	$6,500.00	Costs to dispose of high voltage cabinets, current transmitters, transmission line and misc. equipment related to repack.	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	$3,750.00	See quote "RF Notifications Medical Notifications - Quote LS-20190410-A.pdf"	$3,750.00	N/A
Sub-total	$84,760.00	$76,950.00	N/A	$5,000.00	N/A
Total for all systems	$3,926,985.59	$3,698,702.55	N/A	$1,948,465.57	N/A

Components

Actual Information Description	File Name	
Merrill Weiss Group	**Component Description:**	RF studies, FCC /Repack planning for KIRO TV. See attached cover letter with weiss quote, CMG PO 5505, WEISS INV 1217012-R
	Amount:	$18,885.00
	Component Description:	RF studies /planning, FCC repack planning- see attached cover letter, CMG PO & WEISS Invoice 1216012
	Amount:	$13,664.00

MVPD Notification of Channel Change	**Component Description:** **Amount:**	MVPD Notification Mailing $1,250.00
Equipment Delivery and Handling Charges	Information not provided.	
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.	
FCC Filing Fees - Form 2100 license to cover application	Information not provided.	
DTV Medical Facility Notification	**Component Description:** **Amount:**	RF Notifications Mailings to medical facilities $3,750.00

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$3,926,985.59	$3,698,702.55	$1,948,465.57

Reimbursement Status

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

Certification

Section	Question	Response
Submission of Estimated Expenses Statements	WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.	
	1. The Authorized Person signing below certifies that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity acknowledges that all certifications and attached documentation are considered material representations. 3. The above-named entity acknowledges the submission of the information herein creates no obligation on the part of the government to pay any amount.	

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

	8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Keith Nealey** *Engineering Manager* 12/03/2019

Attachments