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: **69619** | Service: **DTV** | Call Sign: **KBCW** | Channel: **28 (UHF)**

File Number: **0000027831**

FRN: **0003742632** | Date Submitted: **03/15/2019**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
SAN FRANCISCO TELEVISION STATION KBCW INC Doing Business As: SAN FRANCISCO TELEVISION STATION KBCW INC	Daniel G. Ryson 1725 DESALES ST NW SUITE 501 WASHINGTON, DC 20036 United States	+1 (202) 457-4505	dryson@cbs.com	Corporation

Reimbursement Contact Information

Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
Daniel G Ryson *Associate Director of Spectrum Management* *CBS*	Daniel G. Ryson 1725 DeSales Street NW Suite 501 Washington, DC 20036 United States	+1 (202) 457-4074	dryson@cbs.com

Broadcaster Information and Transition Plan

Question	Response
Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	Yes
Briefly describe transition plan	Facility located at Sutro Tower has a main elliptically polarized ant and a broadband aux ant. Main antenna replacement requires replacment of structural steel. Post-transition transmitter will be pretuned to the post transition channel

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	Sigma CD
	Year	2002
	Type	Inductive Output Tube
	IOT Power Type	Two
	Power Capacity	60 kW

Primary Transmitter

New Transmitter Costs

Section	Question	Response
New Transmitter	Use	Primary (Main)
	Change Type	Purchase New
	Is this a request for upgraded equipment?	Yes
	Manufacturer	
	Model	ULXTE-100
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	62.7 kW
	Justification for New Transmitter	GatesAir will not retune IOT transmitters (see Exhibit 1), IOT transmitter (see Exhibit 2) is more expensive, and proposed transmitter is less expensive (see Exhibit 3).

Primary Transmitter

Other Transmitter Costs

Section	Question	Response
Electrical Service	Service Entrance (3 phases 800A 208V)	Yes
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	Yes

	Power	300 kVA
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	No
	Description	N/A
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?	Yes
	Size	0.0 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 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

Existing Antenna Information

Section	Question	Response
Existing Antenna Description	Type of change	Retune Existing
	Antenna Use	Auxiliary (Backup)
	Description of Use	Alternate /Backup
	Ownership	Leased
	Owner	Sutro Tower, Inc.
	Site	N/A
	Is the existing antenna shared with another station or stations?	Yes
	Is the existing antenna directional?	Yes
	Is antenna in operating condition?	Yes
	Is antenna located on or in close proximity to an antenna farm?	Yes
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Bottom
	Polarization	Horizontal
	Type	Broadband Panel
	Number of Stations Supported	5
	Number of Panels	40
	Design power capacity in use	80.0 %

Lower Limit	470.00 MHz
Upper Limit	698.00 MHz
Other Antenna Type	N/A
ERP: (Effective Radiated Power)	500.0 kW
Manufacturer	Dielectric
Model	TUA-C4SP-12/40U-1-S
Year	2007

Facility ID's and Call Signs of all stations with whom the antenna is shared.

Facility ID	Call Sign
58912	KPJK
35500	KQED
43095	KMTP-TV
51429	KFSF-DT
71586	KCNS

Auxiliary Antenna

Adjustment to Existing Antenna

Section	Question	Response
Sweep Test of Existing Antenna	Do you need a sweep test of existing antenna?	Yes

Auxiliary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	Yes
	Type	New
	Number of channels supported	5

	Frequencies of channels supported	RF channel
	Frequency	N/A

Enter a list of RF channel numbers.

RF Channel Number
34
28
30
32

Auxiliary Antenna

Other Antenna Cost Not Listed

Name	Description
Remove Old Combiner	Remove Old Combiner
Core Drill Holes	Drill Holes in Concrete for New Transmission Line Pass Through
Fill Holes	Fill Holes in Concrete After Removing Old Combiner Lines.
Install New Combiner Lines	Install New Combiner Transmission Line Interconnects
Install New Combiner	Install New Aux Combiner
Remove Old Combiner Lines	Remove Old Combiner Transmission Line Interconnects
Replace Combiner Switches	Remove and Replace Combiner 6-Inch Coaxial Switches.

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?	Yes
Existing Antenna Manufacturer and Type	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Bottom
	Polarization	Elliptical
	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-19JSC /VP-R C150SP
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?	Yes
	Will antenna be located on or in close proximity to an antenna farm?	Yes
New Antenna Manufacturer and Types	Class	Full Power
	Mounting	Side Mount
	Antenna position in stack	Bottom
	Polarization	Elliptical
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	714.0 kW
	Manufacturer	

	Model	TFU-19JSC /VP-R C150 SP
	Year	2019
	Justification for New Antenna	Current antenna is single-channel, and cannot be retuned to new frequency.

Primary Antenna

Other Antenna Costs

Section	Question	Response
Combiner for Shared Antenna	Do you need a Combiner for a Shared Antenna?	No
	Type	
	Number of channels supported	N/A
	Frequencies of channels supported	N/A
	Frequency	N/A
	Do you need a combiner output splitter /switcher for dual feed lines?	N/A
Elbow Complex	Do you require the separate purchase of the Elbow Complex?	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

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	Elliptical
	Type	Slotted Coaxial
	Number of Stations Supported	N/A
	Number of Panels/Bays	N/A
	Lower Limit	N/A
	Upper Limit	N/A
	Design power capacity in use	N/A
	Other Antenna Type	N/A
	ERP: (Effective Radiated Power)	1000.0 kW
	Manufacturer	
	Model	TFU-24WB /VP-R C160
	Year	2019

	Justification for New Antenna	Because existing Auxiliary antenna is much lower and limited to 500 kW ERP, operation would result in extensive coverage loss.

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

Auxiliary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Utilize Existing
	Use	Auxiliary (Backup)
	Description of Use	When Main Isn't Available
	Ownership	Leased
	Owner	Sutro Tower, Inc.
	Site	N/A
	Is the existing transmission line shared with another station or stations?	Yes
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	Dielectric
	Type	Rigid
	Diameter	8 3/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	745 feet per run

Facility ID's and Call Signs of all stations with whom the transmission line is shared.

Facility ID	Call Sign
58912	KPJK
35500	KQED
43095	KMTP-TV
71586	KCNS

Auxiliary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
Assd. Transmission Line	Various transmission lines and hardware to restore non-repacked stations after tower reinforcement.

Primary Transmission Line

Existing Transmission Line

Section	Question	Response
Existing Transmission Line Description	Type of change	Purchase New
	Use	Primary (Main)
	Description of Use	N/A
	Ownership	Owned
	Owner	N/A
	Site	N/A
	Is the existing transmission line shared with another station or stations?	No
	Is Transmission Line in operating condition?	Yes
Existing Transmission Line Manufacturer and Type	Manufacturer	
	Type	Waveguide
	Diameter	N/A
	Other Diameter	N/A
	Segment Length	N/A
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1085 feet per run

Primary Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Primary (Main)
	Description of Use	N/A
	Change Type	Purchase New
	Is this a request for upgraded equipment?	No
	Type	Rigid
	Diameter	8 3/16 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	1085 feet per run
	Justification for New Transmission Line	Reduce structural stress on tower and Stack B to reduce structural reinforcement needs. (See Exhibit 5.)

Primary Transmission Line

Other Transmission Line Expenses Not Listed

Name	Description
RF Accessories	Coaxial Switch, Switch Controller, Test Load. (See Exhibit 3, Item D)
Prelim TX Line Parts List	Preliminary List of Transmission Line Parts; Reconfiguration of Combiners.

Interim Transmission Line

New Transmission Line

Section	Question	Response
New Transmission Line Costs	Use	Interim
	Description of Use	N/A
	Change Type	Purchase New
	Type	Rigid
	Diameter	6 1/8 inches
	Segment Length	19 ¾ '
	Other Segment Length	
	Number of parallel runs	1
	Length	100 feet per run
	Justification for New Transmission Line	Required to connect existing waveguide to interim antenna.

Interim Transmission Line

Other Transmission Line Expenses Not Listed

Information not provided.

Tower Equipment And Rigging Costs

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

Primary Tower

Existing Tower

Section	Question	Response
Existing Tower Description	Type of change	Modify Existing
	Tower Use	Primary (Main)
	Description of Use	N/A
	Ownership	Leased
	Is this tower consider Complex?	Candelabra
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	No
	Is tower documented for structural analysis?	Yes
	Is tower compliant with Rev G?	Yes
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1001289
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	37° 45' 19.0" N-
	Longitude (NAD83)	122° 27' 10.0" W-
	Overall Structure Height	976.69 feet
	Support Structure Height	779.85 feet
	Ground Elevation Above Mean Sea Level (AMSL)	833.98 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	SUTRO TOWER INC
Date Constructed	03/27/1998

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
35703	KTVU	DTV
35500	KQED	DTV
43095	KMTP-TV	DTV
71586	KCNS	DTV
51429	KFSF-DT	DTV
54770	KFOG	FM
65526	KRON-TV	DTV
65484	KOSF	FM
59964	KISQ	FM
6380	KOIT	FM
34470	KGO-TV	DTV
25452	KPIX-TV	DTV
70032	KSOL	FM
58912	KPJK	DTV

Primary Tower

Tower Modification Costs

Section	Question	Response
Engineering Study	Please what type of engineering study is required, if any:	Study needed for tower with candelabra
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	Candelabra
Helicopter Services Required	Are helicopter services required?	No

Primary Tower

Other Tower Expenses Not Listed

Name	Description
Demolish Waveguide	Demolish Existing Waveguide to KBCW Antenna.
Install Primary KBCW Line	Install Transmission Line to New KBCW Primary Antenna.
Install KQED-FM Ant	Reinstall KQED-FM Antenna After "B" Stack Replacement.
Remove Waveguide Ladder	Remove Old Waveguide Ladder from B and C Legs. See Exhibit 23
Install Interim KBCW Ant and Line	Install KBCW Interim Antenna and Transmission Line.
Remove ENG Mounts	Remove ENG Mounts to Make Room for KFOG Antenna Location
Tower Mapping	Tower mapping for preparation of documentation necessary for tower load study.
Remove KQED-FM Ant	Remove KQED-FM Antenna from "B" Stack that Must Be Replaced.

Install KFOG Aux	Install KFOG(FM) Auxiliary Antenna at Level 5, South Leg.

Outside Professional Services Costs

Section	Question	Response
Outside Project Management Services	Do you require outside project management services?	Yes
	Number of Hours	250
	Explanation	Company lacks sufficient internal resources.
Outside RF consulting Engineering Services	Perform engineering study for new channel assignment and antenna development	Yes
	Prepare engineering section of Form FCC Construction Permit Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare engineering section of Form FCC License to Cover Application	Yes
	For Auxiliary Facility	Yes
	For Main Facility	Yes
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	Do you have Distributed Transmission System engineering services?	N/A
	Critical Facility	N/A
	Terrain-Shielded Facility	N/A
Attorney and Other Outside Consulting Services	Prepare and file Form FCC Construction Permit Application	No
	For Auxiliary Facility	N/A
	For Main Facility	N/A
	Prepare and file Form FCC License to Cover Application	No

	For Auxiliary Facility	N/A
	For Main Facility	N/A
	Prepare request for Special Temporary Authority	No
	Quantity	N/A
	NEPA Section 106 environmental review	No
	Environmental Assessment	No
	ASR Modification	No
	FAA Consultation (including preparation of FAA Form 7460)	No
	Negotiation of Lease and other Matter for Shared Locations	No
	Prepare or Review FCC Form 399 for Reimbursement	No
	Address transition timing and coordination issues w/ other stations and wireless providers	Yes
RF Field Engineering Services	Comprehensive coverage verification via field study	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

Information not provided.

Other Expenses

Section	Question	Response
AM Pattern Disturbance	Is an Impact Study needed?	No
	Is Remediation needed?	No
Facility Expenses	Name	N/A
	Other Distributed Transmission System Expenses Not listed	N/A
	Name	N/A
	Is Notification of a Medical Facility required as a result of DTV broadcasting?	Yes
Permit and Filing Costs	Local Zoning	Yes
	Non-zoning permits	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?	No
	Does this relocation require MVPD Notification of a Channel Change?	Yes

Other Expenses

Other Expenses Not Listed

Name	Description
Alternate Site Studies	Pre, Post and Alternate Site Studies
Architectural Plans	Architectural plans, building mapping, update plans.
Fork Lift Rental	Utilized to deliver equipment from storage, remove equipment from transmitter room.
KFOG Interim Antenna	Includes Antenna and Antenna Engineering.
Legal Fees	Legal Fees
Public Relations	Required as part of zoning effort.
Site Survey	Determine actual site conditions and determine the materials and components required for system installation integration of the site with the transmitter equipment. See Exhibit 12.
VSWR Monitoring	VSWR Monitoring and antenna lockout system.
Sales Tax - Sutro Tower	9.5% Sales Tax on Sutro Tower Invoices Only.

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-100	**$2,023,434.77**	**$2,150,233.59**		**$683,871.14**	
Other -- Building Addition Size: 0.0	***$109,806.00***	$109,806.00	Abatement, Flooring, Demo, Paint, Fire Stop, Seismic (Please See Exhibit 4.)	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 62.7 kW	***$1,862,428.77***	$1,862,428.77	Transmitter cannot be re-tuned (Exhibit 1), proposed transmitter (Exhibit 3, items A, B, and E) costs less than IOT transmitter (Exhibit 2.) Cost is consistent with Widelity Costs for similar power levels. Cost Corrected Feb 2019 (see Exhibit 45)	$679,131.14	N/A

Service entrance 3 phase/800 amp/208 volt	$14,400.00	$165,000.00	See Exhibit 4.	N/A	N/A
Transformer 3 phase /480v - 300 KVA	$36,800.00	$12,998.82	Please see Exhibit 3, Item D.	$4,740.00	N/A
Sub-total	$2,023,434.77	$2,150,233.59	N/A	$683,871.14	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Actual Information Description	File Name	
Other -- Building Addition Size: 0.0	Information not provided.	
UHF - Liquid Cooled Solid State Transmitter 62.7 kW	**Component Description:** **Amount:**	Down Payment for Primary Transmitter. See Exhibit 45. $679,131.14
Service entrance 3 phase /800 amp/208 volt	Information not provided.	
Transformer 3 phase/480v - 300 KVA	**Component Description:** **Amount:**	Down payment for Primary Transmitter Electrical Items. See Exhibit 45 Item D. $4,740.00

Cost Information

Antennas

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

Description	Predetermined Cost Estimate	Estimated Cost	Estimated Cost Justification	Actual Cost	Actual Cost Justification
Interim Antenna TFU-24WB /VP-R C160	**$203,876.00**	**$203,696.00**		**$0.00**	
Sweep test of existing antenna	$6,730.00	$6,550.00	N/A	N/A	N/A
UHF - High Power, Side Mount, basic slot antenna, 1000 kW input, directional,, elliptically or circularly polarized	*$197,146.00*	$197,146.00	Antenna, elbow complex, brackets and custom mounting brackets. Includes 50-75 ohm matching transformer required for proper operation.	N/A	N/A
Primary Antenna TFU-19JSC /VP-R C150 SP	**$264,240.00**	**$269,770.00**		**$0.00**	
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	$5,260.00	$5,000.00	N/A	N/A	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
UHF - High Power, Side Mount, basic slot antenna, 714 kW input, directional,, elliptically or circularly polarized	***$216,800.00***	$216,800.00	This high-power, side-mount antenna has the same model number as the licensed KBCW(TV) antenna and is thus a direct post-transition channel substitute. See Exhibit 6, line 1.	N/A	N/A
Sweep test of existing antenna	$6,730.00	$12,240.00	Please See Exhibit 9, Line 4.	N/A	N/A
Elbow complex, single channel, at antenna input, per 6 1/8. feedline (if needed)	$12,300.00	$13,730.00	This is the quoted amount. Please see Exhibit 6, line 2.	N/A	N/A
Auxiliary Antenna TUA-C4SP-12/40U-1-S	**$149,073.00**	**$118,123.00**		**$0.00**	

Fill Holes	***$3,219.00***	$3,219.00	Fill Concrete Holes in Floor Wall After Removing Old Combiner Transmission Lines. See Exhibit 11 "Combiner Lower Aux 29-30-32-34"	N/A	N/A
Replace Combiner Switches	***$6,120.00***	$6,120.00	KBCW pro-rata share (50%) of Lower Aux Combiner, Remove and Replace Coaxial Switches. See Exhibit 9	N/A	N/A
Remove Old Combiner Lines	***$3,060.00***	$3,060.00	KBCW pro-rata share (50%) of Lower Aux Combiner, Remove Old Transmission Line Interconnects. See Exhibit 9	N/A	N/A
Install New Combiner	***$12,240.00***	$12,240.00	KBCW pro-rata share (50%) of Lower Aux Combiner, Install New. See Exhibit 9	N/A	N/A

Install New Combiner Lines	***$12,240.00***	$12,240.00	KBCW pro-rata share (50%) of Lower Aux Combiner, New Transmission Line Interconnects. See Exhibit 9	N/A	N/A
Core Drill Holes	***$9,884.00***	$9,884.00	Pro Rata Share to Drill Holes in Concrete for New Combiner Lines. See Exhibit 11 "Combiner Lower Aux 28 30 32 34"	N/A	N/A
Remove Old Combiner	***$6,120.00***	$6,120.00	KBCW pro-rata share (50%) of Lower Aux Combiner, Remove Old. See Exhibit 9	N/A	N/A
Pattern scatter analysis for side mount high/med power antennas (if not included in antenna base cost)	$5,260.00	$5,000.00	N/A	N/A	N/A

New combiner, cost per channel (without antenna)	$84,200.00	$48,000.00	Please see Exhibit 7 Page 58. Combiner used by 4 stations; cost shared among 2 repacking stations.	N/A	N/A
UHF â€“ Broadband Panel, Side Mount Auxiliary /Interim, 500 horizontally polarized	***$0.00***	$0.00	The existing antenna is broadband.	N/A	N/A
Sweep test of existing antenna	$6,730.00	$12,240.00	KBCW pro-rata share (50%) of Lower Aux Combiner, RF Testing, Complex. See Exhibit 9	N/A	N/A
Sub-total	$617,189.00	$591,589.00	N/A	$0.00	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Information not provided.

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	**$20,200.00**	**$50,727.38**		**$0.00**	
Rigid Transmission Line - copper, 6 1/8"	$20,200.00	$50,727.38	Transmission line shown on three quotes. Exhibit 37: $14,488.88 at 3rd Floor; Exhibit 38: $21,313.50 at Tower Top; Exhibit 40: $14,925 install Wall Penetrations. Estimated cost is a total of these three. Installation shown separately.	N/A	N/A
Primary Transmission Line	**$442,086.97**	**$704,863.97**		**$263,265.48**	
Prelim TX Line Parts List	***$6,833.33***	$6,833.33	See Exhibit 44. Total cost shared among six stations.	$2,463.10	N/A

Rigid Transmission Line - copper, 8 3 /16"	$376,495.00	$639,272.00	Irregular tower shape requires many elbows and hangers. See Exhibit 6, line 3.	$239,376.15	N/A
RF Accessories	***$58,758.64***	$58,758.64	Coaxial Switch, Switch Controller, Test Load. (See Exhibit 3, Item D)	$21,426.23	N/A
Auxiliary Transmission Line	**$46,233.00**	**$46,233.00**		**$0.00**	
Assd. Transmission Line	***$46,233.00***	$46,233.00	Repack to lower frequencies generally requires larger antennas with higher windloading. Structural reinforcement displaces lines of non-repacked stations. This cost reflects those costs. See Exhibit 7, page 47,	N/A	N/A
Sub-total	$508,519.97	$801,824.35	N/A	$263,265.48	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Actual Information Description	File Name

Rigid Transmission Line - copper, 6 1/8"	Information not provided.	
Prelim TX Line Parts List	**Component Description:** **Amount:**	See Exhibit 29A Page 8 $2,463.10
Rigid Transmission Line - copper, 8 3/16"	**Component Description:** **Amount:**	See Exhibit 31 Page 13 $239,376.15
RF Accessories	**Component Description:** **Amount:**	Primary Transmitter RF Accessories. See Exhibit 45 Item C. $21,426.23
Assd. Transmission Line	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 Justificatio
Primary Tower TOWER	**$2,529,952.73**	**$2,791,364.29**		**$141,959.10**	
Remove Waveguide Ladder	***$67,476.64***	$67,476.64	Remove Old Waveguide Ladder from B and C Legs. See Last Item on Exhibit 23. This is the pro rata share after splitting anticipated cost with KRON-TV and KGO-TV.	$67,476.64	asdf
Demolish Waveguide	***$210,000.00***	$210,000.00	See Exhibit 23.	N/A	N/A
Install Primary KBCW Line	***$381,000.00***	$381,000.00	See Exhibit 42 for Installing Line to KBCW Primary Antenna.	N/A	N/A
Install Interim KBCW Ant and Line	***$162,000.00***	$162,000.00	See Exhibit 39: $18,000 for 3rd Floor Transmission Line Install; Exhibit 41: $144,000 for Antenna and Tower Transmission Line Install.	N/A	N/A

Remove ENG Mounts	***$28,500.00***	$28,500.00	Required to accommodate KFOG(FM) antenna relocation. See Exhibit 34. Cost shared with KRON-TV and KGO-TV. ($85,500/3 = $28,500.00)	N/A	N/A
Structural engineering tower load study for a documented tower with candelabra	$20,000.00	$247,333.00	Sutro Tower is not a typical structure. (See Exhibit 8.)	$70,747.34	N/A
Install KFOG Aux	***$70,027.58***	$70,027.58	Install KFOG (FM) Aux Antenna to Permit Work on Stack "B" without Exceeding RF Exposure Limits. See Exhibit 33 Pg. 15 Line Item 64. Cost shared with KRON-TV and KGO-TV. $210,082.73 / 3 = $70,027.58.	N/A	N/A
Tower Mapping	***$13,877.00***	$13,877.00	Pro-rata cost required to provide accurate input data to structural analysis. See Exhibit 9, line 1.	$3,735.12	N/A

Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	$421,000.00	$319,714.54	Removal and installation of KBCW primary antenna on "B" Stack, plus materials. Please see itemized costs on last page of Exhibit 33, Repack Line 35 ($118,218.18) plus Line 36 ($25,460.00 and $176,036.36).	N/A	N/A
Install KQED-FM Ant	***$64,665.45***	$64,665.45	Remove KQED-FM Antenna From "B" Stack that Must Be Replaced. See Exhibit 33 Pg. 15 Line Item 59C. Cost shared with KRON and KGO. ($176,036.36 + $17,960.00) / 3 = $64,665.45.	N/A	N/A
Remove KQED-FM Ant	***$39,406.06***	$39,406.06	Remove KQED-FM Antenna From "B" Stack that Must Be Replaced. See Exhibit 33 Pg. 15 Line Item 59B. Cost shared with KRON and KGO. $118,218.18 / 3 = $39,406.06.	N/A	N/A

Serious tower reinforcement /modifications	$1,052,000.00	$1,187,364.02	Itemized on Exhibit 33 Pg15 Line 59 "B" Stack Removal, Replacement, and Installation ($599,490 +$190,490.91 +$190,490.91) /3 plus Line 59A Level 6 Reinforcement ($1,072,218.18 + $169,135.00) /6	N/A	N/A
Sub-total	$2,529,952.73	$2,791,364.29	N/A	$141,959.10	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Actual Information Description	File Name

Remove Waveguide Ladder	**Component Description:** **Amount:**	See Exhibit 23 for quote and Exhibit 27 Page 8. $18,323.33
	Component Description: **Amount:**	See Exhibit 29A Page 8 $13,534.16
	Component Description: **Amount:**	See Exhibit 31 Page 13 $3,324.16
	Component Description: **Amount:**	See Exhibit 30 Page 10 $26,308.33
	Component Description: **Amount:**	See Exhibit 28 Page 8 $5,986.66
Demolish Waveguide	Information not provided.	
Install Primary KBCW Line	Information not provided.	
Install Interim KBCW Ant and Line	Information not provided.	
Remove ENG Mounts	Information not provided.	

Structural engineering tower load study for a documented tower with candelabra	**Component Description:** **Amount:**	See Exhibit 28 Page 8 $1,337.00
	Component Description: **Amount:**	See Exhibit 31 Page 13 $33,020.77
	Component Description: **Amount:**	See Exhibit 29A Page 8 $15,037.22
	Component Description: **Amount:**	See Exhibit 30 Page 10 $16,439.50
	Component Description: **Amount:**	See Exhibit 27 - Page 8 $1,124.35
	Component Description: **Amount:**	See Exhibit 24 Line 58. $3,788.50
Install KFOG Aux	Information not provided.	

Tower Mapping	**Component Description:** **Amount:**	See Exhibit 28 Page 8. $268.66
	Component Description: **Amount:**	See Exhibit 27 Page 8 $118.82
	Component Description: **Amount:**	Pro rata share of tower mapping. See Exhibit 29A page 8. $3,081.56
	Component Description: **Amount:**	See Attachment 30 Page 8. $152.41
	Component Description: **Amount:**	See Exhibit 24, Line 5 $113.67
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	Information not provided.	
Install KQED-FM Ant	Information not provided.	
Remove KQED-FM Ant	Information not provided.	
Serious tower reinforcement /modifications	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	**$163,160.00**	**$243,833.00**		**$15,865.85**	
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
RF Consulting Engineer Fees-Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	$2,105.00	$2,000.00	N/A	$1,775.00	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

Prepare engineering section of FCC Form 2100 (main), License to Cover Application	$1,580.00	$1,500.00	N/A	N/A	N/A
Comprehensive coverage verification via field study, if needed	$84,200.00	$75,000.00	Please see Exhibit 14	N/A	N/A
Perform engineering study for new channel assignment and antenna development	$7,360.00	$7,000.00	N/A	$5,479.16	N/A
Project management of the transition	$39,500.00	$148,000.00	Company lacks sufficient internal resources. 250 hours at $150 per hour plus time estimated in Exhibit 13.	$8,611.69	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
RF Exposure Measurements	$21,050.00	$3,333.00	Please see Exhibit 14.	N/A	N/A
Sub-total	$163,160.00	$243,833.00	N/A	$15,865.85	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Actual Information Description	File Name
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, License to Cover Application	Information not provided.
RF Consulting Engineer Fees- Aux Antenna: Prepare engineering section of FCC Form 2100, Construction Permit Application	**Component Description:** Prepare Engineering Section of FCC Form 2100 Construction Permit Application. **Amount:** $1,775.00
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	Information not provided.
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	Information not provided.
Comprehensive coverage verification via field study, if needed	Information not provided.

Perform engineering study for new channel assignment and antenna development	**Component Description:**	Calculation of necessary height and ERP for non-repack station KFOG-FM.
	Amount:	$275.83
	Component Description:	Engineering Study for New Channel Assignment.
	Amount:	$1,312.50
	Component Description:	See Exhibit 24 Line 3.
	Amount:	$3,890.83

Project management of the transition	**Component Description:** **Amount:**	See Exhibit 29A Page 8 $889.58
	Component Description: **Amount:**	See Exhibit 30 Page 10 $125.00
	Component Description: **Amount:**	See Exhibit 31 Page 13 $146.87
	Component Description: **Amount:**	See Exhibit 28 Page 8 $1,396.39
	Component Description: **Amount:**	Sutro Project Management. See Exhibit 27 page 8. $738.22
	Component Description: **Amount:**	See Exhibit 24, Line 129. For work performed, dates, hours, and rate, please see Exhibit 25. The total shown was divided by the six repacking stations. $5,315.63
Address transition timing and coordination issues w/ other stations and wireless	Information not provided.	
RF Exposure Measurements	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	**$827,067.57**	**$826,517.57**		**$191,932.52**	
Sales Tax - Sutro Tower	***$142,159.00***	$142,159.00	9.5% San Francisco Sales Tax - on Sutro Tower, Inc. materials only. See Exhibit 31.	$20,346.97	N/A
KFOG Interim Antenna	***$17,710.00***	$17,710.00	KFOG(FM) Interim Antenna, pro rata share. Does not include shipping or installation.	N/A	N/A
Local Zoning	***$183,333.00***	$183,333.00	Please see Exhibit 13.	$35,960.18	N/A
DTV Medical Facility Notification	$11,550.00	$11,000.00	N/A	N/A	N/A
Fork Lift Rental	***$25,636.00***	$25,636.00	Required to move equipment from storage to transmitter and combiner room, throughout site. See Exhibit 17.	N/A	N/A

VSWR Monitoring	***$183,558.57***	$183,558.57	VSWR Monitoring of antennas, transmission line, and combiner. Helps assure equipment won't be damaged by excessive transmitter power during fault conditions. See Exhibit 35. Total Cost of $1,101,351.42 is shared among six repack stations.	N/A	N/A
Site Survey	***$9,147.00***	$9,147.00	Determine actual site conditions and determine the materials and components required for system installation /integration of the customers site with the transmitter equipment. See Exhibit 46.	$9,147.00	N/A

Public Relations	***$19,108.00***	$19,108.00	Public relations required for zoning hearings, neighbors, and government officials. See Exhibit 18.	$1,741.49	N/A
Legal Fees	***$22,667.00***	$22,667.00	Legal fees. See Exhibit 13.	$0.00	N/A
Architectural Plans	***$51,369.00***	$51,369.00	Pro rata Share of Architectural Plans, Building Mapping, Update Plans. See Exhibit 32. Total includes reimbursables but not Additional Service Request 001.	$31,225.78	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	***$8,333.00***	$8,333.00	Please see exhibit 15.	N/A	N/A
Equipment Delivery and Handling Charges	***$32,000.00***	$32,000.00	Please see Exhibit 15 and Exhibit 3.	N/A	N/A
Equipment Storage	***$20,833.00***	$20,833.00	Please see Exhibit 15.	N/A	N/A

MVPD Notification of Channel Change	***$1,000.00***	$1,000.00	N/A	N/A	N/A
Alternate Site Studies	***$98,664.00***	$98,664.00	Pre, post and alternate site studies.	$93,511.10	N/A
Sub-total	$827,067.57	$826,517.57	N/A	$191,932.52	N/A
Total for all systems	$6,669,324.04	$7,405,361.80	N/A	$1,296,894.09	N/A

Components

Actual Information Description	File Name
Sales Tax - Sutro Tower	**Component Description:** See Exhibit 31 Page 13 **Amount:** $20,346.97
KFOG Interim Antenna	Information not provided.
Local Zoning	**Component Description:** See Exhibit 28 Page 8 **Amount:** $537.93 **Component Description:** See Exhibit 27 Page 8 **Amount:** $2,281.73 **Component Description:** See Exhibit 31 Page 13. **Amount:** $100.54 **Component Description:** See Exhibit 29A Page 8 **Amount:** $2,001.96

	Component Description: **Amount:**	See Exhibit 29A Page 8 $4,666.93
	Component Description: **Amount:**	See Exhibit 30 Page 10 $705.37
	Component Description: **Amount:**	See Exhibit 30 Page 10 $283.49
	Component Description: **Amount:**	See Exhibit 28 Page 8 $2,054.29
	Component Description: **Amount:**	See Exhibit 31 Page 13 $197.83
	Component Description: **Amount:**	See Exhibit 24 Lines 56 and 139. $23,130.11
DTV Medical Facility Notification	Information not provided.	
Fork Lift Rental	Information not provided.	
VSWR Monitoring	Information not provided.	
Site Survey	**Component Description:** **Amount:**	Site Survey. Please see Exhibits 47 and 48. $9,147.00

Public Relations	**Component Description:** **Amount:**	See Exhibit 28 Page 8 $212.50
	Component Description: **Amount:**	See Exhibit 31 Page 13 $516.49
	Component Description: **Amount:**	See Exhibit 29A Page 8 $712.50
	Component Description: **Amount:**	See Exhibit 27 - Page 8 $62.50
	Component Description: **Amount:**	See Exhibit 24 Line 57 $237.50
Legal Fees	Information not provided.	

Architectural Plans	**Component Description:** **Amount:**	See Exhibit 31 Page 13. $10,067.49
	Component Description: **Amount:**	See Exhibit 29A Page 8. $8,439.89
	Component Description: **Amount:**	See Exhibit 30 Page 10. $2,257.97
	Component Description: **Amount:**	See Exhibit 28 page 8 $10,460.43
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.	
Equipment Delivery and Handling Charges	Information not provided.	
Equipment Storage	Information not provided.	
MVPD Notification of Channel Change	Information not provided.	
Alternate Site Studies	**Component Description:** **Amount:**	See Exhibit 24 Lines 1, 2, & 4 which total $93,511.11. Subtracted a one-cent compounded rounding error. $93,511.10

Cost Information

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	$6,669,324.04	$7,405,361.80	$1,296,894.09

Reimbursement Status

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

Certification

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

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

	8. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a pre-requisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Andrew J Siegel** *Assistant Secretary* 03/15/2019

Certification

Section	Question	Response
Submission of Actual Cost Documentation Statements	WILLFUL FALSE, FRAUDULENT, OR FICTITIOUS STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISIONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE AND/OR FRAUDULENT STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT (U.S. CODE, TITLE 31, SECTIONS 3729-3733).	
	1. The Authorized Person signing below certifies and represents that he /she is authorized to submit this TV Broadcaster Relocation Fund Reimbursement Form on behalf of the above-named entity. 2. The above-named entity certifies that the statements in this form and attached documentation are true, complete, and correct. 3. The above-named entity acknowledges that all certifications and attached documentation are considered material representations.	

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

	8. The above-named entity acknowledges that overpayments or payments in error must be promptly refunded to the Commission. 9. The above-named entity certifies that it is in full compliance with all statutes, rules, regulations and governmental requirements for which compliance is a prerequisite for obtaining the payments herein requested.	
	I declare, under penalty of perjury, that I am an authorized representative of the above-named applicant for the Authorization(s) specified above.	**Andrew J Siegel** *Assistant Secretary* 03/15/2019

Attachments