



(REFERENCE COPY - Not for submission)

FCC Form 399: Reimbursement Request

Facility **65355** | Service: **DTV** | Call **KTTZ-TV** | Channel: **25 (UHF)** |
ID: | Sign:
File **0000026949**
Number:
FRN: **0030587018** | Date **04/24**
Submitted: **/2018**

Applicant Information

Applicant Name, Type, and Contact Information

Applicant	Address	Phone	Email	Applicant Type
TEXAS TECH UNIVERSITY Applicant Doing Business As: TEXAS TECH UNIVERSITY	Ron Trice, Director of Engineering BOX 42161 LUBBOCK, TX 79409 United States	+1 (806) 742-2209	ron. trice@TTU. edu	Other

Reimbursement Contact Information

Reimbursement Contact Name and Information

Applicant	Address	Phone	Email
[Confidential]			

Preparer Contact Information

Preparer Contact Name and Information

Applicant	Address	Phone	Email
The Preparer is same as the reimbursement contact.			

Broadcaster Information and Transition Plan

Question	Response
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Will the station be sharing equipment with another broadcast television station or stations (e.g., a shared antenna, co-location on a tower, use of the same transmitter room, multiple transmitters feeding a combiner, etc.)? If yes, enter the facility ID's of the other stations and click 'prefill' to download those stations' licensing information.	No
Briefly describe transition plan	Purchase transmitter, antenna and transmission line. Current transmitter cannot be retuned to new channel (see attached). Modification to the tower for placement of new antenna.

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	CD3260P2- CF
	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-30
	Transmitter Type	Solid State
	Solid State Cooling	Liquid Cooled
	Solid State Power capacity	19.2 kW
	Justification for New Transmitter	The Harris Sigma transmitter is not tunable to Channel 25 as per Harris (Gates Air) see attached. The existing mask filter is channel- specific and must be replaced for the new channel. Upgrade to 30kW Filter.

**Primary
Transmitter**

Other Transmitter Costs

Section	Question	Response
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Electrical Service	Service Entrance (3 phases 800A 208V)	No
	Switchgear (industrial 800 amp)	No
	Transformer (480V)	No
	Power	N/A
	Rigid Conduit and Wiring	No
	Size	N/A
	Length	N/A
	Other Electrical Service	Yes
	Description	Electrician to connect new transmitter and power transformer to existing electrical panel. Run and connect RF filter fan and cooling fan and pumps to existing panels.
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 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
Simple Site Survey	Propose new equipment layout, provide 2D floor plan for proposed facility with electrical and building modifications

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?	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	Full Power
	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)	890.0 kW

Manufacturer	
Model	TFU- 22DSC-R C170
Year	2003

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?	Yes
	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	Full Power
	Mounting	Top 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)	290.0 kW
	Manufacturer	

Model	TFU-18JTH /VP-R 4C170
Year	2018
Justification for New Antenna	Existing antenna is a Channel 39 signal channel antenna and cannot be re-tuned. The antenna is side mounted. The new antenna needs to be top mounted due to no other space on the tower.

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	4 1/16 inches inches
Side Mount Brackets	Do you require the separate purchase of side mount brackets for a high power antenna?	No
Pattern Scatter Analysis	Do you require separate purchase of pattern scatter analysis for a side mount high or medium power antenna?	No
Sweep Test	Do you require the sweep testing of transmission line and antenna?	Yes

Primary Antenna

Other Antenna Cost Not Listed

Name	Description
Bury Mount Adapter	The adapter is needed to mount the new antenna to the tower. This a custom built adapter designed and built buy Dielectric.

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	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	Rigid
	Diameter	6 1/8 inches
	Other Diameter	N/A
	Segment Length	20 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	522 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	4 1/16 inches
	Other Diameter	N/A
	Segment Length	19 1/2 inches
	Other Segment Length	N/A
	Number of parallel runs	1
	Length	700 feet per run
	Justification for New Transmission Line	The existing line is 20' sections which is Prohibited on Channel 25. We need to use 19 1/2' or 19 3/4' transmission line sections.

Primary
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	Owned
	Is this tower consider Complex?	
	Is this tower currently shared with any other stations?	Yes
	One or more FM, AM or TV radio broadcaster(s)	Yes
	Others Types of Users	Yes
	Is tower documented for structural analysis?	No
	Is tower compliant with Rev G?	No
Existing Tower Structure Registration	Do you have a tower registration number?	Yes
	ASR Number	1047750
Coordinates (NAD83 (North American Datum of 1983))	Latitude (NAD83)	33° 34' 55.0" N-
	Longitude (NAD83)	101° 53' 27.0" W-
	Overall Structure Height	817.58 feet
	Support Structure Height	644.02 feet
	Ground Elevation Above Mean Sea Level (AMSL)	3225.03 feet

Structure Type	TOWER - Free Standing or Guyed Structure
Tower Owner	TEXAS TECH UNIVERSITY
Date Constructed	05/07/1982

**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
65352	KTXT-FM	FM
65354	KTTZ-FM	FM

Other Types of Users

Users
TTU BMC
S. Plains EMS

**Primary
Tower**

Tower Modification Costs

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

**Primary
Tower**

Tower Rigging Costs

Section	Question	Response
Tower Rigging Costs	Complex Tower	Other
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?	Yes
	Number of Hours	300
	Explanation	The station has multiple transmitter sites (1 TV with 2 Radio and 1 Radio 180 miles away) and 2 Studio Buildings. They are operating with minimal staff. The station does not have personnel available for managing this project and doing their daily duties.
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)	No
	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**
If services 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	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?	No
	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
	Information not provided.

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-30	\$704,176.80	\$522,322.53		\$0.00	
Other Electrical Service: Electrician to connect new transmitter and power transformer to existing electrical panel. Run and connect RF filter fan and cooling fan and pumps to existing panels.	\$15,000.00	\$15,000.00	N/A	N/A	N/A
UHF - Liquid Cooled Solid State Transmitter 14.2 - 20 kW	\$684,000.00	\$502,145.73	N/A	N/A	N/A
Simple Site Survey	\$5,176.80	\$5,176.80	N/A	N/A	N/A
Sub-total	\$704,176.80	\$522,322.53	N/A	\$0.00	N/A
Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A

Components

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
Primary Antenna TFU-18JTH /VP-R 4C170	\$403,352.00	\$305,288.00		\$137,379.60	
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	\$9,570.00	\$8,592.00	N/A	\$3,866.40	N/A
Sweep test of existing antenna	\$6,730.00	\$6,400.00	N/A	\$2,880.00	N/A
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	\$289,500.00	\$192,744.00	N/A	\$86,734.80	N/A
Bury Mount Adapter	<i>\$97,552.00</i>	\$97,552.00	N/A	\$43,898.40	N/A
Sub-total	\$403,352.00	\$305,288.00	N/A	\$137,379.60	N/A

Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A
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Components

Actual Information	
Description	File Name
Elbow complex, single channel, at antenna input, per 4 1/16. feedline (if needed)	<p>Component Description: First installment of 45% of Elbow Complex KTTZ Single channel is due.</p> <p>Amount: \$3,866.40</p>
Sweep test of existing antenna	<p>Component Description: First installment of 45% of Repack Sweep is due.</p> <p>Amount: \$2,880.00</p>
UHF - High Power Top Mount (200-1000 kW), One station antenna , elliptically or circularly polarized	<p>Component Description: First installment of 45% of High Power Side Mount Antenna is due.</p> <p>Amount: \$86,734.80</p>
Bury Mount Adapter	<p>Component Description: First installment of 45% of Bury Mount Adapter with bird cage is due.</p> <p>Amount: \$43,898.40</p>

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	\$99,400.00	\$86,691.00		\$39,010.95	
Rigid Transmission Line - copper, 4 1/16"	\$99,400.00	\$86,691.00	N/A	\$39,010.95	N/A
Sub-total	\$99,400.00	\$86,691.00	N/A	\$39,010.95	N/A
Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A

Components

Actual Information	
Description	File Name
Rigid Transmission Line - copper, 4 1/16"	<div><div>Component Description:</div><div>First installment of 45% of Rigid Transmission Line is due.</div><div>Amount:</div><div>\$39,010.95</div></div>

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	\$868,300.00	\$825,000.00		\$0.00	
Complex Tower (includes, for example, those with candelabras and/or stacked antennas)	\$421,000.00	\$400,000.00	Tower is located in a University parking lot. Access is limited and must be scheduled around school and school events. Extra safety precautions must be taken because of location.	N/A	N/A
Major tower reinforcement /modifications	\$421,000.00	\$400,000.00	N/A	N/A	N/A
Tower mapping for an undocumented /poorly documented tower and preparation of documentation necessary for tower load study	\$26,300.00	\$25,000.00	N/A	N/A	N/A
Sub-total	\$868,300.00	\$825,000.00	N/A	\$0.00	N/A

Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A
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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	\$182,835.00	\$173,250.00		\$0.00	
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
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	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), License to Cover Application	\$2,365.00	\$2,250.00	N/A	N/A	N/A
Attorney Fees - Prepare and File FCC Form 2100 (main), Construction Permit Application	\$5,260.00	\$5,000.00	N/A	N/A	N/A

Prepare request for Special Temporary Authorization	\$2,050.00	\$1,500.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), License to Cover Application	\$1,580.00	\$1,500.00	N/A	N/A	N/A
Prepare engineering section of FCC Form 2100 (main), Construction Permit Application	\$3,155.00	\$3,000.00	N/A	N/A	N/A
Perform engineering study for new channel assignment and antenna development	\$7,360.00	\$7,000.00	N/A	N/A	N/A
Project management of the transition	\$47,400.00	\$45,000.00	N/A	N/A	N/A
Prepare and or review reimbursement form	\$2,630.00	\$2,500.00	N/A	N/A	N/A
Sub-total	\$182,835.00	\$173,250.00	N/A	\$0.00	N/A
Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A

Components

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	\$67,750.00	\$67,200.00		\$8,100.00	
MVPD Notification of Channel Change	<i>\$1,200.00</i>	\$1,200.00	N/A	N/A	N/A
Develop and air announcement of upcoming channel change	<i>\$10,000.00</i>	\$10,000.00	N/A	N/A	N/A
Disposal Costs (for equipment and other waste, net of any salvage value)	<i>\$27,000.00</i>	\$27,000.00	Removal of CH39 Transmitter and associated equipment after channel shut off	N/A	N/A
DTV Medical Facility Notification	\$11,550.00	\$11,000.00	N/A	N/A	N/A
Equipment Delivery and Handling Charges	<i>\$18,000.00</i>	\$18,000.00	Antenna, Bury Mount and line delivery.	\$8,100.00	N/A
Sub-total	\$67,750.00	\$67,200.00	N/A	\$8,100.00	N/A
Total for all systems	\$2,325,813.80	\$1,979,751.53	N/A	\$184,490.55	N/A

Components

Actual Information	
Description	File Name
MVPD Notification of Channel Change	Information not provided.
Develop and air announcement of upcoming channel change	Information not provided.
Disposal Costs (for equipment and other waste, net of any salvage value)	Information not provided.
DTV Medical Facility Notification	Information not provided.
Equipment Delivery and Handling Charges	<div> Component Description: <p>First installment of 45% of Freight, Shipping and Handling is due.</p> </div> <div> Amount: <p>\$8,100.00</p> </div>

**Cost
Information**

Grand Total

	Predetermined Cost Estimate	Estimated Cost	Actual Cost
Total for all systems	\$2,325,813.80	\$1,979,751.53	\$184,490.55

Reimbursement Status

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

Certification	Section	Question	Response
	Submission of Estimated Expenses Statements	<p>WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND /OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a) (1), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503), AND ANY FALSE STATEMENTS COULD SUBJECT THIS ENTITY TO LIABILITY UNDER THE FALSE CLAIMS ACT.</p>	
		<ol style="list-style-type: none"> 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>Adria Hatley <i>Financial Manager</i></p> <p>04/24/2018</p>

Attachments