

IT Project Proposal Report - Detail
Agency: 047 - EDUCATIONAL TELECOMMUNICATIONS COMM
Budget Cycle: 2021-2023 Biennium **Version: AF - AGENCY FINAL REQUEST**

IT Project : Radio Transmission project

General Section

Contact Name : Ling Ling Sun	E-mail : lsun@netad.unl.edu	Agency Priority : 1
Address : 1800 North 33rd St	Telephone : 402-472-3611	NITC Priority :
City : Lincoln		NITC Score :
State : Nebraska	Zip : 68503	

Expenditures

IT Project Costs	Total	Prior Exp	FY20 Appr/Reappr	FY22 Request	FY23 Request	Future Add
Contractual Services						
Design	0	0	0	0	0	0
Programming	0	0	0	0	0	0
Project Management	0	0	0	0	0	0
Data Conversion	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Contractual Services	0	0	0	0	0	0
Telecommunications						
Data	0	0	0	0	0	0
Video	0	0	0	0	0	0
Voice	0	0	0	0	0	0
Wireless	0	0	0	0	0	0
Subtotal Telecommunications	0	0	0	0	0	0
Training						
Technical Staff	0	0	0	0	0	0
End-user Staff	0	0	0	0	0	0
Subtotal Training	0	0	0	0	0	0

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Expenditures

IT Project Costs	Total	Prior Exp	FY20 Appr/Reappr	FY22 Request	FY23 Request	Future Add
Other Project Costs						
Personnel Cost	0	0	0	0	0	0
Supplies & Materials	0	0	0	0	0	0
Travel	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Other Project Costs	0	0	0	0	0	0
Capital Expenditures						
Hardware	625,000	0	0	385,000	240,000	0
Software	0	0	0	0	0	0
Network	0	0	0	0	0	0
Other	0	0	0	0	0	0
Subtotal Capital Expenditures	625,000	0	0	385,000	240,000	0
TOTAL PROJECT COST	625,000	0	0	385,000	240,000	0

Funding

Fund Type	Total	Prior Exp	FY20 Appr/Reappr	FY22 Request	FY23 Request	Future Add
General Fund	625,000	0	0	385,000	240,000	0
Cash Fund	0	0	0	0	0	0
Federal Fund	0	0	0	0	0	0
Revolving Fund	0	0	0	0	0	0
Other Fund	0	0	0	0	0	0
TOTAL FUNDING	625,000	0	0	385,000	240,000	0
VARIANCE	0	0	0	0	0	0

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EXECUTIVE SUMMARY:

The replacement of aging FM antenna systems and associated feed line has been ongoing and will conclude in FY 22-23. To reduce rising maintenance costs and to eliminate downtime, NET has received fund for KTNE FM antenna and transmission lines in FY2020 and for replacing KRNE FM antenna in FY 2021. The NET FM radio network shoulders the responsibility of being the State's primary relay for the state and federal Emergency Alert System. In order to ensure reliable and consistent state coverage, funds will be requested for transmission line replacement for KRNE and KMNE in FY2022 and transmission line and antenna for KXNE FM in FY2023.

Delaying the completion of this final phase any further would continue to increase off-air downtime at these sites and increase annual operating expenses for repairs, maintenance and supplies especially during harsh winter months. The project would begin the summer of 2021 and proceed through the fall (weather and tower crews permitting) at KRNE and KMNE. Work on the KXNE site would begin summer of 2022 and run through spring of 2023. Total costs for this project are estimated at \$625,000, split \$385,000 in FY2022 for KRNE/KMNE with the remaining \$240,000 in FY2023 for KXNE.

GOALS, OBJECTIVES, AND OUTCOMES (15 PTS):

The goal is to replace the 30-year-old feed lines at KRNE (Merriman) and KMNE (Bassett) and also 30-year-old aging antenna and feed line at KXNE (Norfolk). The NET Radio listeners, Nebraska commercial broadcasters and Nebraska residents relying on "over the air" Emergency Alerts will benefit from this project. The replacement of the FM antennas and feed lines will increase reliability and reduce operating costs. The measurement and assessment methods will be ongoing metrics and system monitoring via NET NMCS (Network Management Control System) 24x7 monitoring system along with feedback from NET Radio listeners and Nebraska commercial broadcasters that use NET Radio as their primary EAS monitoring station.

The project should positively impact the NET operating budget by reducing annual maintenance costs. This project is being done to maximize the reliability and uptime of the radio system NET has the obligation of managing on behalf of the State of Nebraska.

PROJECT JUSTIFICATION / BUSINESS CASE (25 PTS):

NET has a statutory requirement to provide broadcast services as well as distribute emergency notifications across the state of Nebraska. Purchasing and installing new hardware will greatly increase reliability, efficiency, and reduce maintenance costs. NET intends to start these projects as soon as funds are available. The nature of this project allows few solutions other than replacement of hardware. By doing nothing the broadcast areas will have interruptions in service performance for NET Radio and the State Primary and State Relay of the Nebraska Emergency Alert System (EAS). This Project is in compliance with the Nebraska Emergency Management Agency's (NEMA) Nebraska State EAS Plan, which states "The Nebraska SP/SR network is comprised of all Nebraska Educational Telecommunications Network radio transmitters, plus KVNO radio in Omaha. State Relay (SR) stations must be configured to automatically transmit statewide EAS alerts from the State Primary (SP) as quickly as possible."

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TECHNICAL IMPACT (20 PTS):

The project will replace 30-year-old technology with new efficient and reliable hardware. NET has completed a multi-year project replacing all of the main FM Transmitters, and have documented a substantial reduction in maintenance costs while increasing network reliability. The replacement of the FM Antennas and Feed Lines will help complete the upgrade to the statewide system, maintain current coverage, reduce repairing cost, and increase reliability.

The replacement will use the most recent industry standard technology and hardware. It should take these systems beyond the next decade.

- Address conformity with applicable NITC technical standards and guidelines (available at <http://nitc.ne.gov/standards/>) and generally accepted industry standards.

The replacement equipment is considered Industry Replacement Standard for this type of system.

- Address the compatibility with existing institutional and/or statewide infrastructure.

These systems are completely compatible with existing power and physical construction of NET's towers and buildings. Any significant upgrades to federally regulated towers would cause the structures to no longer be "grandfathered" under previous tower safety standard. The towers will have to be upgraded to the most current federal tower safety guidelines ANSI TIA-222H.

PRELIMINARY PLAN FOR IMPLEMENTATION (10 PTS):

NET is planning to purchase and install FM antennas and feed lines. NET is the project sponsor. NET Radio listeners and Nebraska commercial broadcasters that use NET Radio as their Primary EAS monitoring station are the stakeholders.

NET will enter into contract with a qualified insured tower maintenance contractor to install the FM Antennas and Feed Lines.

NET will act as the project manager for this project.

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The major deliverable for this project is the removal of the old system and replacement of the new system. The time frame for this work is eight days per FM Antenna and Feed Line from receipt of system and getting the tower crew on site. Funds will be requested for KMNE/KRNE being completed in FY2022 and KXNE to be completed in FY2023.

No additional training or staff development is required. Operations will be seamless to present day workflow.

No additional support is required, other than routine operational maintenance.

RISK ASSESSMENT (10 PTS):

The FM antenna and Feed Lines need to be replaced soon or NET Radio Listeners, Nebraska Commercial Broadcasters, and Nebraska residents relying on “over the air” Emergency Alerts will experience additional downtime and diminished reception.

This purchase will be made under the State Purchasing Guidelines to minimize risk. Any assistance with contractual parties will have bonded and insurance requirements to assure protection to the State of Nebraska.

FINANCIAL ANALYSIS AND BUDGET (20 PTS):

Total Cost is estimated at \$625,000. \$385,000 in FY2022 and \$240,000 in FY2023. See details in Financial Tab above. Also under Capital Construction Projects of this Budget System.