

ARCS timeline of the ARCS DTV Conversion Capital Appropriation

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Rural Alaska was underserved by commercial television in the early years of statehood. The State of Alaska built a low power television infrastructure called RATNET in the **1980s**. At one time there were 237 remote sites. RATNET was built out and maintained by SOA employees, including a fleet of engineers and technical shops around Alaska to maintain the remote systems, with a satellite uplink and carrier service under an annual contract with a satellite telecom company. Eventually this legacy service became known as **ARCS**.

In the **1990s** the SOA eliminated all state employees and engineering expenses involved in the operation of ARCS except for three functions that are currently funded.

1. A satellite uplink contract (currently SES-GS)
2. A grant to manage:
 - a. the network content aggregation work and equipment
 - b. support for the volunteer ARCS Council that oversees programming decisions.
3. A contract to provide the toll-free trouble line for technical support to volunteers and organizations in the villages who care for the remote site equipment

In the **mid-90s** Alaska public broadcasters obtained federal funding for a technical update and to expand the use of satellite bandwidth by more than four-fold without additional cost to SOA.

In **2004** Alaska Public Broadcasting, Inc., (APBI) obtained Denali Commission funds and spent several years working with local communities to refurbish remote sites and analog electronics at no cost to SOA.

Then in **2006** APBI, at no cost to SOA designed and built a new satellite frontend uplink system that increased service and reduced satellite bandwidth costs to the SOA (a reduction of \$200K annually, totaling over \$1M savings to date). This system is still operating inside the KUAC-TV master control room on the UAF campus in Fairbanks.

DOA has used APBI as a subject matter expert and consultant for 20 years. APBI continues as the non-profit company providing technical and management services for ARCS.

FCC mandate: The FCC established a **2009** deadline for digital conversion of full power TV stations. The mandate for low power stations such as ARCS has been put off by the FCC multiple times and the current FCC target for ending analog TV service is **July 2021**.

FY2014 a State of Alaska capital appropriation passed for the ARCS Digital Conversion. Reference number 56625. Total amount: \$5.3M. Technical expertise came from APBI however the SOA used their own procurement division to contract for equipment and issued a contract to APBI for project management services. APBI estimated the number of sites to be converted at 185.

November 18, 2014, SOA contracted with EMCEE (Wireless Acquisition LLC) in the amount of \$3,257,024 without including APBI staff in the negotiation. The contract included the manufacture of 185 low power DTV systems plus 15 spares, and 5 year warranty, with all equipment to be shipped to Anchorage. The

structure of the contract did not set up a streamlined process between SOA, APBI and EMCEE, and did not address several critical elements of the project.

To address those elements, APBI worked with DOA to implement a variety of mechanisms to address them. These all included APBI identifying and describing the needs, presenting estimate of costs, and requesting DOA to authorize the expenses. APBI then incurred expenses and later submitted receipts for reimbursement. Funds were used for the purchase and shipping of equipment, transportation expenses, and in some cases secure heavy lifting or on-site labor where appropriate. APBI staff costs were not included in these functions. **The only funds from the appropriation used for APBI staff were in the form of the annual limited management contract in the amount of \$100,000 annually**

EMCEE was manufacturing the transmitters and shipping them to APBI. APBI bench tested and arranged for shipping and coordination with community members at ARCS sites to do the installations.

By the summer of **2017** about half of the transmitters contracted for at EMCEE had been manufactured and been received in Anchorage.

October 2017 APBI learned that EMCEE was no longer in business. Confirmation came from the owner/landlord of the warehouse containing the EMCEE manufacturing plant in Mesa, Arizona, calling APBI about the potential disposal of equipment labeled APBI and SOA. APBI received approval from the State of Alaska Procurement to travel to Mesa to examine and inventory the equipment. Upon arrival, it appeared that manufacturing work had stopped mid-shift with tools, components, partially and fully completed systems sitting where they had been left. The landlord was eager to have the equipment removed before the warehouse was locked up in litigation. APBI staff spent three days identifying, boxing and preparing ten (10) pallets of equipment for shipment to Alaska. Shipping was arranged with approval and funding from DOA. The pallets arrived at the APBI offices for safe storage on the premises.

Installation Labor: **No funds** from the capital appropriation were allocated for installation labor in the ARCS communities. The model used by the DOA for this project depends in nearly all cases on the local volunteers and residents of ARCS communities who are the caretakers of the ARCS remote infrastructure to perform the cutover to the new digital equipment. They use their own time and resources to handle the receiving and transport of equipment at their community to the ARCS site. Then, with the aid of written and telephonic assistance from APBI, they perform the actual installation of the electronics and the cutover to digital. APBI has no authority over the activities, timeliness, or consideration of the volunteers. All of the functions performed by APBI staff on this project, whether in the field or in the office, drawn from the capital appropriation have been funded solely by the annual limited management contract.

The loss of contracting manufacturer EMCEE fundamentally changed the project. Equipment failures and future repairs would no longer have the factory warranty. However, APBI did not request additional funds to take on this expanded role; we simply accepted the challenge of this adversity and used the equipment and parts available to continue to do the DTV conversion work. DOA did not request a change to the scope of the management contract. APBI did not request any consideration for repurposing the recovered equipment and assessing and finding another manufacturer to advance the buildout of the transmitters in the original EMCEE contract.

APBI identified a qualified amplifier manufacturer and acquired seventeen units, all of which were received in good time from the factory (GatesAir) and which are now either deployed or awaiting deployment. APBI was able to put these units into use by combining the new amplifiers with racks, receivers and in some cases filters harvested from the equipment recovered from the EMCEE factory.

January 2019 - DOA approval of the Upkeep Services contract. Unencumbered funds in the capital appropriation were approved for use to improve several ARCS sites with non-transmitter equipment such as towers, antennas and satellite dishes. Previously DOA would **not** allow the use of unencumbered appropriation funds for that purpose. Communities would simply have to fund such work with their own money, even though it was SOA infrastructure. This is the way SOA had operated ARCS for many years with relief coming when APBI had brought Denali funds to the table between 2004 – 2010. In the fall of 2018, after repeated calls from villages, DOA changed its mind and told APBI that they would find a way to access the funds. The “contract” method used by DOA was simply a mechanism to make funds available, in this case not to exceed \$300K. This was NOT a grant, and none of the funds were available to hire technical staff. But, from a financial standpoint APBI could initiate purchase and transport parts and materials from manufacturers in the lower 48 to villages, cover transportation costs and additional contract labor where appropriate, to effect repairs or refurbishments to the antenna infrastructures at remote ARCS sites. As part of the proposed work scope APBI furnished SOA with a list of example sites where we had identified such needs. We estimated those funds would be available for 2 to 3 years. However other disruptive events were by then coming into play, including a period of time when the operating funding for the satellite system that feeds the ARCS system was proposed for elimination from the FY19 Governor’s budget. As a result of the uncertainty in funding APBI lost an engineer. Without certainty that the ARCS funding would be in place in FY19 budget APBI held off on ordering the “Upkeep Services” funded equipment.

End of APBI DTV management contract: The DTV conversion project is in hiatus. Significant financial capacity in original capital appropriation remains. The DOA did not renew the APBI management contract for the project. On January 14, 2020, APBI was instructed to give the ARCS DTV equipment at our offices to SOA Property Management. On January 30, eight (8) pallets full of electronics (packaged and inventoried by APBI) were transported to the SOA storage facility in Anchorage. APBI estimates that approximately \$1.5M in digital TV equipment is now in the SOA property warehouse. At this time APBI has no expectation that those resources will be available to our efforts as spares in maintaining or converting systems for any community requesting such assistance.

Until **June 30, 2020** APBI is still under contract to provide telephone technical support to villages in the operation of their remote equipment. We have no ability to provide spares or equipment replacements. Requests will be referred to DOA.

APBI is still working under a SOA grant for the management of the ARCS Satellite based services, including content aggregation and the ARCS Council coordination. As a function of this grant APBI continues to act as a satellite and ARCS system subject matter expert for the DOA on its new contract with SES for satellite service and the construction of the uplink antenna at UAF campus.