Maintenance Report: Electrical Cable Replacement between Station A and Station B

Date: May 22, 2025

Reported by: Technician John Doe

On May 20, 2025, our maintenance team undertook the replacement of the electrical cable connecting Station A to Station B. Routine inspections conducted on May 15, 2025, revealed signs of wear in the existing cable, including insulation degradation and minor voltage drops, which posed a risk to consistent power transmission. After evaluating the condition, we determined that a complete cable replacement was necessary to ensure reliable power delivery and prevent potential outages.

The replacement involved installing a new type 11Z1 electrical cable, chosen for its high conductivity and robust insulation suitable for the environmental conditions between the stations. The cable length required was 0.49 kilometers, measured precisely to cover the distance. Procuring the 11Z1 electrical cable cost $3,200, reflecting its heavy-duty specifications and capacity to handle the required load. The cable was sourced from a certified supplier and delivered to the site on May 19, 2025, to avoid delays in the project schedule.

Work began at 07:00 on May 20 at Station A, where the team isolated the affected cable segment to ensure safe operations. The old cable was disconnected, removed, and sent for recycling in accordance with environmental regulations. The replacement required significant effort, with four technicians working for a total of 14 hours to complete the task. The labor cost for this operation amounted to $1,400, based on standard rates for skilled electrical technicians in our area.

Installing the new 11Z1 cable demanded precision to maintain proper alignment and secure connections. We used specialized tools, including a cable crimper and insulation tester, which were rented for the day at a cost of $400. Additionally, two heavy-duty electrical adapters were required to connect the new cable to the existing terminals at both stations. These adapters, priced at $200 each for a total of $400, ensured compatibility and a secure electrical interface.

After installation, the team conducted thorough testing to confirm the cable’s performance. This included voltage drop tests, continuity checks, and load capacity verification. An insulation resistance tester, rented for $250, was used to validate the integrity of the cable’s insulation under operational conditions. All tests confirmed that the new cable met or exceeded performance expectations, with no detectable issues in power transmission.

The replacement was completed by 21:00 on May 20, 2025, without complications. The new 11Z1 electrical cable is expected to provide reliable service for at least 20 years, based on manufacturer specifications and our maintenance protocols. A follow-up inspection is scheduled for June 10, 2025, to monitor performance. All relevant documentation, including test results and cost records, has been archived for future reference.

Signed,

John Doe

Lead Maintenance Technician