

STATEMENT OF PROJECT OBJECTIVES (SOPO)
Project DA: Distribution Automation Deployment
In Missouri, Kansas, Arkansas, and Oklahoma.

A. OBJECTIVES

The Distribution Automation Deployment in Missouri, Kansas, Arkansas, and Oklahoma Project (“Project”) proposed by The Empire District Electric Company (“Empire”) aims to fundamentally alter the landscape of the company’s outage restoration operations, by installing automated power restoration to 179 main supply circuits across the company’s service territory that spans corners of the four geographically adjacent states noted above. Being the final step in a multi-phase sequence described below and in the Technical Volume, the project also includes the upgrades to aged and/or capacity constrained pole and conductor infrastructure in the project’s vicinity, and the upstream distribution substation protection and capacity upgrades (where required). In doing so, the project seeks to improve the reliability outcomes of the circuits affected by 33%, while adding system switching flexibility and efficiency for normal and emergency operations and providing additional capacity for distribution-connected renewables integration.

As conceived, the project consists of 12 temporal phases organized around four task-based groupings:

1. Studies
2. DA Device Installation
3. Circuit Capacity Upgrades
4. Power Transformer Replacements.

While the first and fourth of these phase categories are unique and constrained to a single phase each, the middle two phase groupings contain five phases each that repeat on an annual frequency over the project’s five performance periods. Empire notes that different phases contain different numbers of planned deployments (see Figure 2 in the Technical Volume for further detail). While the combination of phases produces the desired final project outcome of a *modernized automated distribution system, with reinforced resilience features at the key DA nodes and additional flexibility and capacity to assist electrification and renewables growth*, individual phases also produce incremental outputs that carry utility and customer value on their own, as described below. As such, even if individual project sites, or latest performance periods of the project should not be performed, all the prior individual study periods deliverables will be of value to the company, its customers and the communities it serves.

B. SCOPE OF WORK

Phase 1: Studies

Undertake a three separate “deep-dive” studies required to confirm the outcomes of previous higher-level studies and estimation work associated with the project. The studies will be critical in enabling the adoption and safe implementation of updated operating processes and will help prioritize the sequencing and confirm the scope of the cluster- and circuit-specific upgrades to inform further engineering and design activities.

- Engage Local IBEW 1424 members and other operations staff to identify and implement operational process changes and train all affected stakeholders prior to system “go-live”.
- Determine power transformer capacity constraints required to be resolved (via upgrades or site changes) prior to automated power restoration enablement through DA.
- Determine length and locations of circuit conductor capacity upgrades required to enable DA. Use study insights to prioritize locations and apply GO/NO-GO criteria.

Phases 2, 4, 6, 8, 11: Distribution Automation Device Installation

Perform the engineering, procurement, and construction activities necessary to install 310 distribution automation devices.

- Complete the installation of 310 distribution automation devices over 5 annual Performance Periods.
- Phases also include sectionalization work on the impacted circuits, removal and disposal of the legacy manual switch devices, and installation of telecom equipment.

Phase 3, 5, 7, 9, 12: Power Circuit Capacity Upgrades

Perform the engineering, procurement, and construction activities necessary to complete the upgrades of main supply circuits identified in the study in Phase 1.

- Complete capacity upgrades of main supply circuits identified by the study in Phase 1. Largely occurs parallel / in close sequencing to the above-noted DA device installation.

Phase 10: Power Transformer Replacements

Perform the engineering, procurement, and construction activities necessary to complete power transformer replacements of the study in Phase 1. In addition to other activity-based phases, this will require significant outage coordination and civil construction activities.

- Complete the 3 most critical capacity-enabling power transformer replacements identified in the study in Phase 1 work to enable downstream DA-enabled switching.
- This phase is placed later in the project considering the study, lead and construction coordination times associated with power transformer renewal and upgrade.

C. TASKS TO BE PERFORMED

Task 1.0: Project Management and Planning

Subtask 1.1 – Project Management Plan (PMP):

Within 30 days of award, the Applicant shall submit a Project Management Plan (PMP) to the designated Federal Project Officer (FPO). The Recipient shall not proceed beyond Task 1.0 until the PMP has been accepted by the FPO.

The PMP shall be revised and resubmitted as often as necessary, during the course of the project, to capture any major/significant changes to the planned approach, budget, key personnel, major resources, etc.

The Recipient shall manage and direct the project in accordance with the accepted PMP to meet all

technical, schedule and budget objectives and requirements. The Recipient will coordinate activities to effectively accomplish the work. The Recipient will ensure that project plans, results, and decisions are appropriately documented, and that project reporting and briefing requirements are satisfied.

Subtask 1.2: National Environmental Policy Act (NEPA) Compliance

As required, the Recipient shall provide the documentation necessary for NEPA compliance.

Subtask 1.3: Cybersecurity Plan (CSP)*

The CSP shall be revised and resubmitted as often as necessary, during the course of the project, to capture any major/significant changes. The company intends to engage a cybersecurity SME to partake in regular project management meetings (specifically pertaining to the telecommunication devices installs as part of phases 2, 4, 6, 8 and 11).

Subtask 1.4: Continuation Briefing(s):

The Recipient will brief DOE on roughly an annual basis to explain the plans, progress and results of the technical effort. The briefing shall also describe performance relative to project success criteria, milestones, and the Go/No-Go Decision points that are documented in the Project Management Plan (PMP) and the specific SMART objectives articulated in the Community Benefits Plan.

Task 2.0: Change Management

Successful project completion requires the support and buy-in of all stakeholders impacted by the project. Stakeholders could include: Empire staff and senior management, customers, contractors, labor organizations, regulatory bodies, other utilities, etc. A stakeholder engagement plan laid out in the Community Benefits plan will be supplanted by a more detailed internal technical-oriented document to ensure all stakeholders understand the purpose and scope of the project, impact it might have on them and a provide a chance for questions and discussion.

Nadler and Tushman's Congruence Model framework for change management is expected to be employed to structure and facilitate the change management activities (the "Inputs → Task – Individual – Formal Organization – Informal Organization → Outputs" framework devised to effect comprehensive organizational change). The key advantage of this approach to many others change management frameworks is the degree of attention it pays to the informal organization (i.e. attitudes, norms, commonly held beliefs that have impact on execution of tasks by individuals – sometimes in spite the presence of formal rules that may dictate the contrary).

Task 3.0: Risk Management

All projects incur inherent risks that could threaten the successful completion of the project. Generic risks will get considered (safety of workers and the public, environmental, customer service and financial) as well as risks specific to this type of project (supply chain delays, labor disruptions, extreme weather, etc.). The project team will create a risk management plan that identifies all risks and determines risk severity by assessing the probability and impact of each risk. Corresponding mitigation actions in accordance with the risk severity will be identified and undertaken to ensure risks will not jeopardize the project. The Technical Volume includes a sample of Top 5 project risks and mitigation pathways identified by the project team to date. As an additional tool for

stakeholder-specific risk management and consensus / support building, the company has developed and executed a “SNRD” framework for stakeholder mapping.

Task 4.0: Work Execution

The recipient shall execute the work in 5 performance periods of 12 months each. Performance period milestones will be selected to ensure customers experience project benefits as soon as possible. More specifically, milestones represent the deployment of operational DA device clusters that will deliver project benefits in an incremental manner. Work execution will proceed

Subtask 4.1: Studies

Empire shall study three main areas necessary to realize overall project deliverables and produce a report describing the findings of the study and recommendations:

- Process impact
- Power transformer capacity
- Power circuit capacity

Subtask 4.2: Engineering & Design

The recipient shall create specifications and designs for the following project elements:

- Distribution automation devices
- Power circuit upgrades
- Communication & control systems
- Power transformers

Subtask 4.3: Procurement

The recipient shall use established procurement processes and policies and procure all materials and equipment required for the project according construction timelines.

Subtask 4.4: Construction & System Development

The Recipient shall construct, develop and install all equipment and systems in order to deliver the scope of work for Project Phases 2 to 10.

Subtask 4.5: Commissioning & Final Testing

The Recipient shall perform commissioning activities and conduct final testing for all work outlined in Phase 1 studies.

Task 5.0: Community Benefits Plan Development and Outcomes Delivery

The Project Team will continue refining collaboration hypotheses and pursuing partnerships and specific deliverables reflected in the Community Benefits Plan document. For greater clarity, these include the following critical subtasks:

Subtask 5.1: Pursue Community and Labor Agreements

Work with potential partners identified in the report and seek additional ones to formalize partnership opportunities for the enablement or co-delivery of certain aspects of the project.

Subtask 5.2: Deliver the School Course and Collect Resilience Registry Information

Work with schools and STEM education promotion organizations to design and deliver school programs described in the Community Benefits Plan that culminate in the student-led local Resilience Registry project and potential inter-school competition provided sufficient interest.

Subtask 5.3 Deliver DAC Justice40 Benefits Targeted

Refine and undertake concrete steps to ensure the achievement of all targeted SMART objectives associated with the Justice40 portion of the Community Benefits Plan.

D. DELIVERABLES

Subtask 1.1 - Project Management Plan

Subtask 1.3 – Cybersecurity Plan

Subtask 1.4 – Pre-Continuation Briefing Document(s)

Task 2.0 – Change Management Plan

Task 3.0 – Risk Management Plan

Subtask 4.1 – Process Impact Report

Subtask 4.1 – Power Transformer Capacity Report

Subtask 4.1 – Power Circuit Capacity Report

Subtask 4.2 – Milestone Reports on Engineering & Design Activities (one per performance period)

Subtask 4.3 - Milestone Reports on Procurement Activities (one per performance period)

Subtask 4.4 - Milestone Reports on Construction & System Development Activities (one per performance period)

Subtask 4.5 - Milestone Reports on Commissioning & Final Testing (one per performance period)

Subtasks 5.1, 5.2, 5.3 – Community Benefit Plans Annual Updates and Final Report

In addition to the deliverables listed above, the Recipient shall submit all periodic, topical, final, and other reports in accordance with the Federal Assistance Reporting Checklist and accompanying instructions.

E. BRIEFINGS/TECHNICAL PRESENTATIONS

The Recipient shall prepare, and present periodic briefings, technical presentations and demonstrations as requested by the Federal Project Officer, which may be held at a DOE or the Recipient's facility, other mutually agreeable location, or via webinar. Such meetings may include all or a combination of the following:

Kickoff Briefing - Not more than 30 days after submission of the Project Management Plan, the Recipient shall prepare and present a project summary briefing as part of a Project Kickoff Meeting.

Pre-Continuation Briefing - Not less than 90 days prior to the planned start of a budget period, the Recipient shall brief the DOE on the results to date, and their plans for the subsequent periods of work. The DOE will consider the information from this briefing, as well as the content of deliverables submitted to date, prior to authorizing continuing the project.

Final Project Briefing - Not less than 30 days prior to the end of the project, the Recipient shall prepare and present a Final Project Briefing on the results and accomplishments of the entire project.

Other Briefings – The Recipient shall prepare and present technical, financial, and/or administrative briefings as requested by the DOE. Additionally, the DOE may require Recipients to make technical presentations at national and/or industry conferences.