Submission of Supplemental Projects for Inclusion in the Local Plan
Need Number: ComEd-2019-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 4/15/2019

Previously Presented:
Need Meeting 2/20/2018
Solution Meeting 3/25/2019

Supplemental Project Driver:
• Other – Technological Pilot Project

Specific Assumption References:
• December 3, 2018 ComEd Annual Assumptions
• Press release announcing the agreement between AMSC and ComEd October 31, 2018

Problem Statement:
• Support of the DHS sponsored Resilient Electric Grid (REG) initiative with a new technical pilot project involving superconducting cable
**Need Number:** ComEd-2019-001

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 4/15/2019

**Selected Solution:**
- Support of the DHS sponsored Resilient Electric Grid (REG) initiative with the installation and operation of a new superconducting cable that utilizes the 2nd generation High Temperature Superconducting (“HTS”) wire to provide high transfer capacity between multiple 12 kV locations.
  - Successful demonstration would improve resiliency and could lead to greater interest in the new technology throughout the utility industry and a reduction in cost.
- The project will be completed in two phases to gain learnings from the 1st phase about the installation and operation of the cable system that will be incorporated into the 2nd phase of the project.
  - Phase 1 in-service 2021
  - Phase 2 in-service 2026 (contingent on successful completion of Phase 1)
- **Estimated Cost:** $67 M

**Projected In-Service:**
- Phase 1 in-service 2021
- Phase 2 in-service 2026 (contingent on successful completion of Phase 1)

**Supplemental Project ID:** S1793
Need Number: ComEd-2018-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Previously Presented:
Need 10/26/2018
Solution 1/11/2019

Project Driver:
Customer Service

Specific Assumption References:
• January 30 2018 ComEd Annual Assumptions
  • New transmission customer connections

Problem Statement:
• New customer has requested transmission interconnection in the DeKalb area
• 18 MW
• Customer has large motors
Need Number: ComEd-2018-001

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Selected Solution:
Install new 138 kV line from Waterman to customer
- 2.5 miles of new conductor on existing structures
- 1 mile of new conductor and new structures
- Four new 138kV breakers
Install backup tap on 138 kV line 11323 (Waterman-Haumesser Road-Glidden)
- 138 kV breaker will be open in the customer substation

Estimated Cost: $1.7 M

Projected In-Service: 12/31/2019

Supplemental Project ID: S1828

Project Status: Under Construction

Model: 2023 Summer RTEP 50/50
Need Number: ComEd-2018-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Previously Presented:
Need 10/26/2018
Solution 1/11/2019

Project Driver:
Infrastructure Resilience

Specific Assumption References:
- January 30 2018 ComEd Annual Assumptions
- Infrastructure replacement due to obsolescence resulting in increased capacity; consistent with efficient asset management decisions.

Problem Statement:
Electromechanical relays on 138 kV lines 13505 and 13506 at Elmhurst:
- Thermally limiting the line
- Does not allow real-time data gathering of relay events
- Replacements and spare parts are becoming scarce
Need Number: ComEd-2018-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Selected Solution:
Upgrade relay packages on
• 138 kV line 13505 at Elmhurst
• 138 kV line 13506 at Elmhurst

Estimated Cost: $0.7 M ($0.35 M per line)

Projected In-Service: 12/31/2019

Supplemental Project ID: S1829

Project Status: Engineering

Model: 2023 Summer RTEP 50/50
Need Number: ComEd-2018-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Previously Presented:
Need 10/26/2018
Solution 1/11/2019

Supplemental Project Driver:
Equipment Material Condition

Specific Assumption References:
• January 30 2018 ComEd Annual Assumptions
  • Infrastructure replacement due to obsolescence resulting in increased capacity; consistent with efficient asset management decisions.

Problem Statement:
Devon TR72 needs to be replaced due to material condition
• Transformer has internal arcing
• Transformer is gassing
• LTC headboard is cracking and leaking oil
• Increasing maintenance costs

The failure of TR72 causes the outage of 138 kV line 8809
Need Number: ComEd-2018-003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 6/26/2019

Selected Solution:
Replace 138/12 kV transformer TR72 at Devon
Install new 138 kV line breaker on 138kV line 8809 at Devon
Install new 138 kV TR72 high side breaker

Estimated Transmission Cost: $1.8 M

Projected In-Service: 12/31/2019

Supplemental Project ID: S1830

Project Status: Engineering

Model: 2023 Summer RTEP 50/50
Need Number: COMED-2019-002

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

Previously Presented:
Need 3/25/2019
Solution 4/23/2018

Supplemental Project Driver:
• Equipment Material Condition

Specific Assumption References:
• December 5, 2018 ComEd Annual Assumptions
  • Transmission infrastructure replacement (EOL/condition/obsolescence) that are consistent with the efficient asset management decisions

Problem Statement:
• Station 20 Braidwood 345kV bus tie 11-14
  • Replacement parts are difficult to acquire
  • Bushings are at end of life
  • Manufactured in 1978
**Need Number:** COMED-2019-002

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

**Selected Solution:**
- Replace Station 20 Braidwood 345kV bus tie 11-14 breaker
- **Estimated Cost:** $2 M

**Projected In-Service:**
- 6/30/2021

**Supplemental Project ID:** S1868

**Project Status:** Engineering/Procurement

**Model:** 2023 RTEP model
**Need Number:** COMED-2019-004

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

**Previously Presented:**
Need 3/25/2019
Solution 4/23/2018

**Supplemental Project Driver:**
Customer Service

**Specific Assumption References:**
- December 5, 2018 ComEd Annual Assumptions
- Transmission System configuration changes due to expansion of existing distribution substations

**Problem Statement:**
- Distribution has asked for an additional 12kV transformer connection at Devon
Need Number: COMED-2019-004

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

Selected Solution:
- Install new transformer and install new line breaker on 138kV line 8803 at Devon
- Estimated Cost: $1.8 M

Projected In-Service:
- 12/31/2020

Supplemental Project ID: S1869

Project Status: Engineering/Procurement

Model: 2023 RTEP model
Need Number: COMED-2019-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

Previously Presented:
Need 3/25/2019
Solution 4/23/2018

Supplemental Project Driver:
Operational Flexibility and Efficiency

Specific Assumption References:
- December 5, 2018 ComEd Annual Assumptions
  - Enhancing system functionality, flexibility, or operability

Problem Statement:
- 138kV line 4605 is a three-terminal line
  - TSS 46 Des Plaines
  - TSS 198 Des Plaines
  - TDC 207 Tonne (future Elk Grove)
- Elk Grove project b2941 will cut into the line
- The current configuration is very difficult to relay properly due to unequal lengths of the three legs
Need Number: COMED-2019-005

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/03/2019

Selected Solution:
- Connect Des Plaines 198 tap directly into Des Plaines 46
- Replace 138 kV Line 4611 CB at Des Plaines 46
- Estimated Cost: $4.2 M

Projected In-Service:
- 12/31/2020

Supplemental Project ID: S1870

Project Status: Engineering/Procurement

Model: 2023 RTEP model
**Need Number:** COMED-2019-0003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 9/16/2019

**Previously presented:**
Need 3/25/2019
Solution 7/24/2019

**Project Driver:** Customer Service, Infrastructure Resilience

**Specific Assumption References:**
- December 5, 2018 ComEd Annual Assumptions
  - New transmission customer interconnection

**Problem Statement:**
- New customer has requested new 138 kV service in the Bradley area
  - 11 MW in 2020, up to 45 MW by 2024
Need Number: COMED-2019-0003

Process Stage: Submission of Supplemental Project for inclusion in the Local Plan 9/16/2019

Selected Solution:
- Cut into existing 138 kV lines 8603 and 8605
- Install double ring configuration substation
- Install two 138-12 kV transformers

Estimated Cost: $16 M

Projected In-Service: 5/31/2021

Supplemental Project ID: S1944

Project Status: Engineering

Model: PJM 2023 RTEP
Revision History

4/15/2019 – V1 – Added s1793
6/27/2019 – V2 – Added s1828 – s1830
9/03/2019 – V3 – Added s1868 – s1870
9/16/2019 – V3 – Added s1944