# Transmission Expansion Advisory Committee FirstEnergy Supplemental Projects

September 10, 2024

# Solutions

Stakeholders must submit any comments within 10 days of this meeting in order to provide time necessary to consider these comments prior to the next phase of the M-3 process

# ATSI Transmission Zone M-3 Process
# New Departure 345 kV Customer Connection

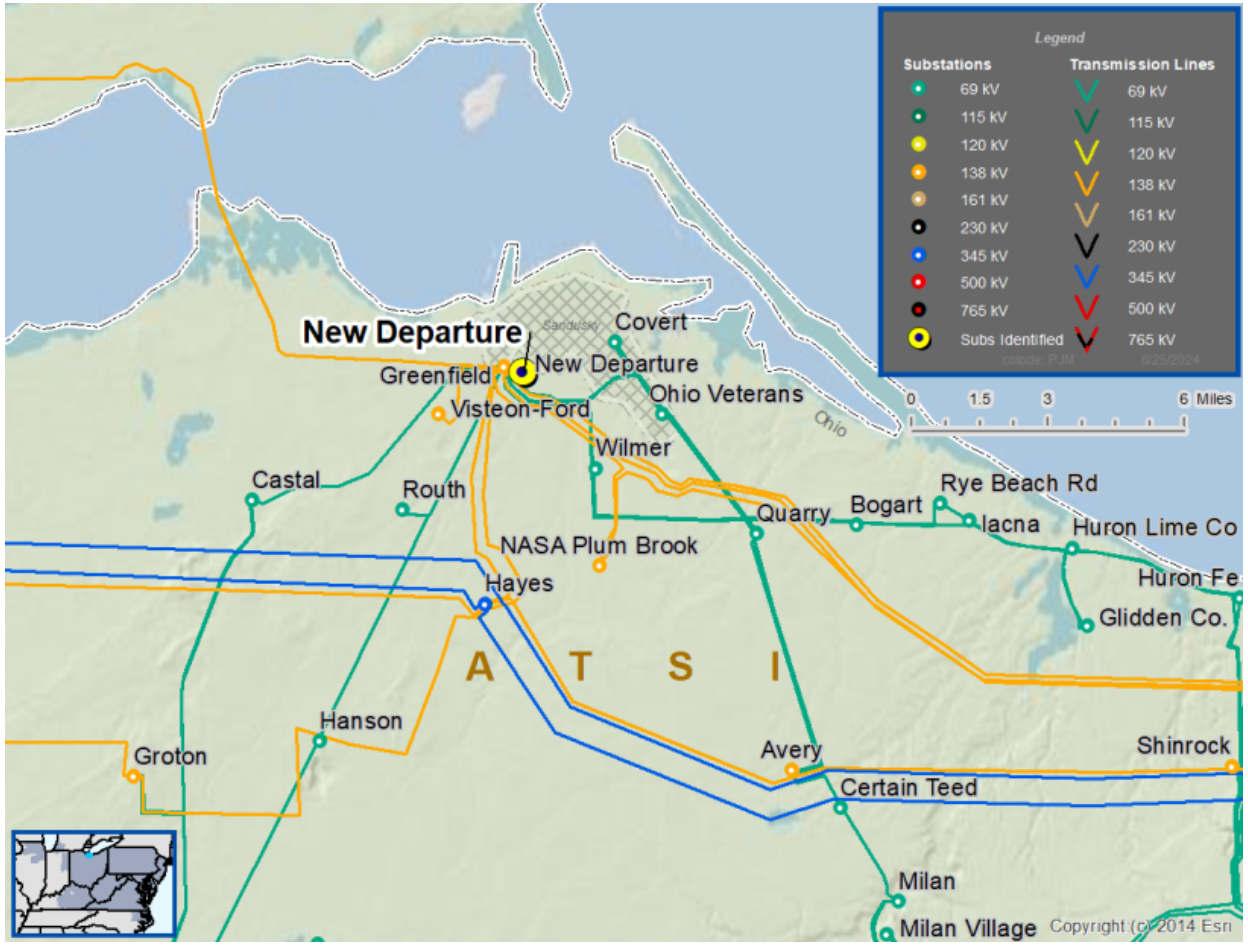
**Need Number:** ATSI-2024-056
**Process Stage:** Solution Meeting – 09/10/2024
**Previously Presented** Need Meeting – 07/19/2024

**Supplemental Project Driver(s):**
*Customer Service*

**Specific Assumption Reference(s):**
New customer connection request will be evaluated per FirstEnergy's "Requirements for Transmission Connected Facilities" document and "Transmission Planning Criteria" document.

**Problem Statement**
New Customer Connection – Customer has requested a new 345 kV delivery point near the New Departure area. The anticipated load of the new customer connection is 540 MVA.

**Forecasted In-Service Date:**
November 28, 2029



# ATSI Transmission Zone M-3 Process
# New Departure 345 kV Customer Connection

**Need Number:** ATSI-2024-056
**Process Stage:** Solution Meeting – 09/10/2024

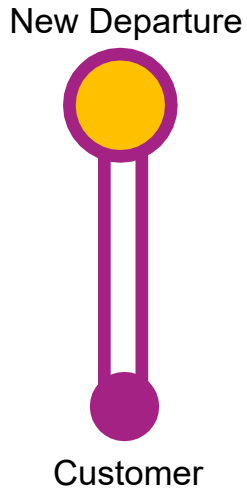
**Proposed Solution:**

***Phase 1: 138 kV Direct Connection to New Departure***

- Adjust relay settings at New Departure Substation

**Estimated Project Cost:** $0.1 M
**Projected In-Service:** 3/1/2025
**Status:** Engineering
**Model:** 2023 RTEP model for the 2028 Summer (50/50)

## Phase 1: 138 kV Direct Connection to New Departure




| Legend | |
|---|---|
| 500 kV | |
| 345 kV | |
| 138 kV | |
| 69 kV | |
| 34.5 kV | |
| 23 kV | |
| New | |

# ATSI Transmission Zone M-3 Process
# New Departure 345 kV Customer Connection

**Need Number:** ATSI-2024-056
**Process Stage:** Solution Meeting 09/10/2024

**Proposed Solution:**

***Phase 2: 138 kV Switching Station***

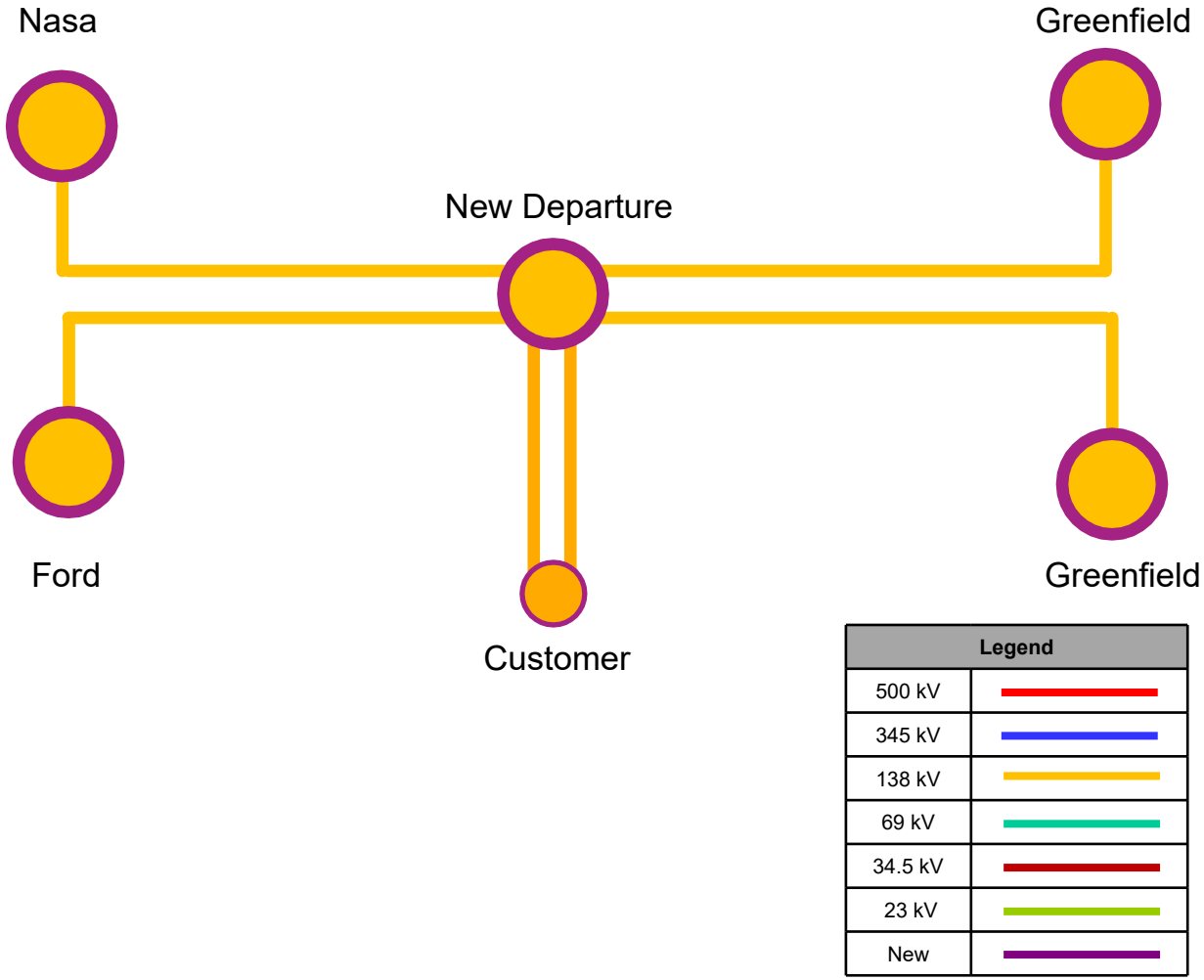
- Rebuild New Departure Substation as a new nine breaker, breaker-and-a-half, 138 kV switching station
- Re-terminate the lines from Ford Substation and Greenfield Substation into the New Departure Substation.
- Loop the Greenfield – Nasa 138 kV Line in and out of the new substation
- Install two sets of revenue metering equipment
- Upgrade relaying/adjust relay settings at Greenfield, Nasa and Ford substations

**Alternatives:**

- No reasonable alternatives to meet the customer's request near New Departure Substation.

**Estimated Project Cost:** $27M
**Projected In-Service:** 5/25/2028
**Status:** Engineering
**Model:** 2023 RTEP model for the 2028 Summer (50/50)

## Phase 2: 138 kV Transmission Switching Station



# ATSI Transmission Zone M-3 Process
# New Departure 345 kV Customer Connection

**Need Number:** ATSI-2024-056
**Process Stage:** Solution Meeting 09/10/2024

**Proposed Solution:**

***Phase 3: 345 kV Switching Station***

- Build a new four-breaker 345 kV ring bus at New Departure Substation.
- Add six new 138 kV breakers at New Departure Substation and install two 345/138 kV transformers.
- Loop the Davis Besse – Hayes 345 kV Line in and out of the new 345 kV ring bus by constructing two 345 kV lines, approximately 3.5 miles in length.
- Install two additional sets of revenue metering.
- Upgrade relaying/adjust relay settings at Davis Besse and Hayes substations

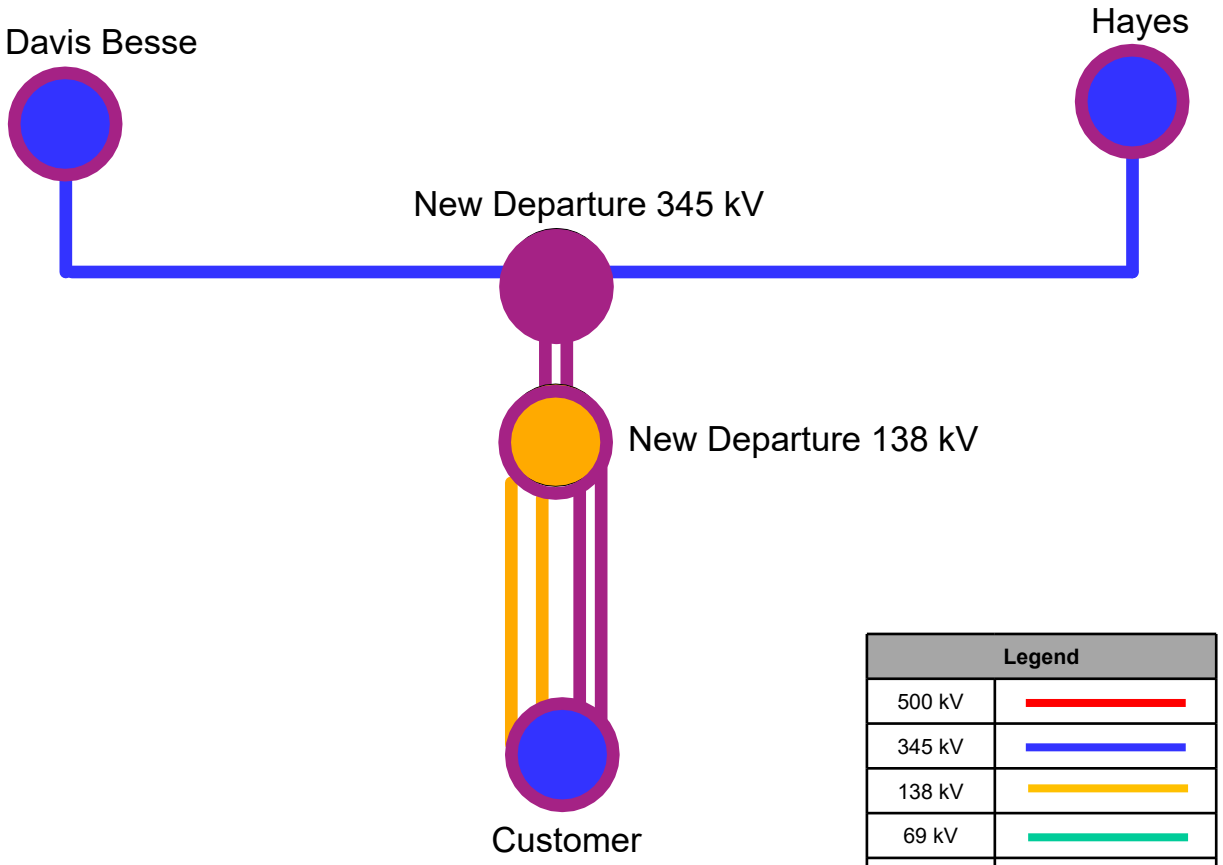
**Alternatives:**

- No reasonable alternatives to meet the customer's request near New Departure Substation.

**Estimated Project Cost:** $72M
**Projected In-Service:** 11/28/2029
**Status:** Engineering
**Model:** 2023 RTEP model for the 2028 Summer (50/50)

**Total Estimated Project Cost:** $99.1 M (Phase 1, Phase 2, and Phase 3)

## Phase 3: 345 kV Transmission Switching Station



# Appendix

# High Level M-3 Meeting Schedule

## Assumptions

| Activity | Timing |
|---|---|
| Posting of TO Assumptions Meeting information | 20 days before Assumptions Meeting |
| Stakeholder comments | 10 days after Assumptions Meeting |

## Needs

| Activity | Timing |
|---|---|
| TOs and Stakeholders Post Needs Meeting slides | 10 days before Needs Meeting |
| Stakeholder comments | 10 days after Needs Meeting |

## Solutions

| Activity | Timing |
|---|---|
| TOs and Stakeholders Post Solutions Meeting slides | 10 days before Solutions Meeting |
| Stakeholder comments | 10 days after Solutions Meeting |

## Submission of Supplemental Projects & Local Plan

| Activity | Timing |
|---|---|
| Do No Harm (DNH) analysis for selected solution | Prior to posting selected solution |
| Post selected solution(s) | Following completion of DNH analysis |
| Stakeholder comments | 10 days prior to Local Plan Submission for integration into RTEP |
| Local Plan submitted to PJM for integration into RTEP | Following review and consideration of comments received after posting of selected solutions |

# Revision History

9/3/2024– V1 – Original version posted to pjm.com