This use case is about the red arrow.
In NMM, we assume distribution modeling and transmission are divided into separate frames.

This use case describes the initial population of a distribution network analysis model in an NMM function.
There are 4 sources of information.

Network Model Management (NMM)

Manual

Transmission & Substation Engineering

Feeder Fragment

Geospatial Feeder Source

Meter Fragment

Customer Meters

DER Fragment

DER Applications to Connect

We assume transmission is modeled manually, and substations look like this...

Transmission Modeling

- connectivity node
- breaker
- transformer
- switch
- cap bank
- energy connection
- measured terminal
- real power control
- reactive control
A GIS source has provided these feeder fragments.

Duplicated open switch

Let's walk through import of feeder fragment A.

Transmission Modeling

Distribution Modeling

(as viewed by transmission)
The NMM user imports the fragment & makes changes as necessary to fit the fragment into existing NMM modeling.

1. Remove parts mastered by transmission
2. Connect fragment external reference

The end result is an NMM update that changes the distribution modeling as shown.
When all three fragments are processed, it looks like this.

DER descriptions come from a source that manages applications to connect. The following fragments are ready for processing...

- **m** = metered terminal
- **m** = meter
- **→** = single terminal energy connection associated to a single type of energy
- **⇐** = real/reactive control
- **≜** = DER facility
- **≜** = DER energy component
- **⇒** = AC/DC inverter
Let's add fragment 1 into its location in feeder B.

User imports fragment and connects it into the existing modeling.
When all DER fragments are imported, the NMM modeling looks like this.

Meter data is assumed to come in as fragments containing regional groupings of meters. This group happens to relate to feeder B.
The NMM user imports fragment and completes the references from meters to equipment.

Completing meter references.

- If only a few meters change, manually completing meter references is acceptable.
- However, initializing millions of meter references manually will be painful.
- A special assist in NMM would be helpful here.
  - Use the meter location and customer transformer information to locate the corresponding customer transformer in the NMM modeling.
  - Identify the low side connectivity node.
  - Connect customer energy connection terminal to connectivity node in the fragment.
The complete view of feeder B is now as shown.

- □ = breaker
- ○ = metered location
- □ = connectivity node
- □ = switch
- — = AC line section of consistent construction
- ○ = secondary transformer
- → = single terminal energy connection associated to a single type of energy
- ▼ = real/reactive control
- ★ = DER facility
- ○ = DER energy component
- inv = AC/DC inverter