



FERC Order 1000 Upgrade Definition

- FERC directed PJM to clarify and define the term 'upgrade'.
- PJM proposes to review MISO's order for FERC direction on compliance with the definition of "upgrade."
- Objective: Agree upon proposed definition for the term 'upgrade'
- Principle: All rules will respect ownership of property – Cannot take Transmission Owner property in the development of a new project

- MISO's defined upgrade as:
 - Upgrades to existing transmission line facilities include any replacement, relocation, modification, or expansion of such transmission line facilities so long as transmission line facilities are classified as transmission plant and owned by one or more Transmission Owners.

- MISO drilled down on their definition to qualify:
 - Combination of new and existing transmission line sections: greater than 20 mile contiguous threshold
 - Replacing single circuit towers with multi-circuit towers
 - Tower relocations
 - Upgrading existing substation facilities
 - Use of existing rights-of-way

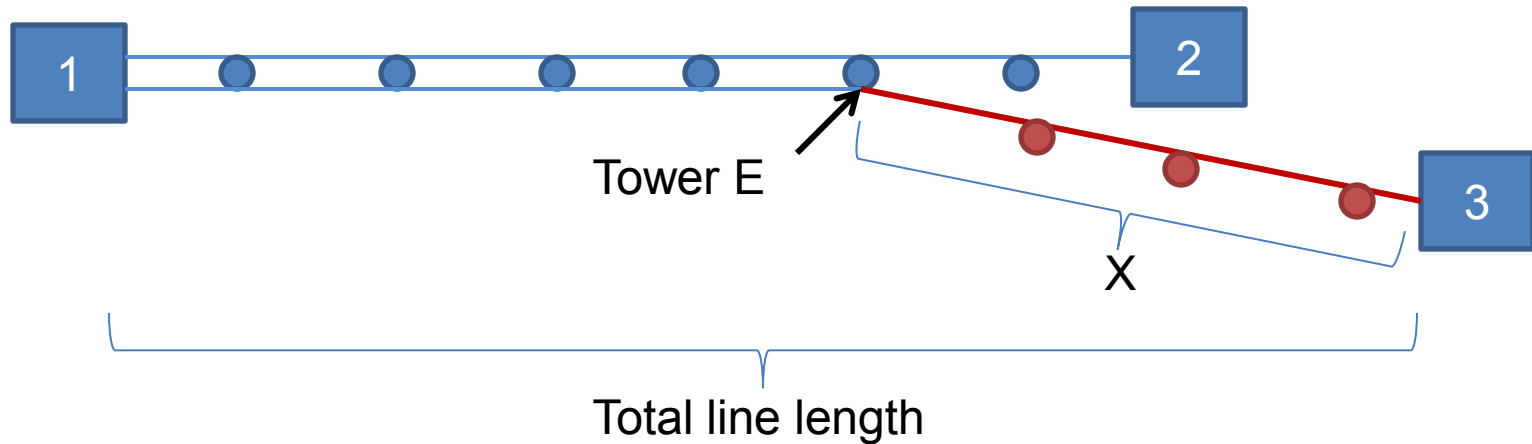
If 100% of the project is one or more of the following, it is an upgrade.

PJM proposes: transmission line upgrades include:

- Increasing the load capability
- Increasing the nominal voltage
- Installing additional equipment on an existing line such as:
 - Additional circuit on a spare tower position
 - Additional structures to increase a sag limit
 - Sectionalizing switch

- MISO was directed to justify or delete the 20 contiguous mile threshold for distinguishing between an upgrade and new facility projects
- PJM - Projects can be comprised of segments some of which are upgrades and some of which are not upgrades and subject to a proposal window.
- PJM proposes to modify the definition to
 - Lines greater 20 miles: the entire project is an upgrade if the new line segment is less than 10% of the total project or less than 10 miles.
 - Lines less than 20 miles, the entire project is an upgrade if the new line segment is less than 50% of total project

Scenario: Existing transmission line between substations 1 and 2 is built with the capability to have a second line strung. A project to install a line between substations 1 and 2 is proposed that utilizes the unused side of the 1-2 transmission towers.

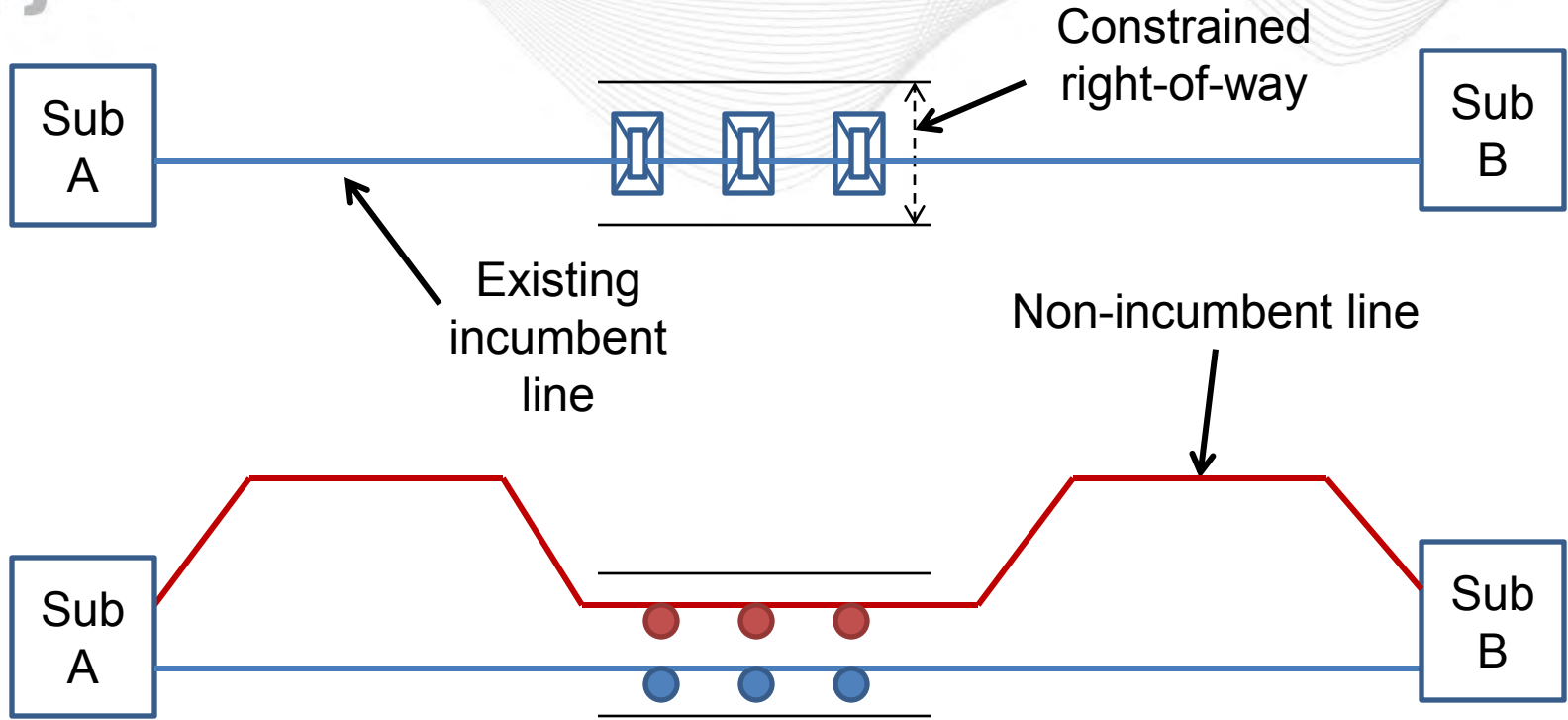


| Total 1-3 Line Length | 'X' Length | Mile Requirement | Percentage Requirement | Determination |
|-----------------------|------------|------------------|------------------------|--|
| 120 | 10.1 | NA | $10.1 < 10\%$ | Total project is an upgrade |
| 120 | 13 | NA | $13 > 10\%$ | Segment 1-E: upgrade Segment E-3: new |
| 90 | 10.1 | $10.1 > 10$ | $10.1 > 10\%$ | Segment 1-E: upgrade Segment E-3: new |
| 90 | 9.1 | $9.1 < 10$ | $9.1 > 10\%$ | Total project is an upgrade |

| Total 1-3 Line Length | 'X' Length | Percentage Requirement | Determination |
|-----------------------|------------|------------------------|--|
| 9 | 7 | $7 > 50\%$ | Segment 1-E: upgrade Segment E-3: new |
| 9 | 4 | $4 < 50\%$ | Total project is an upgrade |
| 15 | 8 | $8 > 50\%$ | Segment 1-E: upgrade Segment E-3: new |
| 15 | 7 | $7 < 50\%$ | Total project is an upgrade |

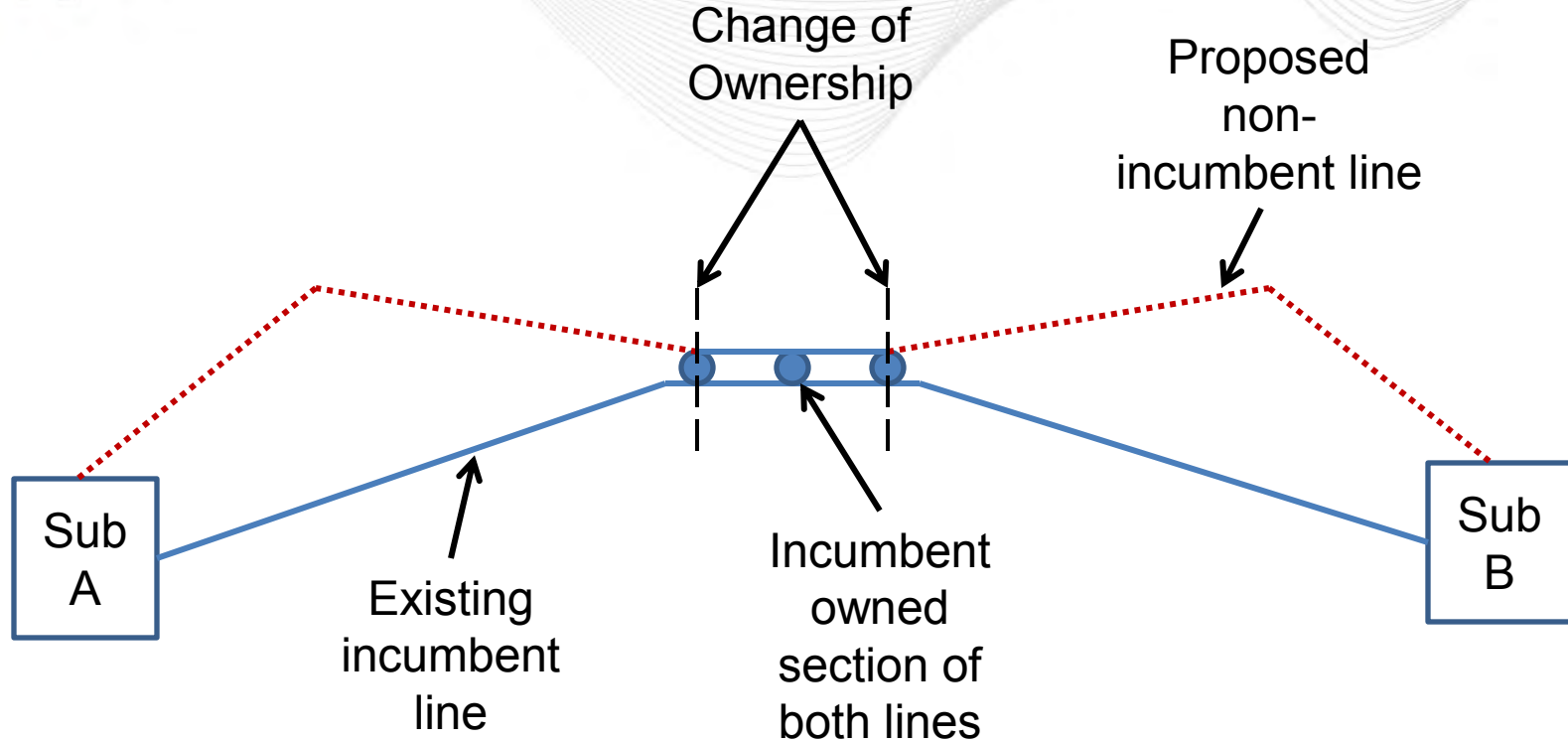
- MISO was directed to clarify:
 - Relocation of any portion of an existing line facility
 - Replacement of single circuit towers with multi-circuit tower

- PJM proposes:
 - Relocation of existing segments belongs to incumbent and new facilities are subject to a proposal window.
 - Same percentage and distance rules as defined above apply



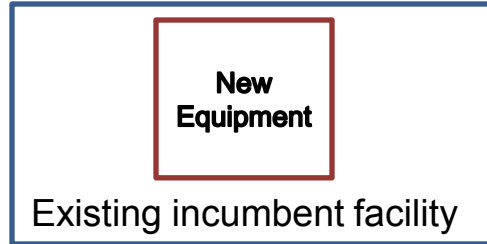
- PJM proposes:
 - If multi-circuit towers exist and a new conductor is added to the existing tower: upgrade
 - If new arm is added to tower: upgrade
 - If single circuit towers are torn down and replaced with multi-circuit tower: upgrade

Single Towers Replaced with Multi-Circuit Towers



- PJM proposes:
- Consistent with the principle of not taking property
 - Any substation project relying on property of an existing substation will be considered an upgrade
 - Any substation project adjacent to or removed from an existing substation will be subject to a proposal window.

Upgrade Definition - Substations



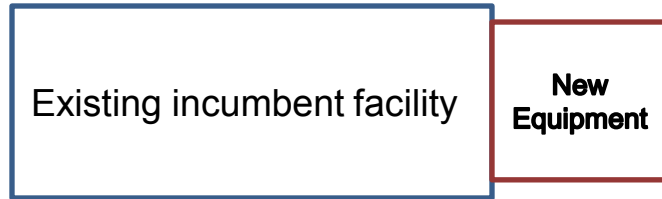
New equipment within existing substation property



New equipment in expanded substation property

Projects proposed to be considered as upgrades to existing transmission facilities

Upgrade Definition - Substations



New equipment in adjacent substation property



New equipment in remote substation property

Projects proposed to **not** be considered as upgrades to existing transmission facilities

- Right-of-way is not determinative of whether a project is an upgrade or not or whether it is reserved to the incumbent Transmission Owner
- Availability of right-of-way will be a consideration when evaluating proposals with respect to cost and regulatory risk issues