NMMS Validation Rules - Node Breaker

Background

The following NMMS rules are required for planning base cases. All rules are apply to the a\_psseid fields in NMMS as CKT IDs are used as unique identifiers in planning cases. Rules have been categorized by the object type in NMMS and include a brief description of the requirements for each object type.

Rules

**Legend:** CNG = Connectivity Node Group CN = Connectivity Node CKT ID = a\_psseid

# Node Breaker Validation Rules

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| Object Type | Attribute | Description | Criteria |
| * Connectivity Node | PSSEID | Require a PSSE ID for every Connectivity Node. If the PSSE ID attribute is left blank, then the rule will trigger an error message. | Not Blank |
| PSSEID | Require and verify the PSSE ID is within a specified range. If the PSSE ID is out of range, then rule will trigger an error message. | 1 - 998 |
| PSSEID | Require the PSSE ID be unique within the substation. If the PSSE ID is not unique, then the rule will trigger an error message. | Unique |
| * Substation | PSSEID | Require a PSSE ID for every Substation. If the PSSE ID is left blank, then the rule will trigger an error message. | Not Blank |
| PSSEIID | Require and verify the PSSE ID is within a specified range. If the PSSE ID is out of range, then rule will trigger an error message. | 1 – 999998 |
| PSSEID | Require the PSSE ID be unique across all substations. If the PSSE ID is not unique (i.e. another substation has the same PSSE ID), then the rule will trigger an error message. | Unique |
| * Shunt Compensator ALT | PSSEID | Require a PSSE ID for every Shunt Compensator ALT. If the PSSE ID is left blank, then the rule will trigger an error message. | Not Blank |
| PSSEID | Require and verify the PSSE ID is a string less than or equal to two (2) alphanumeric characters. If the PSSE ID is greater than two (2) characters, then the rule will trigger an error message. | Length <= 2 alphanumeric characters |
| * Shunt Compensator | PSSEID | Require and verify the PSSE ID is a string less than or equal to two (2) alphanumeric characters. If the PSSE ID is greater than two (2) characters, then the rule will trigger an error message. | Length <= 2 alphanumeric characters |
| * ACLineSegment * SeriesCompensator * Breaker * Disconnector | PSSEID | Require the PSSE ID be unique for the object types that connect the same two (2) buses. | Unique |
| * Breakers * Disconnectors | PSSEID | Require the PSSE ID be unique for the devices that connect the same two (2) connectivity nodes. | Unique |
| * SynchronousMachine * CustomerLoad * NonConformLoad * ShuntCompensator * ShuntCompensatorALT | PSSEID | Require the PSSE ID be unique, at the bus level, for devices of the same object type. | Unique |

12 rules