Appendix B

February 1, 2022

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| **#** | **Feature Class/Relate Table** | **Field Name** | **Title** | **Description of Issues** | **Suggestions** |
| 1 | All | N/A | Lack of Business Identifiers | The Asset Point feature classes contains the primary key (PK) which are the unique identifier for the table feature class. Like all GIS SDE databases, the primary key is the global identifier (GUID). This is the only way to "join" back information making it not easily traceable back to the GIS database; however, it is required for uniqueness and the joining of tables to the feature classes. | The GUID is a meaningless attribute to non-GIS users of the GIS data. Assets are named and found via the Facility ID, Facility ID is the identifier for assets in the field and used for navigation. There is no way for a user to find an asset without the Facility ID. Since Facility ID is not part of the OEIS schema, it was not included. However, without Facility ID renders the geodatabase useless as it will be impossible to navigate to the asset nor confer with the utility on what assets the agency is referencing. A Business Identifier (I.e., FacilityID, i.e., P123456, Z234345) is needed to fully distinguish and identify from a business perspective the individual assets within the dataset. This should apply to all Asset Point Feature Classes. Facility ID will be the attribute that can convey the identity of the asset. |
| 2 | All | CircuitID | Naming of CircuitID Field | CircuitID within the utility refers to the entire tieline/feeder; however, in the schema it is used to represent the conductor span. This creates confusion with the various groups providing or working with the data.  We use CircuitName to populate the tieline/feeder to provide traceability to the GIS database. | Circuit ID is not a property identifier for a circuit span as it references the entire circuit. Circuits are sectionalized via devices such as a switch, fuse, etc. To properly identify a circuit span, a unique identifier is required. Utilities usually use some type of combination with the sectionalizing device ID and the circuit to produce a proper unique ID. SDG&E can explain this to the OEIS on basic understanding of a circuit and how sections can be identified. Rename to CircuitSegmentID to properly associate to conductor types and other information. Need to be able to differentiate between an entire circuit and the segments of the circuit. SDG&E electric transmission data does have a circuit segment id. Distribution circuits have conductor spans. |
| 3 | N/A | N/A | Status Report Format | As per the 2021-Q1 submission, SDG&E will provide a simplified version of the status report in a separate file to OEIS which allows further filtering and comparison of data across feature classes. SDG&E uses this file to provide more uniform responses across similar data fields. | SDG&E requests that OEIS consider allowing this file as a replacement for the existing status report template for future submissions to allow filtering on all fields within the status report to simplify completion of the status report by the IOUs and review of the status report by OEIS. SDG&E also request feedback to the issues stated in the status report and reference what section the OEIS is referencing to resolve outstanding issues. |
| 4 | All | N/A | One to Many relationships between CircuitID (CircuitSegmentID) to Support Structure to Substation | SDG&E created a relate table to properly relate support structure (to and from) to their appropriate Substation(s) and CircuitID(s) and have left those field blank in the originating Feature Class.  Applicable Fields:  1. SubstationID  2. SubstationName  3. CircuitID  4. CircuitName | Electric utilities model circuits with 1 to M relationships. For example, a structure can have multiple circuits, substations. This is not a 1 to 1 relationship as stated in the OEIS model. The support structure to circuit and substation relationship must be corrected to accommodate a one-to-many relationship to properly model the electric data. A relate table must be constructed to properly model the 1 to M relationships. This needs to be corrected as the relationships do not make sense with the current schema provided. |
| 5 | Multiple (All Initiative Point Feature Classes) | CircuitID | Reporting CircuitID on Point Feature Class | As in #4 above, the relationship is to the structure not the circuit structure (CircuitID); therefore, the value will be blank and reference table is to be used to determine which Circuit structure(s) are associated to that support structure | Because the OEIS schema is incorrect, these errors cascade through the schema. For example, the support structure to circuit and substation relationship must be corrected to accommodate a one-to-many relationship to properly model the electric data. Therefore, these attributes to not belong on the source layer but belong in the related tables. This basic understanding of electric data is required when creating entity diagrams.  These 1 - 1 fields cause confusion as there are more than one circuit connected to structures. These errors should be corrected to remove this field from the feature class |
| 6 | Multiple (All Initiative Line Feature Classes) | AssetID | Reporting AssetID on LineFeature Class | As in #4 above, the relationship is to the circuit structure (CircuitID) not the structure; therefore, the value will be blank and reference table is to be used to determine which Structure(s) are associated to that circuit structure. | The support structure to circuit and substation relationship must be corrected to accommodate a one-to-many relationship to properly model the electric data.  Alternative is to remove this field from the feature class |
| 7 | Substation | SubstationType | Step Down Type not included | The SubstationType field does not have a domain value for Step Down substations - prior to Q4 submission SDG&E added the domain "Step Down"; however, Q4 changed to align and refer to them as "Radial". The only issue is there is no way aside from the missing attributes for step downs to differentiate these from the rest of the Substations. | Add domain value "Step Down" to differentiate from other substation types. This is a common subtype for substations and should be added to the model. |
| 8 | PSPS Event Conductor Damage Detail  PSPS Event Support Structure Damage Detail  PSPS Event Other Asset Damage Detail | InstallationDate  InstallationYear  EstimatedAge | Repetitive data throughout model | This is just one example. The data is available within the Asset Point Feature Classes; however, it is not frequently captured or reported via the PSPS Event data. | Reduce the number of repetitive fields as this causes unnecessary work is redundant and not needed. Electric GIS data models do not allow for repetitive fields as this causes confusion to the user(s) of the data and can cause bad assumptions being made on the data. Attribute fields should be designed and only report where needed for efficiency and consistent interpretation. |
| 9 | Transmission Unplanned Outage | MajorEventDay | Major Event Day does not frequently apply to transmission outages | Major Event Day will typically only apply to distribution outages and therefore SDG&E will not be able to provide for transmission outages | Consider removing the Major Event Day field from this Feature Class |
| 10 | Risk Event Asset Log | AssetID | Clarification on intention of Asset Point identifiers | This Relate Table has the following fields which all need to relate back to the Asset Point Feature Class(s); however, in some cases it is not applicable i.e., jumpers:  1. IsolationDeviceID  2. DamageDeviceID  3. AssetID  Need clarification on what is expected for Asset ID if we use FromDeviceID and ToDeviceID to identify the from to structures | See above regarding the proper way to model 1 to M relationships. The primary keys need to be properly related before any data can be populated and linked back to the asset. This part of the OEIS model is broken and needs refinement. SDG&E can help educate the OEIS on the proper way to model this aspect of the data model. |
| 11 | Vegetation Inspection Point | N/A | Missing TreeID | TreeID exists in the Vegetation Management Project Point Feature Class; however, it does not exist in the Vegetation Inspection Point Feature Class. | TreeID should be added as a field in the Vegetation Inspection Point Feature Class. This is because the Vegetation Programs are managed by their own unique ID and can be associated to a Support Structure (Asset ID) and/or a Conductor Span (CircuitID). This will provide the traceability back to the source GIS System and the unique identifier used in that system. |
| 12 | N/A | N/A | Addition of Trees as an Asset Feature Class | The Vegetation Programs are managed in a system where they track the activities by Entity (Unique Identifier). An Entity can represent a Tree that represents one or more units, it can represent a Brush at a pole. | SDG&E maps the location of the trees as a point GIS layer. Trees should be added to the OEIS data model for this part of the database to make sense. This is how SDG&E tracks their vegetation activities. |
| 13 | Multiple | InspectionTechnology | Purpose of InspectionTechnology | The domain values do not represent the technology used to perform the inspections. This is all done by other field-based systems. Therefore, matrixing back to SDG&E attributes could not be completed. | Provide more explanation of what the purpose of this field is and what is acceptable in other options. SDG&E cannot use the domains provided and can provide the appropriate domains that would provide more value. |
| 14 | N/A | N/A | Importance of proper sentence structure | The addresses (as an example) are typically stored in all upper case. There is no easy way to convert to mixed case. i.e., SDG&E becomes SDG&E, AT&T becomes AT&T. | Leave in all upper case - this is not an issue whose remedy would provide additional value. |
| 15 | All | N/A | Representation of Retired Data | Some data is classified as NULL because not all asset data is archived. GIS does not store retired assets | The GIS system at most utilities is the "As-Built" model and not the "As-switched" model which is the OMS system. The GIS does not "archive" assets so one can look back in time and find structures that have been undergrounded for example. Therefore, this information will be coded as NULL. |
| 16 | Critical Facility  Customer Meter |  | We do not map to the meter. Only Primary meters are mapped (~650 assets). Does the OEIS want SDG&E meter locations in the HFTD? | SDG&E maps GIS assets within the San Diego County assessor parcel landbase based on a UTM, Feet coordinate system. Customers are related to transformers which are associated with meters. Customer addresses are geocoded based on street reference data. APNs are not stored in the GIS or CIS systems. | SDG&E (as the other CA electric utilities) map to the TRANSFORMER not the METER. There is no spatial relationship between the METER and the TRANSFORMER. METERS can be generally represented by geocoding the customer address. However, this is not accurate enough to overlay to produce attributes such as APN, or census tract ID and other relationships. Some of the information would be correct and some of the information would not be correct due to the process of geocoding. APN's can be generated by spatially relating the customer address locations. However, this process would to be 100% accurate. Some feature classes are mapped to non-GIS assets like Critical Facility, Initiative [Grants program by generator]. |
| 17 | Customer Meter | N/A | No way to differentiate Primary Meter from Customer Meter | Primary meters are part of our electrical distribution network; however, customer meters are not. We merged both meters into the Customer Meter feature class to fulfill the requirements of the schema; however, there is no way to differentiate the two different types of meters | Provide a type to differentiate between primary and customer meters. |
| 18 | Critical Facility | Facility Category | Expand Facility Category Domain | There are not enough categories to cover all types of Critical Facilities. Therefore, matrixing back to SDG&E attributes could not be completed. | Propose to add the following:  Tribal - to represent Native American Tribal Governments  Non-Profit - Emergency Food Org, Shelters, Voting Stations. |