**DDR Title:**

**Version #:**

| **Criteria to be Assessed** | **DFO Comments** |
| --- | --- |
| **Document Naming Convention** |  |
| The report is entitled “Distribution Deficiency Report” |  |
| The DDR and supplemental documents are professionally authenticated |  |
| **Current Distribution System Configuration** |  |
| Current SLD of the existing distribution system |  |
| The SLD represents the applicable development area, including distribution connected generation (DCGs >1MW) and feeder ties to other substations. |  |
| The SLD shows enough detail to clearly support the distribution deficiency and distribution alternative analysis. |  |
| **Historical and Forecast Load Information** |  |
| **Load Tables and 12-month Load Trend** |  |
| Actual summer or winter peak load values for the past 5 years for all substation in the development area (If 5 years historical data is not available, all available historical data should be provided) |  |
| 10-year peak load forecast values for; |  |
| Non-coincident peaks of all individual feeders connected to the POD |  |
| Transformer peaks that are coincident peaks of all the feeders served by that transformer |  |
| POD peaks that are coincident peaks of all the transformers in the POD |  |
| If multiple PODs that provide backup, or have potential to provide backup provide the coincident factors of those PODs |  |
| Identify permanent planned load transfers between feeders. Indicate any that also involve a transfer of a rate DTS contract |  |
| Loads are in megavolt amperes (MVA), including the applicable power factor(s) |  |
| The Load Tables have been submitted using table format (see Appendix A DDR Guideline) |  |
| Load trend graphs are provided for substations with distribution deficiency for the first year of the deficiency. The load trend graphs are in the following format:   * MVA on the Y-axis * Hour-day-month-year on the X-axis * 12-month hourly load trend line for each POD transformer and POD total |  |
| **DFO Forecast** |  |
| A description of the DFO’s forecasting methodology, including how existing and future DCG was considered in the DFO’s load forecast has been provided (E.g. Is the DCG considered in the net load?) |  |
| Has the reasons for the load growth in the development area been provided?   * Organic load growth attributed to existing customers * Discrete large load additions attributed to existing customers * Discrete large load additions attributed to new customers or new development area where no electric facilities exist |  |
| Has supporting evidence been provided for discrete large load increases?   * Has the DFO provided specific reference to the plans relied upon in its forecast (e.g. commercial, industrial, Cities, Municipalities, etc.), including an explanation of how the DFO translated such plans to the timing and MVA calculations of its forecast * description of contracts, financial security or other documentation provided by end use customers which supports the DFO’s decision to include customer load additions in its forecast. |  |
| Summary of existing DCG in the development area, including total aggregated Micro-generators has been provided |  |
| Known planned DCG project additions in the development area have been identified |  |
| **Historical Performance Information** |  |
| DFOs 10-year overall system SAIFI and SAIDI has been provided |  |
| A 10-year history of outages in the development area include:   * all relevant substations * table format to indicate the year, month, date, time, duration and magnitude of real-time load which could not be restored |  |
| The DFO has stated in the DDR that historical data is not available and has presented the data that is available |  |
| **Distribution Deficiencies** |  |
| **Distribution Planning Criteria** |  |
| Details on the DFO’s distribution system planning criteria, guidelines, or standards applicable to the SASR have been provided, including existing equipment and operating limits |  |
| The latest version of the DFO’s fulsome distribution system planning criteria, guidelines, or standards has been provided as an attachment to the DDR (DFOs should cite the relevant section of the planning criteria in the DDR) |  |
| **Distribution Planning Violations** |  |
| Identified violations of relevant DFO criteria, guidelines, or standard |  |
| Indicate potential “unsupplied load” or “load at risk” for all substations applicable to the development area:   * for the current year * the 10-year forecast * in table format (see Appendix A DDR Guideline) |  |
| A description of the methodology used to calculate the maximum backup capability from alternate PODs |  |
| Detailed rationale for requested timing to mitigate the distribution deficiency has been provided |  |
| For each POD with an identified deficiency, provide a summary of the types of customers currently served. (Table format see Appendix B DDR Guideline) |  |
| For each POD with an identified deficiency, identify customer loads that the DFO considers critical to restoring power in the event of an outage include:   * description of the customer load, including why the DFO classifies the load to be critical and the typical amount of load * Indicate whether these sites would be unsupplied during contingency * Identify if the critical load has on-site backup generation and any limitations associated with backup generation |  |
| For each POD with an identified load deficiency:   * provide a summary of the distributed connected generation (DCG) * relevant communication the DFO may have had with DCG operators to determine the availability of DCGs to help mitigate the distribution deficiency (provide in table format see Appendix C DDR Guideline) |  |
| **Restoration Times** |  |
| In the event of an outage which results in the unsupplied load, provide an overview of procedures the DFO would take, and the estimated times the DFO expects it would take, to restore service to customers in the relevant substations |  |
| **Alternative Evaluation** |  |
| **Distribution-only (D-only) alternatives** |  |
| A description of Distribution-only (D-only) alternatives considered by the DFO that include analysis and conclusions where applicable:   * Conceptual SLDs. The SLDs represent the applicable development area, including DCGs and feeder ties to other substations, in enough detail to clearly support the distribution alternative analysis * Summary of new, modified or salvaged distribution equipment * Summary of high-level land use and environmental impacts * contingency load table * +20% to +50% and -15% to -30% cost estimate[[1]](#footnote-1) (for technically feasible alternatives only) * A summary for ruling out each distribution only alternative. The AESO suggests a summary which includes supporting data (diagrams, tables, calculations, etc.), analysis and an explanation of the reasons for ruling out each D-only alternatives * Description of alternatives considered with neighboring DFOs and why these alternatives were eliminated * Description of other measures such as emergency backup generation, mobile substations or transformers, spare equipment, DCG or voluntary load curtailment can address the identified deficiency |  |
| **Alternatives which include transmission** |  |
| If any transmission-only or Transmission + Distribution alternative(s) identified, include   * Total length of new feeders that would be required * contingency load table * +20% to +50% and -15% to -30% cost estimate (for the distribution portion of the alternative |  |
| A summary explaining why each alternative was eliminated:   * Supporting data (diagrams, tables, calculations, etc. * Analysis and the rationale for eliminating each alternative |  |
| If a transmission alternative is proposed, in addition to details requested above:   * Provide all supporting information to demonstrate that the DFO has evaluated whether a partial transmission solution (i.e. reduced transmission scope), in combination with additional distribution, can adequately address the deficiency |  |
| **Other considerations** |  |
| Any additional information that the DFO may find relevant to support the DFO’s SASR |  |

1. [↑](#footnote-ref-1)