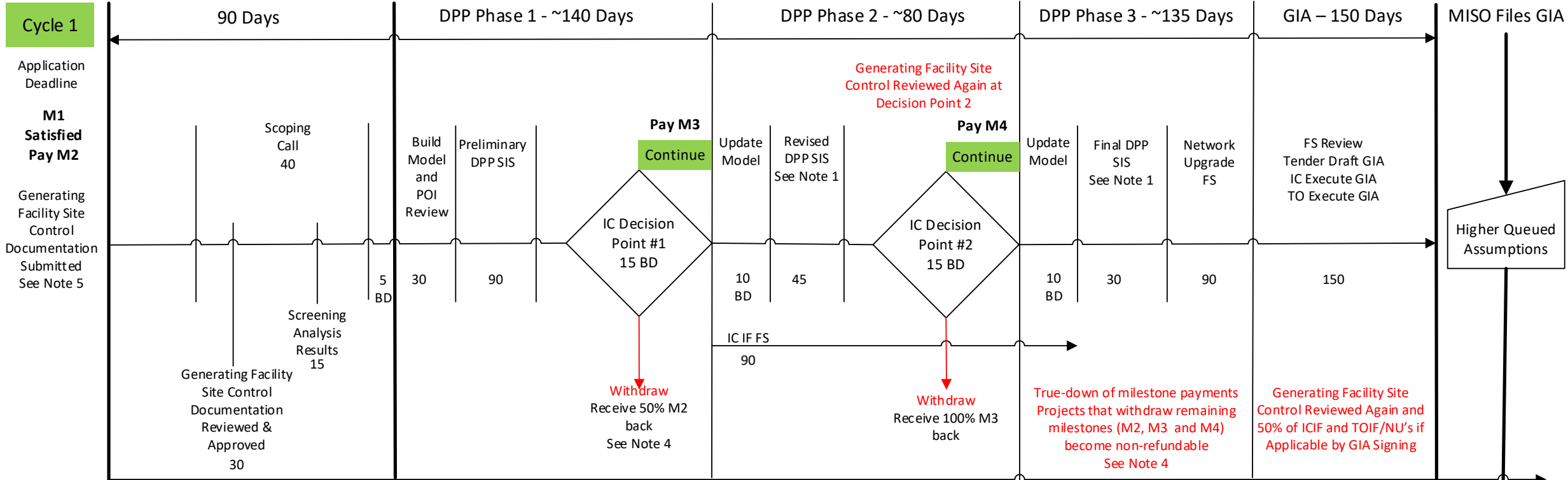


Generator Interconnection Process

DPP Phase 1 + DPP Phase 2 + DPP Phase 3 + GIA = ~ 505 Days



M1 = Technical requirements, D1 + D2
 M2 = \$4000/MW See Note 2
 M3 = (10% of NU) – M2 See Note 3
 M4 = (20% of NU) – M3 – M2

Acronyms:
 BD : Business Days
 DPP : Definitive Planning Phase
 D1 : Application Fee
 D2 : DPP Study Funding Deposit
 FS : Facilities Study
 GIA : Generator Interconnection Agreement
 IC : Interconnection Customer
 IF : Interconnection Facility
 M1, M2, etc. : Milestones
 NU : Network Upgrades
 POI : Point of Interconnection
 SIS : System Impact Study

Notes:
 1) Effective September 19th 2018, for new cycles, Affected System, Stability, and Short Circuit Studies are required only for DPP phase 2 and DPP phase 3
 2) M3 and M4 will be adjusted based on previously paid M3 and M4 for Provisional Requests
 3) DPP Phase 1 and Phase 2 of each cycle will model higher queued assumptions from previous Phase 3 studies as available during the time of the study
 4) True down and M2 requirements go into effect beginning with DPP-2020-Cycle 1
 5) Site Control is due at least 90 Calendar Days prior to the kick-off of DPP Phase 1 beginning with DPP-2020-Cycle 1
 6) Days on this diagram are Calendar Days unless where noted as Business Days – “BD”

Cycle 2

DPP Cycle 2 Phase 1 starts after Cycle 1 Phase 2 has completed

DPP Cycle 2 Phase 3 starts after GIAs from Cycle 1 are either executed or filed unexecuted with FERC

Generator Interconnection Process

Milestones:

M1:

Non-Technical Requirements

1. Complete Application (Appendix 1 with Attachments A, B and C)
2. The (D1) Application fee paid at Application time
3. The (D2) DPP Study Funding deposit paid at Application time
4. Must supply a W-9 form and banking information for accounting purposes

Site Control Requirements

Except as otherwise provided in Section 5.7 of the GIP, at least ninety (90) Calendar Days prior to the kick-off of DPP Phase I the Interconnection Customer shall submit one of the following to the Transmission Provider:

1. To demonstrate that an Interconnection Customer has Site Control in accordance in accordance with Section 7.2.1(i)(a) of the GIP, a Geographic Information System (GIS) site plan map, data files, and documentation that shows the following information:
 - a. Sufficient land to meet the acreage requirements set forth in the Generator Interconnection Business Practices Manual;
 - b. Boundary for the proposed project indicating the boundaries of the Interconnection Customer's leasehold/ownership interests for the site
 - i. Individual parcel boundaries within the Generating Facility boundary with a reference back to the lease agreements/ownership interest documentation should also be included;
 - c. The proposed location of each of the following: the Collector Substation, the proposed generator tie line, the Point of Interconnection, and the Interconnection Facilities based on the Point of Interconnection.
2. To demonstrate that an Interconnection Customer has obtained Site Control in accordance in accordance with Section 7.2.1(i)(b) of the GIP, Interconnection Customer must submit a Geographic Information System (GIS) site plan map, data files, and documentation that meets the requirements specified in Section 7.2.1.1(i)(b) and (c) of the GIP and show the following additional information:
 - a. Sufficient land to accommodate the proposed Generating Facility based on the location and approximate land utilization requirements of proposed electrical devices (*i.e.*, turbine, solar panel, battery storage, inverter), local spacing and setback requirements, and the proposed location of the feeder routes to the Collector Substation; and
 - b. In the event that Interconnection Customer elects to share a site with other projects in accordance with Section 7.2.1(i)(b) of this GIP, Interconnection Customer shall include with its Interconnection Request documentation demonstrating that the project referenced in the Interconnection Request is concurrently feasible with the development of any other projects that will share Site Control over all or a portion of the same site. Such proof of concurrent feasibility shall include:
 - i. An identification of any other Interconnection Requests or projects that will share all or a portion of the same site; and
 - ii. Identification of the proposed location and space utilization of all projects that will share the site together with any related technical information specified in the Generator Interconnection Business Practices Manual to enable the Transmission Provider to determine that development of the project

Generator Interconnection Process

referenced in the submitted Interconnection Request is not inconsistent with development of any of the other projects that will share all or a portion of the same site.

For additional Site Control requirement details refer to Section 7.2 of the Tariff GIP

Technical Requirements

1. Definitive gross and net generator output (MW) as measured at the POI
2. Definitive POI
 - a. Only one POI may enter into DPP, unless required by State regulations to take two POI's
3. Definitive one-line diagram for the POI
 - a. Information shall include:
 - i. Breaker layout and bus configuration (if available)
 - ii. Number of generators
 - iii. The zero sequence impedance for the generators (if available)
 - iv. Distance from the collector substation to the POI, referenced in miles, including line impedance
 - v. If the POI is a line tap: the distance from the tap to the endpoints of the existing line, referenced in miles
 - vi. Generator step up (GSU) transformer data and the collector substation transformer data (if applicable)
 - vii. For inverter based generators, FERC Order 827 requires:
 1. Location and size of any dynamic and/or static VAR compensation devices
 2. Equivalent collector system impedance
4. All Generator Types: Library Stability Model representing the dynamics of the Generating Facility in a .dyr format. Models submitted must be acceptable and recommended in the NERC Acceptable Model List posted at: [https://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-\(SAMS\)-2013.aspx](https://www.nerc.com/comm/PC/Pages/System-Analysis-and-Modeling-Subcommittee-(SAMS)-2013.aspx) and also comply with MISO's Model Data Requirements and Reporting Procedures posted at: <https://www.misoenergy.org/planning/planning-models/mod-032-1/>
 - a. FERC Order 842* requires newly interconnecting units to install, maintain and operate equipment capable of providing primary frequency response as a condition of interconnection. The order requires ICs to provide a plant controller for inverter based generation or a governor model for thermal units in the provided dynamics model
 - b. For inverter based/non-synchronous generators, FERC Order 827* requires:
 - i. Demonstration that the plant can meet a Power Factor (PF) of 0.95 lead/lag at the high side of the main Generator Step Up Transformer (The TO's Local Planning Criteria* will supersede if they require a more stringent PF)
 - ii. Base turbine or inverter reactive capability
 - c. For inverter based (wind or solar) generators, the IC shall provide the short circuit modeling instruction manual and associated model data
5. All Generator Types: **All applicable information requested in Attachment A of Appendix 1**

During the Application Process, any changes require a resubmission of the corrected documents.

