

PANYNJ - ENGINEERING DEPARTMENT

DESIGN SCHEDULE AND ANTICIPATED CONSTRUCTION SCHEDULE (DAC SCHEDULE) GUIDELINES - STAGE III



Version 1.0
January 2021

Contents

1. DAC SCHEDULE	2
2. BASELINE DAC SCHEDULE	2
3. PROGRESS DAC SCHEDULES	2
4. DAC SCHEDULE DEVELOPMENT GUIDELINES AND BASIC STRUCTURE.....	3
A. Structure.....	3
B. Work breakdown Structure of the DAC Schedule.....	3
C. Cost Loading for DAC Schedules.....	3
5. DAC SCOPE REVISIONS	3
6. DAC SCHEDULE SUBMITTALS.....	4
A. Schedule Submittal Requirements.....	4
B. Design Consultant Scheduler Requirements.....	4
C. Narrative Requirements.....	5
D. DAC Schedule Requirements.....	5
7. ANTICIPATED CONSTRUCTION SCHEDULE.....	6

1. DAC SCHEDULE

The Design and Anticipated Construction Schedule (DAC Schedule) is a Bar Chart Critical Path Method Schedule that identifies design activities defined by the Port Authority of New York and New Jersey that captures the scope definition, in a design stage of a project. It represents the Architectural/Engineering Designer's (Design Consultant) plan to execute all necessary work during the design of the project.

2. BASELINE DAC SCHEDULE

Within fourteen (14) calendar days of receipt of the Authority's written direction to proceed with design, the Design Consultant shall submit a Baseline Design and Anticipated Construction Schedule to the Authority for review. The Baseline DAC Schedule shall detail the activities and durations required to complete Design Phase Services within the time period specified in the Task Order.

The Authority reviewed Baseline DAC Schedule shall become the common point of reference to measure the Design Consultant's progress performance.

3. PROGRESS DAC SCHEDULES

After receipt of the review by the Authority of the Baseline DAC Schedule, the Design Consultant shall submit monthly Schedule Updates identified as a monthly Progress DAC Schedule Update. The Progress DAC Schedule Update shall reflect the Design Consultant's progress of work as of the data date. The Authority will review, provide comments, and return the Progress DAC Schedule Update to the Design Consultant with an indication of "Reviewed", "Reviewed with comments", or "Reviewed - Resubmit". If requested by the Authority, the Design Consultant shall attend meetings arranged by the Authority to discuss the progress of work.

If a Schedule Update is returned to the Design Consultant as "Reviewed - Resubmit", the Design Consultant shall revise and resubmit the Schedule Update submittal to the Authority for review within five (5) business days from the date returned by the Authority.

4. DAC SCHEDULE DEVELOPMENT GUIDELINES AND BASIC STRUCTURE

A. Structure

The Design Consultant shall include a milestone in the DAC Schedule for each applicable submission under the contract (Task Order) for the design deliverable. For example, the Design Consultant might include a milestone for each of the following applicable Stage III design submissions:

- i. 25% Design
- ii. 50% Design
- iii. 75% Design
- iv. 100% Design.

B. Work Breakdown Structure of the DAC Schedule

The Work Breakdown Structure (WBS) shall be aligned with the applicable submissions of the design deliverable. For example, the WBS for a total scope of work for Stage III design, would be organized as follows:

L1 – Project Name

L2.1 – Stage 3

L3 – Discipline (*broken down to specific types of design work categories that may include Site, Civil, Structural, Mechanical, Electrical, Plumbing and Cost Estimating, etc.*)

L4.1 -25% Submission

L4.2 -50% Submission

L4.3-75% Submission

L4.4 -100% Submission

L2.2 – Proposed Anticipated Construction Schedule

C. Cost Loading for DAC Schedules

The Design Consultant shall load the activities with budget information to identify cost to perform the work for each activity. The sum of the costs assigned to all activities shall be equal to the Contract value. The costs shall be distributed to the schedule to match the approved detailed analysis of the Design.

5. DAC SCOPE REVISIONS

Any Authority-approved revision to the Design Consultants’ scope of work shall be incorporated into the DAC Schedule.

The Design Consultant shall incorporate the approved change(s) into the subsequent DAC Schedule Update. The Design Consultant shall first submit the activity fragnet(s) related to approved change for the Authority’s review and comment before incorporating into the DAC Schedule update. The following items shall be clearly identified in the fragnet submission:

- a. Start date for the change
- b. Finish date for the change
- c. Duration for the change
- d. Predecessor Activities
- e. Successor Activities

6. DAC SCHEDULE SUBMITTALS

A. Schedule Submittal Requirements

The Design Consultant shall, at his own expense, prepare and submit a detailed schedule conforming with guidelines and basic structure outlined in Section 4, which shall consist of the following:

- a. Oracle Primavera P6 XER file.
- b. Schedule Narrative.
- c. All Activities, Longest Path and Near Critical (Total Float < 20 Working days).

If requested by the Authority, the Design Consultant shall provide a two-week look-ahead schedule in a format acceptable to the Authority. The two-week look-ahead schedule shall be extracted from the latest Progress DAC Schedule Update and, if applicable, broken down further into daily tasks.

B. Design Consultant Scheduler Requirements

The Design Consultant Scheduler shall meet one of the following criteria:

- a. A Scheduler who is an employee of the Design Consultant with 5 years' minimum hands-on experience in the development and updating of Critical Path Method schedule networks for projects of a complexity comparable to the work of this Task Order; or
- b. An outside entity engaged by the Design Consultant with similar experience as set forth in (a).

Upon request by the Authority, the Design Consultant shall submit the Scheduler's resume and professional references for verification and approval. The Design Consultant’s senior management personnel and appropriate staff shall actively participate in developing and revising the schedules. In the event that the Authority, in its sole discretion, finds that the Scheduler is not meeting the Scheduling requirements, and if so, directed by the Authority, the Design Consultant shall, at his own expense, replace the Scheduler with a different Scheduler complying with these DAC Schedule requirements.

C. Narrative Requirements

The Schedule Narrative (Narrative) shall explain:

- a. The sequence of design work, the critical or longest path of work, interim completion dates and phasing, significant dates that require actions by the Authority or others, and critical action items.
- b. How the DAC Schedule accounts for permit requirements, environmental requirements, coordination with other public agencies, coordination with third parties (i.e., businesses, community, property owners), milestone dates (for the design phases or other related work significant to the design), and coordination with all utility companies.
- c. The specific scope of each design phase and the basis used to determine the original duration of each phase.
- d. All Calendars utilized, tabulated with description of workdays and non-workdays.

D. DAC Schedule Requirements

1. The DAC Schedule shall represent the complete plan for the execution of the work in accordance with the Task Order. The Design Consultant shall ensure that all work sequences are logical and show a coordinated plan for the complete design. In the event the Design Consultant fails to define any element of the work, when the omission or error is discovered by either the Design Consultant or the Authority, the DAC Schedule shall be revised by the Design Consultant and resubmitted.
2. The Authority will review the DAC Schedule within 10 business days of submission and return it to the Design Consultant with an indication of the review status, and comments if any. The Design Consultant shall participate in any meetings arranged by the Authority to resolve issues with the schedule.
3. If the schedule is returned to the Design Consultant with a status of "Reviewed - Resubmit", the Design Consultant shall revise the schedule in accordance with the Authority's comments within 5 business days after receipt. Until the review status of the schedule is indicated as "Reviewed" or "Reviewed with comments" by the Authority, the Design Consultant shall continue to address the comments and resubmit the schedule within the same time frame.
4. The DAC Schedule shall comply with the following at a minimum:
 - a. The original duration of each Activity shall be defined in units of whole working days.
 - b. Negative Float is not allowed in the DAC Schedule.
 - c. All activities, except the Authority's Written Direction to Proceed and Completion of Design, shall be linked to predecessor(s) and successor(s).
 - d. The Design Consultant shall develop the schedule using the following activity codes:
 - i. Discipline
 - ii. Responsibility – PA, Design Consultant and Third Party
 - e. Prior to the submission of the DAC Schedule by the Design Consultant, the Scheduler shall schedule the project. When scheduling the project, the Schedule

Options shown in Figure 1 below shall be used unless approval to vary from these settings is given by the Authority.

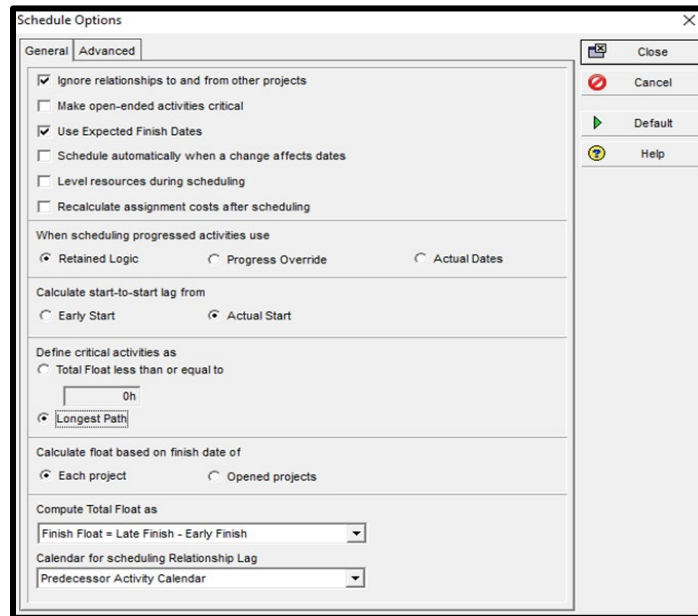


Figure 1: Schedule Options settings in Primavera (P6)

- f. Clearly assign predecessor(s) and successor(s) relationships to each activity, and assign appropriate logic ties between activities (e.g., Finish to Start, Start to Start, Finish to Finish). Do not have any open-ended activities, except for the first activity and last activity in the schedule. Do not include inappropriate logic ties with milestone activities (e.g., a finish milestone activity shall have a predecessor assigned with a Finish-to-Finish logic tie; or a start milestone shall have a successor assigned with a Start- to -Start logic tie).
- g. The Design Consultant shall not use Lags.
- h. The Design Consultant shall not have any constrained activities, apart from contractual dates or outside coordination milestones, unless the Authority accepts such Constraints in writing.

7. ANTICIPATED CONSTRUCTION SCHEDULE

An anticipated construction schedule portion of the DAC Schedule shall incorporate the following items:

- a. Work shifts (days, nights), operational shutdowns.
- b. Assumed construction approach.
- c. Activities defining submittals, approvals, procurement, fabrication and delivery of all major materials, equipment, and specialty items.
- d. Identification of major construction activities.
- e. Activities defining access to and availability of work areas i.e., staging and phasing.
- f. Required project systems testing and commissioning.
- g. Interim milestones based on proposed sequencing of construction and scope detailing.