

Revision	Description	Date Issued	Approved By
-	Initial issue as project-specific document derived from document number VIGOR-998-0001	2/6/2020	Justin van Emmerik
A	2.1 Contractor submittal of a planning schedule as a performance measurement baseline is required before Vigor will pay any invoices. 5.1 Responsibilities of Vigor Project Controls Manager, including authorization for deviations 10.3 Detail added to Milestone Definition 12.3 Contractor shall propose progressing method for non-deliverable and level of effort activities for Vigor approval along with planning schedule 13.1.3 Deleted	3/6/2020	Justin van Emmerik

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1. Scope

- 1.1. This standard shall apply to contractors (“Contractor”) on Vigor projects as required by the Vigor Project Manager.

2. Purpose

- 2.1. **Vigor acceptance of Contractor planning schedule as a performance measurement baseline is required before Vigor will pay any invoices.**
- 2.2. **Contractor shall report and invoice only for physical progress on deliverables.** Progress on deliverables shall be “earned” through rules of credit that must be approved by Vigor.
- 2.3. This standard documents requirements for development of Contractor-provided schedules, progressing based on earned value, and reporting by Contractor.

3. References

- 3.1. Vigor, Ship Work Breakdown Structure (SWBS) Dictionary, VIGOR-042-0001
- 3.2. Vigor, Engineering Deliverable Checklist, VIGOR-800-0017, Rev. A
- 3.3. Vigor, Project Deliverables List, 36241-998-0020, Rev. D
- 3.4. Vigor, Customer Work Breakdown Structure, 36241-998-0031, Rev. -
- 3.5. Vigor, Project Schedule Update Cycle, 36241-998-0028, Rev. B
- 3.6. Vigor, Functional Design Workflow, 36241-800-0001, Rev. -

4. Definitions

- 4.1. LOE Level of Effort
- 4.2. IMS Integrated Master Schedule
- 4.3. ITA Intent to Award
- 4.4. PMT Project Management Team
- 4.5. POC Point of Contact
- 4.6. PTS Purchase Technical Specification
- 4.7. RFI Request for Information

- 4.8. RFC Request for Change
- 4.9. RFQ Request for Quote
- 4.10. ROC Rules of Credit
- 4.11. SVT Schedule Visibility Task
- 4.12. WBS Work Breakdown structure

5. Responsibilities

- 5.1. Vigor Project Controls Manager is responsible for approval of Contractor rules of credit (ROC) and is the point of contact (POC) for the Contractor scheduling POC. Vigor Project Controls Manager may authorize deviations from this standard in writing.
- 5.2. Contractor is responsible for compliance with this standard.

6. Order of Activities

- 6.1. The below table describes the order of activities described in this standard.

Typ. Duration (Bus. Days)	Company	Description	Applicable Standard Sections
	Vigor	Issue request for quote (RFQ).	
20	Contractor	Prepare and submit bid with proposal schedule	7 - 9
10-20	Vigor	Review bids, downselect, negotiate, issue notice of intent to award (ITA)	
10	Contractor	Prepare planning schedule, submit to Vigor	7, 10
5-10	Vigor & Contractor	Review and revise until Contractor planning schedule complies with this standard.	
	Vigor	Issue notice to proceed (NTP) to Contractor	
	Contractor	Baseline execution schedule, begin execution	7, 11
	Contractor	Execute work, progress activities, maintain schedule, reporting, invoicing	12 - 15
	Contractor	Close out schedule	16

7. Schedule Scope vs. Fidelity

- 7.1. *Scope* is the work that a Contractor must accomplish to produce its deliverables.
- 7.2. *Fidelity* is the degree of detail or exactness used to describe scope in a schedule.
- 7.3. Schedules at all levels of fidelity shall contain 100% of known Contractor scope. This includes:

- 7.3.1. Contractor deliverables
- 7.3.2. All salaried and hourly Contractor labor hours (direct & indirect)
- 7.3.3. Contractor material procurement
- 7.3.4. Subcontractor scope

8. Creation

- 8.1. These requirements for schedule creation apply to schedules at all levels of fidelity (proposal, planning, and execution).
- 8.2. Work Breakdown Structure
 - 8.2.1. Contractor shall define the work breakdown structure (WBS) that is most appropriate for their scope.
- 8.3. Activity Logic
 - 8.3.1. Logic assignments shall be consistent and contain predecessors and successors to support analysis of schedule float, health, and critical path. Finish to start method is preferred.
 - 8.3.2. Start / Finish On or Before and Start / Finish On constraints should have limited usage and may be revised based on the project's float. Mandatory constraints are normally not permitted and must be identified when a Contractor submits a schedule.
 - 8.3.3. Open ends are not permitted because they impede accurate critical path analysis. Allowable exceptions are activities with a Start/Finish On/Before or Mandatory constraint.
- 8.4. Relationship Lag
 - 8.4.1. Lag is not permitted ~~without documentation~~ because it hides what may actually be an activity and impedes critical path analysis.
 - ~~8.4.2.0. If lag exists on the critical path, it shall be replaced with a logic tied schedule visibility task (SVT) describing whatever is causing the lag.~~
 - ~~8.4.3.0. If lag is not on the critical path, it shall be documented as part of the activity name. It must be included in the activity name and may not be documented in a separate notes column. Example activity name: "Incorporate USCG comments and submit to Vigor (20d lag for USCG review)".~~
 - ~~8.4.4.~~8.4.2. Negative lag is not permitted.

8.5. Activity Definition

8.5.1. Activities shall be defined by data in the following columns in all Contractor schedules:

8.5.1.1. Activity ID: Shall be determined by Contractor.

8.5.1.2. Activity Name: The nature of the effort should be understandable without a group heading.

8.5.1.3. Duration: Number of working days from start to finish.

8.5.1.4. Budget: In labor hours.

8.5.1.5. Start Date: Input as appropriate.

8.5.1.6. Finish Date: Input as appropriate.

8.5.1.7. Predecessor and/or successors

8.5.1.8. Ship Work Breakdown System (SWBS): Each activity shall be assigned a SWBS code using Ref. 3.1.

8.5.1.9. Contract Work Breakdown System (CWBS): Each activity shall be assigned a CWBS code if the project has a CWBS. See Ref. 3.4.

9. Proposal Schedule

9.1. The proposal schedule is a low-fidelity schedule that shall be submitted by Contractor with initial proposal. Required fidelity:

9.1.1. Major milestones

9.1.2. Contractor deliverables

9.1.3. Summary-level Contractor-provided engineering or production activities

9.1.4. Critical handoff dates for review or approval by Vigor

9.1.5. Request for information (RFI) milestones by which Contractor must receive information to proceed with successor work

10. Planning Schedule

10.1. The planning schedule is a high-fidelity schedule that shall be submitted to Vigor two (2) calendar weeks after Vigor issues Intent to Award (ITA) notice to Contractor unless a later submittal date is approved by Vigor Project Controls Manager.

- 10.2. The planning schedule carries forward all scope from the proposal schedule with increased fidelity, plus any changes since proposal submission. Required fidelity:
- 10.2.1. Each discrete engineering deliverable assigned to Contractor.
 - 10.2.2. All handoff dates for review, approval, or delivery to Vigor or other contractors. Total duration to develop and issue a deliverable must include Vigor and/or Customer review time.
 - 10.2.3. Duration and labor budget is capped for all non-level of effort (LOE) activities:
 - 10.2.3.1. Activity duration up to 2 weeks. If a component of scope requires a duration of greater than 2 weeks to complete, it should be broken into multiple activities.
 - 10.2.3.2. Activity labor budget up to 200 hours. If a component of scope requires more than 200 hrs labor to complete, it should be broken into multiple activities.
- 10.3. RFI Milestone Definition
- 10.3.1. Contractor shall submit along with their planning schedule an RFI Milestone Definition document that details the information required at every RFI milestone in the schedule. This includes:
 - 10.3.1.1. Date of RFI milestone
 - 10.3.1.2. Precise definition of the data that Contractor requires
 - 10.3.1.3. Native format required
 - 10.3.2. The RFI Milestone Definition document shall be sufficiently detailed to allow the Contractor to proceed with successor tasks to the RFI milestone if the information requested in the RFI Milestone Definition document is provided.
 - 10.3.3. Upon Contractor's receipt of the RFI milestone data, Contractor shall review the information and notify Vigor within 10 days of receipt if there is missing, insufficient, or poor quality information. Contractor shall indicate if any successor tasks cannot be executed as planned and if there will be a critical path impact.
 - 10.3.4. Should the information provided at an RFI milestone have cardinally changed from a previous data submittal, this change may be the subject of a cost or schedule adjustment (up or down).
 - 10.3.5. Contractor shall inform Vigor of additional information required from other parties to complete Contractor scope as a result of the design process, Customer-driven changes, or other design-cycle events allowed by the contract. These new RFI milestones will be incorporated into schedule baseline revisions as appropriate as they occur.

10.4. After submitting the planning schedule, Contractor should expect to spend 1-2 weeks with Vigor Project Controls personnel aligning the Contractor schedule with schedules of related contractors and the Vigor integrated master schedule (IMS). During this time, Contractor deliverables and handoff dates will be incorporated into Vigor IMS to support progressing of Contractor scope during project execution.

10.4.1. Vigor Project Controls personnel will calendar the integration meetings.

11. Execution Schedule

11.1. Once the planning schedule has been aligned with the Vigor IMS and approved by Vigor, it becomes the execution schedule. Contractor shall use this schedule to track and report to Vigor progress of Contractor scope.

11.2. Upon approval by Vigor, the execution schedule shall be formally baselined. Slippage against the baseline shall be depicted during the schedule's life with the use of slippage bars in the Gantt chart.

12. Progressing

12.1. Progressing cadence shall be weekly unless approved otherwise by the Project Manager.

12.2. Task or deliverable activities (non-level of effort), including subcontractor activities, shall be progressed based on physical % complete earned via rules of credit.

12.3. Rules of Credit

12.3.1. Rules of credit (ROC) are pre-established, mutually-agreed criteria to be met for determining incremental progress of Contractor deliverables. The 'credit' refers to the amount of percent progress to be awarded to the activity once the criteria are met.

12.3.2. Discrete engineering deliverables: Default ROC for engineering deliverables are given in Appendix A.

12.3.3. Non-deliverable or LOE activities: Contractor shall propose ROC for non-deliverable or LOE activities along with the submission of a planning schedule for Vigor's approval. Contractor is encouraged to adopt ROCs for LOE activities that minimize administrative burden on both parties for purposes of progressing, invoices, and payments. Example ROC include, but are not limited to:

12.3.3.1. Project management and administration: Duration-based, a.k.a. straight-line earning.

12.3.3.2. Liaison: Actual labor spent equals earned.

12.3.3.3. Meetings, shipchecks, or other discrete events: Binary earning, i.e. 0 or 100%

12.3.4. Contractor may propose alternative ROC after ITA for Vigor approval. Vigor must approve alternative ROC prior to issuing Contractor NTP. After ROCs are approved, Vigor must approve any changes to ROC before they are implemented into the current schedule.

12.3.5. Reported progress shall not exceed an unachieved ROC milestone. Reported progress may exceed an achieved ROC milestone. For example, if a 25% milestone has been achieved, and the next incremental ROC milestone is 60%, reported progress may be between 25% and 59%.

13. Maintenance

13.1. Re-baselining

13.1.1. A project schedule may be re-baselined as the result of one or more of the following:

13.1.1.1. By Customer request.

13.1.1.2. Changes to scope where addition of scope cannot be completed within the current budget or schedule.

13.1.1.3. Changes to contract delivery dates.

13.1.1.4. Changes due to a force majeure event.

13.1.1.5. Changes due to departure from performance expectations (grossly ahead of or later than baseline).

13.1.2. Re-baselining a schedule must be approved by the Vigor Project Controls Manager.

13.1.3. Deleted.

13.2. Change Management

13.2.1. Contractor requests for change (RFC) shall include the schedule impact if there is one.

13.2.2. Deleted

13.2.3. Contractor shall maintain a RFC log. An activity code "RFC" with the relevant RFC number shall be used to tag the activities created or affected by approved RFC.

13.2.4. Changes that do not affect the scope, budget, or delay the finish date of activities do not need to be approved by Vigor. However, the activity ID or rules of credit assigned with the baseline schedule shall not be changed without Vigor approval. Partial rebaselining with the same partial weight/ resources can be done if proven on a "fragnet" / "what if schedule" as a non-scope change before being incorporated.

13.3. Contractor shall have flexibility to manage the float/slack of non-critical path tasks.

14. Reporting

14.1. Contractor progress shall be submitted per the cutoff in Ref. 3.5.

14.2. Weekly Submittals

14.2.1. Each week, Contractor shall submit:

14.2.1.1. Native schedule file updated with:

- a) Physical progress attained during the most recent 1-week update cycle
- b) Accepted RFCs or new activities required to complete Contractor scope (e.g. re-submission of a document based upon a Vigor rejection)

14.2.1.2. Deleted.

14.3. Bi-Weekly Meeting

14.3.1.1. This is an informal meeting to discuss in-progress deliverables, the critical path, and roadblocks

14.3.1.2. May be remote or in-person.

14.3.1.3. Vigor shall schedule this reoccurring meeting and may combine more than one Contractor into one session.

14.3.1.4. If there is a Monthly Project Meeting during the week, there is no Bi-Weekly Meeting.

14.4. Monthly Project Meeting

14.4.1.1. This is a more formal meeting to review overall Contractor progress.

14.4.1.2. Contractor shall submit a Monthly Project Report in addition to the weekly submittals for that week by the weekly cutoff.

14.4.1.3. Monthly Project Report content:

- a) Progress S-curve – Contractor early start BCWS (planned value) vs. BCWP (earned value) in hours
- b) Progress Summary Table – Earned progress of Contractor scope at summary WBS level
- c) Risk and opportunity register for risks that may impact overall project schedule
- d) List of late or forecasted late deliverables and schedule recovery plan

15. Invoicing

- 15.1. Contractor shall report and invoice only for physical progress measured on the execution schedule.
- 15.2. Invoicing shall include the physical progress of each activity as a % of the original planned value in hours.
- 15.3. Vigor reserves the right to audit Contractor's reported progress. If Vigor requests an audit of Contractor progress in writing, Contractor shall provide the requested deliverables or justification for non-deliverable activity progress within 24 hours of receipt of request.

16. Closeout

- 16.1. At completion of a project, the final progressed schedule shall be sent to Vigor.

17. Appendices, Attachments or Exhibits

- 17.1. Appendices, Attachments, or Exhibits used may differ in appearance from the ones shown in this section, provided that the content remains the same.

Appendix A: Engineering Deliverable Rules of Credit

For referenced Engineering Deliverable Checklist (EDC) points, see Ref. 3.2.

For workflow, see Ref. 3.6.

If Vigor has comments on a submitted deliverable, the Vigor Engineering POC shall submit written comments to Contractor within the turnaround time.

% Progress	EDC #	Earning Criteria	Comment Turnaround Time
5	5	Supporting documentation collected	
10	6	Preliminary functional concept meeting/interface	Real-time
25	11	Quarter-way functional concept meeting/interface (skip if fast-track drawing)	Real-time
60	23	Submittal of preliminary deliverable (skip if fast-track drawing)	5 days
90	24	Submittal of deliverable for Issued Document Review	5 days
95	25	Submittal of Regulatory Acceptance Package (skip if no regulatory review)	Regulatory-dependent
100	26	Issue of approved deliverable with all comments incorporated	