SCHEDULE CONTROL PROCEDURE

ENGINEERING TECHNICAL STANDARDS & PROCEDURES

PT KILANG PERTAMINA INTERNASIONAL

DIREKTORAT PROYEK INFRASTRUKTUR

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DAFTAR ISI

1. INTRODUCTION

1.1 This document describes work procedure to develop, monitor dan control Project Schedule during Engineering, Procurement, Construction, Commissioning, dan Start-up in Contract EPC / EPCC / EPCIC.

2. SCOPE

2.1 This procedure specifies standard practices for schedule planning, monitoring and control applied for Project in PT KPI.

Main objectives are to present the following points:

- Schedule Development
- Schedule Monitoring
- Schedule Control
- Schedule Reporting

3. CONFLICTS AND DEVIATIONS

3.1 Any conflicts between this standard and other applicable Engineering Technical Standards & Procedures (ETSP), or OWNER standard, codes, and forms shall be resolved in writing by OWNER.

3.2 All requests to deviate from this standard (ETSP) shall be submitted in writing to OWNER, who shall follow internal OWNER procedure for OWNER approval.

4. ABBREVIATIONS

4.1 Abbreviations used for this document shall have the following definitions:

CPM	Critical Path Methode
PCS	Project Control Schedule
PMS	Project Master Schedule

1. PENGANTAR

1.1 Dokumen ini menjelaskan Prosedur Kerja untuk pengembangan, monitor dan pengendalian jadwal proyek selama *Engineering, Procurement, Construction, Commissioning,* dan *Start-up* pada kontrak EPC / EPCC / EPCIC.

2. LINGKUP

2.1 Prosedur ini menjelaskan standard praktis untuk perencanaan, monitoring dan pengendalian jadwal proyek pada Proyek di lingkungan PT KPI.
Tujuan utamanya adalah untuk menyajikan poin-poin sebagai berikut:

- Pengembangan Jadwal Proyek
- *Monitoring* Jadwal Proyel
- Pengendalian Jadwal Proyek
- Pelaporan Jadwal Proyek

3. KONFLIK DAN DEVIASI

3.1 Apabila terdapat konflik antara standar ini dengan *Engineering Technical Standards & Procedures* (ETSP) yang berlaku lainnya, atau standar PEMILIK, *codes* dan formulir, maka harus diselesaikan secara tertulis oleh PEMILIK.

3.2 Semua permintaan penggunaan standar yang berbeda dari standar ini (ETSP), harus diajukan kepada PEMILIK secara tertulis dengan mengikuti prosedur *internal* PEMILIK untuk mendapatkan persetujuan.

4. SINGKATAN

4.1 Singkatan yang digunakan pada dokumen ini harus memiliki definisi sebagai berikut:

CPM	*Critical Path Methode*
PCS	*Project Control Schedule*
PMS	*Project Master Schedule*

SMS	Summary Master Schedule
EPC	Engineering, Procurement & Construction
EPCC	Engineering, Procurement, Construction & Commissioning
EPCIC	Engineering, Procurement, Construction, Installation Commissioning.
WBS	Work Breakdown Structure

5. DEFINITIONS

5.1 The following words shall have these special meanings when used herein:

OWNER	Owner of the Plant is defined as PT Kilang Pertamina Internasional.
CONTRACTOR/ CONSULTANT	Defined as The Organization to which PT Kilang Pertamina Internasional assign the work.
LICENSOR	Licensor Name.
Shall	The word 'Shall' indicate a requirement.
Should	The word 'should' indicate a recommendation.
May	The word 'may' is to be understood as indicating a possible course of action.

6. CODE, STANDARD AND REFERENCES

a. Work Breakdown Structure
b. Progress Measurement for Engineering and Procurement

SMS	*Summary Master Schedule*
EPC	*Engineering, Procurement & Construction*
EPCC	*Engineering, Procurement, Construction & Commissioning*
EPCIC	*Engineering, Procurement, Construction, Installation Commissioning.*
WBS	*Work Breakdown Structure*

5. DEFINISI

5.1 Penggunaan kata-kata berikut harus memiliki arti khusus sebagai berikut:

PEMILIK	Pemilik Kilang didefinisikan sebagai PT Kilang Pertamina Internasional.
KONTRAKTOR/ KONSULTAN	Didefinisikan sebagai Organisasi yang ditunjuk oleh di PT Kilang Pertamina Internasional untuk melakukan suatu pekerjaan.
LICENSOR	Nama *Licensor.*
Shall	Kata "Harus" menunjukkan persyaratan.
Should	Kata "Seharusnya" menunjukkan rekomendasi.
May	Kata "Mungkin" agar dipahami sebagai indikasi kemungkinan tindakan.

6. KODE, STANDAR DAN REFERENSI

a. *Work Breakdown Structure*
b. *Progress Measurement for Engineering and Procurement*

c. Progress Reporting Procedure
d. Project Calendar
e. Project Schedule
f. Progress Measurement for Construction Work
g. Progress Measurement for Pre-Commissioning/ Commissioning and Start-Up

7. SCHEDULE DEVELOPMENT

7.1 General Schedule Requirements

CONTRACTOR shall utilize the latest approved release of scheduling software that approved by OWNER as the primary tool for planning, monitoring and controlling the schedule. Schedule are to be structured to adhere to Work Breakdown Structure (WBS) / user codes. CONTRACTOR shall ensure consistent application of activity / user code across all locations.

CONTRACTOR shall develop schedule basis assumption document that including as follow but not limited to:

a. Calendar
b. Quantity number
c. Productivity
d. Logic chart
e. Key milestone
f. Etc.

CONTRACTOR shall include schedule basis assumption as a basis to develop schedule. CONTRACTOR shall update the schedule depend on attachment 1. Matrix scheduling deliverables that approved by OWNER at least once a month.

7.2 Schedule Quality

c. *Progress Reporting Procedure*
d. *Project Calendar*
e. *Schedule Proyek*
f. *Progress Measurement for Construction Work*
g. *Progress Measurement for Pre-Commissioning/ Commissioning and Start-Up*

7. PENGEMBANGAN SCHEDULE

7.1 Persyaratan Umum *Schedule*

KONTRAKTOR harus menggunakan software keluaran terbaru yang telah disetujui oleh PEMILIK sebagai media utama untuk perencanaan, monitor dan pengendalian jadwal. Jadwal disusun mengikuti *Work Breakdown Structure* (WBS) / *user code*. KONTRAKTOR harus memastikan konsistensi dari setiap aktivitas dan *user code* di seluruh lokasi.

KONTRAKTOR harus menyusun dokumen dasar asumsi jadwal proyek yang berisi sebagai berikut namun tidak terbatas pada:

a. Kalender
b. Jumlah *Quantity*
c. Produktivitas
d. Bagan logika
e. *Key milestone*
f. dll.

KONTRAKTOR harus mencantumkan dasar asumsi jadwal proyek sebagai basis dalam penyusunan Jadwal. KONTRAKTOR harus melakukan update schedule sesuai tabel dan frekuensi sesuai lampiran 1. *Matrix Schedulling Deliverables* yang telah disetujui oleh PEMILIK sekurang-kurangnya 1 kali dalam sebulan.

7.2 Kualitas *Schedule*

CONTRACTOR shall ensure quality of developed schedule in accordance with the condition below, but not limited to:

a. Clear description and consistent.

b. Clear logic between activities

c. All Activities use appropriate WBS or Code.

d. Realistic duration for each activity and has basic calculation / assumption.

e. Minimum open- ended activities.

f. Minimum constraint.

g. Minimum lag especially for detail schedule.

h. Baseline schedule doesn't have negative float.

i. Maximum use relationship type "Finish to Start" for detail schedule and minimum use relationship type "Finish to Finish" and "Start to Start"

j. Quality in accordance with the schedule check on the scheduling software.

7.3 EPC Project Schedule

The following key schedule documents will be prepared in accordance with the requirements:

- Level 0 – Milestone Schedule
- Level 1 – Project Summary Schedule (PSS)
- Level 2 – Project Master Schedule (PMS)
- Level 3 – Project Control Schedule (PCS) / Publication Schedule
- Level 4 – Intermediate level schedule
- Level 5 – Implementation Schedule

KONTRAKTOR harus memastikan kualitas Jadwal yang telah dibuat sesuai dengan kondisi sebagai berikut namun tidak terbatas pada:

a. Menggunakan deskripsi yang jelas dan konsisten.

b. Hubungan logika yang jelas antara 1 aktifitas ke aktifitas lainnya.

c. Seluruh aktifitas menggunakan WBS / *Code* yang sesuai.

d. Durasi untuk setiap aktifitas adalah realistis dan memiliki basis perhitungan/asumsi.

e. Seminimal mungkin terdapat *open ended activities*.

f. Seminimal mungkin penggunaan *constraint.*

g. Seminimal mungkin penggunaan lag terutama untuk *detail schedule*.

h. *Baseline Schedule* tidak ada *negative float.*

i. *Relationship* untuk *detail schedule* diutamakan *logic Finish to Start*. Diminimalkan *logic Finish to Finish* dan *Start to Start*.

j. Quality Sesuai dengan *schedule check* pada *Software schedulling*.

7.3 EPC Project Schedule

Berikut ini adalah dokumen schedule utama yang perlu dipersiapkan sesuai dengan persyaratan:

- *Level 0 – Milestone Schedule*
- *Level 1 – Project Summary Schedule (PSS)*
- *Level 2 – Project Master Schedule (PMS)*
- *Level 3 – Project Control Schedule (PCS)*
- *Level 4 – Intermediate level schedule*
- *Level 5 – Implementation Schedule*

The schedule will be prepared by CONTRACTOR under the common procedure. Each schedule documents shall be approved and signed by both OWNER and CONTRACTOR

Schedule akan dipersiapkan oleh KONTRAKTOR sesuai dengan prosedur umum Proyek. Setiap dokumen *schedule* harus disetujui dan ditandatangani oleh PEMILIK dan KONTRAKTOR.

7.3.1 Level 0 Schedule (Milestone Schedule)

Level 0 milestone is a list of all critical contract milestones that defines the date envelopes for all other schedules.

7.3.1 *Level 0 Schedule (Milestone Schedule)*

Level 0 milestone schedule adalah daftar *list* seluruh *critical milestone* kontrak yang menunjukkan seluruh tanggal-tanggal penting untuk seluruh *schedule*.

7.3.2 Level 1 Schedule (Project Summary Schedule)

Project summary schedule or executive summary, also called Project Master Schedule. It expands the level 0 schedule in a time scaled bar chart format showing planned start and finish dates for key activities / tasks and highlights major project activities, milestone and key deliverables for the whole Project.

7.3.2 *Level 1 Schedule (Project Summary Schedule)*

Project *Summary Schedule* atau *summary* eksekutif, juga disebut *Project Master Schedule*. Merupakan pengembangan dari level 0 *schedule* dalam bentuk *bar chart* waktu yang menunjukkan rencana *Start* dan *Finish Date* untuk aktivitas utama/*major* dan menyoroti *major* aktivitas utama, *milestone* dan *key deliverable* secara keseluruhan.

7.3.3 Level 2 Schedule (Project Master Schedule)

Project Master Schedule or Management Summary, also called Summary Master Schedule is used to monitor the overall status, identifying critical paths and setting priorities for the execution of the work.

Level 2 Schedule is detailed schedule of activities in level 1 Schedule. This schedule shows overall scope of work to highlight the major issues, completions, and interfaces to meet

7.3.3 *Level 2 Schedule (Project Master Schedule)*

Project Master Schedule atau *Management Summary*, juga disebut *Summary Master Schedule* dipergunakan untuk membantu memonitor status secara keseluruhan, identifikasi jalur kritis dan menetapkan prioritas untuk eksekusi pekerjaan.

Level 2 Schedule merupakan pendetailan dari Level 1 *schedule*. *Schedule* ini menampilkan lingkup pekerjaan secara keseluruhan untuk menyoroti *highlight issue*,

Project Objectives. All major milestone agreed with the OWNER are also reflected on the master schedule.

7.3.4 Level 3 Schedule (Project Control Schedule)

The Level 3 Project Control Schedule is the precedence based, critical path method (CPM) network which will detail blow-up of the activities in the higher Level 2 Project Master Schedule. The purpose of the L3 Schedule is to ensure quality and consistency in schedule control over the Contract.

The level 3 schedule is aligned with:

a. Master Document Register
b. Procurement Status Register
c. Construction Progress Measurement System

Level 3 Project Control Schedule has requirements including:

a. The L3 Schedule uses a logic and coding structure that can be sorted and filtered as needed.

b. The activity schedule in the L3 Schedule must be created using resources and approved by the OWNER so that it can summarize manhour, resources, and other commodity quantities so that it can extract the progress curve.

c. L3 Schedule is made using the precedence diagram method.

penyelesaian dan interface untuk mencapai tujuan Proyek. Seluruh *major milestone* disepakati antara PEMILIK tertuang dalam *master schedule* ini.

7.3.4 *Level 3 Schedule (Project Control Schedule)*

Level 3 Project Control Schedule adalah jaringan *critical path method* berbasis prioritas yang akan mendetailkan aktivitas pada *Level 2 Project Master Schedule*. Tujuan dari L3 *Schedule* adalah untuk memastikan kualitas dan konsistensi dalam pengendalian *schedule* terhadap Kontrak.

Level 3 Schedule selaras dengan:

a. *Master Document Register*
b. *Procurement Status Register*
c. *Construction Progres Measurement System*

Level 3 Project Control Schedule memiliki persyaratan diantaranya:

a. L3 *Schedule* menggunakan *logic* dan *coding structure* yang dapat disortir dan disaring sesuai kebutuhan.
b. Aktivitas pada L3 *Schedule* harus disusun menggunakan *resources* dan disetujui oleh PEMILIK sehingga dapat terangkum *manhour*, *resources*, dan *commodity quantities* lainnya sehingga dapat mengekstrak kurva progres.
c. L3 *Schedule* dapat dibuat menggunakan metode diagram prioritas.

d. L3 Schedule must contain deliverables per discipline.
e. L3 schedule that has been approved will become the control schedule and as the baseline for any schedule changes.
f. L3 This schedule cannot be changed without a proposed change.
g. L3 schedule is updated at least in every month or more frequently as needed.

7.3.5 Level 4 Schedules (*Intermediate Level Schedule)*

The Level 4 Schedule / Execution Schedule / Detailed Schedule. This Schedule is an expansion of part of a level 3 schedule and is established within the integrated project schedule. This is the key working level (Critical Path Method) schedule displaying the activitiest to be accomplished by the Project workforce.

A more detailed level 4 schedule (or Work Front Analysis) shall be developed by CONTRACTOR for construction. However this detail is only developed on a “3 month look Ahead” basis each month.

7.3.6 Level 5 Detailed Deliverables Schedule.

Level 5 Schedule or detail schedule, the further breakdown of the activities of a level 4 schedule. This schedule used to map out the detailed tasks needed to coordinate day to day in specific areas. This schedule are

d. L3 *Schedule* harus memuat *deliverable* per disiplin.
e. L3 *schedule* yang telah disetujui oleh PEMILIK akan menjadi *control schedule* dan sebagai *baseline* untuk setiap perubahan *schedule*.
f. L3 *Schedule* ini tidak dapat diubah tanpa adanya usulan perubahan.
g. L3 *schedule* diupdate sekurang-kurangnya setiap bulan atau lebih sering lagi sebagaimana diperlukan.

7.3.5 *Level 4 Intermediate Level Schedule*

Level 4 schedule / Execution Schedule / Project Working Schedule. Schedule ini merupakan penjabaran dari *level 3 Schedule* dan dibuat didalam *schedule* Proyek yang terintegrasi. *Schedule* ini merupakan key working level (*Critical Path Method*) yang menampilkan aktifitas yang akan diselesaikan oleh Pekerja Proyek.

Detil *Schedule level 4* (*Work Front Analysis*) harus dibuat oleh KONTRAKTOR untuk aktifitas konstruksi. Namun detil hanya dikembangkan sebagai “*3 month look ahead*” untuk setiap bulannya.

7.3.6 *Level 5 Detailed Deliverables Schedule.*

Level 5 Schedule atau *detail schedule* merupakan detail lebih jauh dari aktifitas dari *level 4 schedule*. *Schedule* ini dipergunakan untuk pemetaan detail aktifitas yang perlu dikoordinasikan setiap hari di area

developed to plan and coordinate work at the detail level.

CONTRACTOR shall submit to OWNER every change on this level 5 schedule. Level 5 schedule also must be used to see if progress is not achieved according to plan and opportunities to find solutions to pursue the target progress to the original plan or even to accelerate the completion of work.

a. Level 5 Schedules for Engineering Activities
   Level 5 schedule shall list the individual drawings, studies, tasks, specifications, calculation, requisition, etc. Level 5 Schedule shall be developed to the lowest possible activity level

b. Schedules for Procurement Activities
   Procurement progress to be determined using the detailed schedule information supplied by Procurement. Level 5 Schedule shall be developed to the lowest possible activity level.
c. Schedules for Construction Activities
   CONTRACTOR/ SUBCONTRACTOR shall developed a detailed Construction schedule become the lowest possible activity level and including resource loading.

   Construction Schedule shall be developed and maintained by CONTRACTOR/SUBCONTRACT

spesifik. *Schedule* ini disusun untuk merencanakan dan koordinasi pekerjaan / aktifitas yang lebih detail.
KONTRAKTOR harus melakukan submit ke PEMILIK setiap perubahan pada *level 5 schedule. Level 5 Schedule* dapat digunakan untuk melihat jika progress yang tidak tercapai terhadap rencana awal dan peluang untuk mencari penyelesaian untuk mengejar target progres ke rencana awal atau mempercepat penyelesaian pekerjaan.

a. *Level 5 Schedules for Engineering Activities*
   Level 5 Schedule harus berisi list *individual drawings, studies, tasks, spesifications, calculation, requistion,* dan lain-lain. *Level 5 Schedule* harus dikembangkan menjadi tingkat aktivitas serendah mungkin.
b. *Schedules for Procurement Activities*
   Progres *Procurement* ditentukan menggunakan informasi *schedule* yang detil yang disediakan oleh tim *Procurement. Level 5 Schedule* harus dikembangkan menjadi tingkat aktifitas serendah mungkin.
c. *Schedules for Construction Activities*
   KONTRAKTOR/ SUBKONTRAKTOR harus mengembangkan *schedule* Konstruksi yang lebih detail menjadi tingkat aktifitas serendah mungkin dan harus berisi *resource loading.*
   Schedule Konstruksi harus dikembangkan dan dikelola oleh tim Konstruksi dari

OR'S Construction Team. Schedule shall be reviewed weekly by CONTRACTOR/SUBCONTRACTOR to produce detailed plans and shall form the basis for regular progress discussions at the site.

CONTRACTOR shall ensure on this level 5 schedule; Project network planning is created. Each work item has a relationship between the activities of detail engineering design, vendor selection, procurement activities, construction work for each job up to Mechanical Completion and Operational Acceptance. Thus, it can show the critical path.

Level 5 Schedule is used for discussion to see forecast root-causes in case of progress delay. CONTRACTOR shall be required to include it on weekly, monthly and quarterly reports.

KONTRAKTOR/ SUBKONTRAKTOR. *Schedule* harus direview secara rutin oleh KONTRAKTOR/ SUBKONTRAKTOR setiap minggu untuk menghasilkan detil perencanaan dan sebagai basis diskusi secara rutin di *site* Proyek.

KONTRAKTOR harus memastikan pada *level 5 schedule*, sudah dibuat *project network planning*. Setiap item pekerjaan memiliki hubungan antara aktifitas *detail engineering design*, *vendor selection, procurement activities, construction work* untuk setiap pekerjaan hingga *Mechanical Completion* dan *Operational Acceptance*. Dengan demikian dapat menunjukan *critical path*.

Level 5 Schedule digunakan sebagai bahan diskusi untuk melihat *forecast* dan *root-causes* dalam kondisi progress terlambat. KONTRAKTOR harus memasukkan hal ini ke dalam laporan mingguan, bulanan dan triwulan.

8. SCHEDULE MONITORING

8.1 Progress Measurement

Measurement for Engineering & Procurement refer to procedure RP-ETP-PMC-GP-0006-00-2022 PROGRESS MEASUREMENT PROCEDURE FOR ENGINEERING & PROCUREMENT.

Measurement for Construction refer to procedure RP-ETP-PMC-GP-0007-00-2022 PROGRESS MEASUREMENT PROCEDURE FOR CONSTRUCTION WORK.

8. *MONITORING SCHEDULE*

8.1 Pengukuran *Progress*

Pengukuran Progress *Engineering & Procurement* mengacu pada dokumen RP-ETP-PMC-GP-0006-00-2022 *PROGRESS MEASUREMENT PROCEDURE FOR ENGINEERING & PROCUREMENT.*

Pengukuran Progres *Construction* mengacu pada dokumen RP-ETP-PMC-GP-0007-00-2022 *PROGRESS MEASUREMENT PROCEDURE FOR CONSTRUCTION WORK.*

Measurement for Pre-Commissioning/ Commissioning And Start-Up refer to procedure RP-ETP-PMC-GP-0008-00-2022 PROGRESS MEASUREMENT PROCEDURE FOR COMMISSIONING & START-UP.

9. SCHEDULE CONTROL

During control schedule, CONTRACTOR EPC/EPCC/EPCIC shall conduct following item but not limited to:

a. Monitor actual status and collect data.

b. Identify the critical paths.
c. Analyze schedule trends, physical progress and resource performance.
d. Identify schedule problematic areas.

e. Plan and initiate corrective actions.

f. Update and monitor the schedules, incorporating any changes occurred during the project execution.

g. Develop reforcast schedule for completion project.

10. SCHEDULE REPORTING

CONTRACTOR shall report schedule to OWNER refer to OWNER Procedure PROJECT REPORTING PROCEDURE. Frequency of reporting can refer to Attachment 1 Matrix Scheduling Deliverables or when considered necessary by OWNER.

11. ATTACHMENT

Attachment 1 - Matrix Schedulling Deliverables

Pengukuran Progress *Pre-Commissioning/Commissioning* & *Startup* mengacu pada dokumen RP-ETP-PMC-GP-0008-00-2022 *PROGRESS MEASUREMENT PROCEDURE FOR COMMISSIONING & START-UP.*

9. PENGENDALIAN *SCHEDULE*

Selama pengendalian *schedule*, KONTRAKTOR EPC/ EPCC/ EPCIC harus melakukan hal-hal sebagai berikut namun tidak terbatas pada:

a. Memonitor status aktual dan mengumpulkan data.
b. Mengidentifikasi jalur kritis.
c. Menganalisa tren *schedule*, progress fisik dan performa *resources*.
d. Mengidentifikasi kendala terhadap ketepatan *schedule*.
e. Merencanakan dan menginisiasi tindakan koreksi.
f. Melakukan *update* dan memonitor *schedule*, memasukkan segala perubahan yang terjadi selama eksekusi proyek.
g. Membuat Prognosa penyelesaian *schedule*.

10. PELAPORAN *SCHEDULE*

KONTRAKTOR harus melakukan Pelaporan *Schedule* kepada PEMILIK mengacu pada Prosedur PEMILIK untuk *PROJECT REPORTING PROCEDURE*. Frekuensi pelaporan dapat mengacu pada tabel Lampiran 1 *Matrix Schedulling Deliverables* atau bilamana dianggap perlu oleh PEMILIK.

11. LAMPIRAN

Lampiran 1 - *Matrix Schedulling Deliverables*

Attachment 1 – Matrix Schedulling Deliverables

Deliverable	Description	Timing of Implementation (weeks after contract effective date)	Frequency Issued
90 Day Schedule	An initial starter schedule (90 day plan) shall be developed by Contractors to ensure the Work begins in a direction that supports the critical activities and decision milestones. Shall be developed as a level 4 schedule	0	Weekly
Level 0 – Milestone Schedule	A list of all critical Contract milestones that defines the date envelopes for all other schedules.	0	Monthly
Level 1 – Project Summary Schedule	Level 1 schedule comprising the total Contract scope, prepared in timescale graphic format, used to develop the Contract schedule and depict status throughout the Work to Owner management and third parties such as financing agencies. The Level 1 schedule shall be the basis upon which all other schedules in the hierarchy are developed.	4	Monthly
Level 2 – Project Master Schedule	Level 2 schedule will be a logic-linked bar chart reflecting the total Contract scope by major phase of Work, area and key activities.	8	Monthly
Level 3 – Control EPC Schedule	Level 3 schedule is a comprehensive Engineering, Procurement, Construction, Startup Contract schedule containing the complete scope in a level of detail commensurate with providing management the optimum plan for the Work and Project supervision a roadmap for implementing the schedule. The Level 3 schedule shall include sufficient information on priorities, progress, potential problems, changes, impacts and recovery planning to enable Contractor to manage and control the schedule	10	Monthly

Level 4 – Fragnet	As needed per Project specific activities	As needed	As needed
Level 5 – Engineering Implementation Schedules	Level 5 schedule shall provide the detail schedule of Engineering scope at the drawing, specification and task level. The details of Level 5 shall be consistent with the Level 3 schedule relating to timing requirements. The Level 5 schedule shall enable statusing of scope, job hour budgets, productivity, and provides the status for updating the Level 3 schedule.	12	Bi-weekly
Level 5 – Procurement Implementation Schedules	Level 5 schedule will be driven by Level 3 Control Schedule requirements providing detail schedule of Procurement and Subcontract scope. Includes detail scheduling of P.O. and Subcontract BEA cycles and delivery information. Provides status for updating the Level 3 schedule	12	Bi-weekly
Level 5 – Constrcution Implementation Schedules	Detailed construction schedules shall include a four week rolling schedule defining current construction Work scope based on demand from the Level 3 schedule with one week of actuals plus a three week look-ahead. It shall be oriented by facility, commodity and Work operation. This schedule shall include resources, actual and forecast quantities, and identification of any resource, material or engineering restraints to performing the Work and provides status back to the Level 3 schedule.	12	Weekly
Work Front Analysis	Work Front Analysis shall be one of the key construction planning and scheduling tools deployed on the Project. It is a Level 4 construction schedule.	12	Bi-weekly
Pre-Comm, Commissioning and Startup Implementation Schedule	A detail schedule of pre-commissioning, commissioning, startup, testing, operational and related activities for all systems. Generally prepared on a four week rolling basis. It is oriented by startup system and includes resources, actual and forecast quantities and identification of any resource, material or engineering restraints to performing the Work and provides status back to the Level 3 schedule.	Phased, based on Project requirements	Weekly

System Completion Punch List	A Punchlist of remaining construction activities required to complete prior to turnover of a system to Startup.	Phased, based on Project requirements	Weekly
System Completion Exceptions List	A listing of incomplete, defined system/subsystem scope at the time of turnover to Startup to be completed by Construction prior to Operational Acceptance.	Phased, based on Project requirements	Weekly