The Knowledge Leader for Project Success

Owners • Contractors • Academics

10-10 Program – Front End Planning Questionnaire

Industrial Projects

Instructions

This questionnaire is for the Front End Planning (FEP) phase. The starting point of the Front End Planning phase is the **identification of a single project concept** and the establishment of a dedicated project team. Front End Planning concludes at **full funding authorization** for the detailed design and construction of the project.

Each questionnaire includes three sections. The first section focuses on general project information such as project location, nature, and selected delivery method. The second section addresses input measures by asking various types of questions such as those requiring yes/no and sliding-scale (Likert-scale) responses (i.e., from 'strongly agree' to 'strongly disagree'). The final (third) section asks project outputs such as cost, schedule, and capacity. In the questionnaire, for the terms marked with an *asterisk (*)*, additional description is available in the Appendix.

The questionnaire is designed to be **completed by members of the project's management team**. If you are a member of this team, please answer the following questions to the best of your ability. If you are unable to answer a particular question, leave it blank and move to the next question. Remember, some of these questions are intentionally subjective by design.

All data provided for the survey by participating individuals and organizations are considered confidential. These data will not be viewed by any party other than CII staff members.

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Should you have any questions about the 10-10 Performance Assessment Campaign, please contact Dr. Daniel Oliveira via e-mail (Daniel.Oliveira@cii.utexas.edu) or by phone at (512) 232-3050.

The Performance Assessment Committee thanks you for your participation in this very important industry initiative!

CII Performance Assessment Committee

I. General Information

Your Company Name:

Your Name:

Project Name:

Owner Company Name:

Project Construction Location: City: _____, (State or Province): _____, Country: _____

Lead Construction Contractor:

Lead Engineering Office Location: City: _____, (State or Province): _____, Country: _____

Lead Engineering Contractor:

Currency:

Unit System: ( ) Imperial ( ) Metric

Exchange Rate: 1 USD =

Midpoint of Actual Phase (Front End Planning) (mm/dd/yyyy)

Closest Cost Index Location: City: _____, (State or Province): _____, Country: _____

Project Type

( ) Chemical Manufacturing
( ) Environmental
( ) Mining
( ) Natural Gas Processing
( ) Oil Refining
( ) Oil Sands SAGD
( ) Cogeneration
( ) Automotive Manufacturing
( ) Foods
( ) Office Products Manufacturing
( ) Pharmaceutical Labs
( ) Other Industrial
( ) Electrical (Generating)
( ) Metals Refining/Processing
( ) Trailing
( ) Oil/Gas Exploration/Production (well-site)
( ) Oil Sands Mining/Extraction
( ) Oil Sands Upgrading
( ) Pulp and Paper
( ) Consumer Products Manufacturing
( ) Microelectronics Manufacturing
( ) Pharmaceutical Manufacturing
( ) Clean Room

Project Nature

Grass Roots, Greenfield ( ) Brownfield (co-locate) ( ) Addition, Expansion ( )

Modernization, Renovation, Upgrade ( )

Project Delivery Method

( )	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
( )	Design-Build (EPC)	Owner contracts with Design-Build (EPC) contractor.
( )	CM at Risk	Owner contracts with designers and construction manager (CM). CM holds the contracts.
( )	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.

[Contractor Only] Which phase(s) did your company participate in on this project? (check all that apply)

( ) FEP ( ) Engineering ( ) Procurement ( ) Construction ( ) Startup & Commissioning

Project Description

Please briefly describe this project (i.e., what does the facility produce (?), what is its scope (?))

Did this project use PDRI? ◘ **YES** ◘ **NO**

If yes, was the PDRI externally facilitated? ◘ **YES** ◘ **NO**

If yes, what was the total PDRI score at Full Funding Authorization?

What was the average project management team* size (in FTE)? What was the maximum project management team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

II. Input Measures

1. Your Cumulative Years of Experience in Capital Projects: _____

2. Are you the Project Manager? ◘ YES ◘ NO

3. The complexity of this project was very high based on its (check all that apply):
   ( ) Size ( ) Schedule ( ) Contract strategy ( ) Location
   ( ) Technology risks ( ) Process scope ( ) Diversity of project team ( ) Supply chain reliability
   Other (specify): _____

4. A robust, formal stage-gate process was rigorously followed for this project.

Robust Process, No Rigor	No Process, No Rigor	Robust Process, Rigor
◘	◘	◘

5. What percentage of engineering was completed prior to full funding authorization?
   _____ %

6. Was there a formal, documented constructability plan during Front End Planning?
   - ◘ Yes, there was a formal documented constructability plan.
   - ◘ Yes, there was a constructability plan, but not formally documented.
   - ◘ No, there was no constructability plan.

7. Please characterize how project meetings were conducted (check all that apply).
   - ◘ Including appropriate representation of stakeholders, i.e., the 'right' people are present
   - ◘ Effective mechanisms for resolving project related issues (as measured by pre-planning, time, content, documentation, follow-up, etc.)
   - ◘ Occurring with a frequency that meets the project's needs
   - ◘ Having meaningful output that justifies my time investment.

8. Which of the following statements characterized the decisions made by the manager(s) of this project? (check all that apply).
   - ◘ Considered final and not revisited
   - ◘ Collaborative and inclusive
   - ◘ Made at the lowest appropriate level in the organization
   - ◘ Communicated promptly to the team
   - ◘ Made in a timely and effective manner
   - ◘ Consistent with the delegation of authority

9. Was there a formal (documented in writing) change management process for this project?
   - ◘ Yes, a formal, documented change management process existed
   - ◘ Yes, there was a process, but it was not formal nor documented
   - ◘ No change management process existed

10. Was a life cycle cost analysis completed for this project? ◘ **YES** ◘ **NO**

If yes, which of the following were considered? (please check all that apply)

◘ Carbon Footprint Measurement ◘ Energy Optimization

◘ Waste Minimization ◘ Sustainability Certification

	Yes	No
11. Did Front End Planning incorporate community relations issues?	◘	◘
12. Was the owner's project manager assigned at the beginning of Front End Planning?	◘	◘
13. Was the construction manager assigned during Front End Planning?	◘	◘
14. Was the engineering manager assigned during Front End Planning?	◘	◘
15. Was the lead scheduler assigned during Front End Planning?	◘	◘
16. Was the cost engineer assigned during Front End Planning?	◘	◘
17. The project had integrated peer reviews during Front End Planning.	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
18. The Front End Planning process included sufficient resources necessary to adequately define the scope.	◘	◘	◘	◘	◘
19. The owner level of involvement was appropriate.	◘	◘	◘	◘	◘
20. The project team members were familiar with the project execution plan (PEP) and they used it to manage their work.	◘	◘	◘	◘	◘
21. The procurement strategy and plan were developed and communicated to the project team during Front End Planning.	◘	◘	◘	◘	◘
22. The project team was well aligned in terms of the owner's objectives, needs and expectations.	◘	◘	◘	◘	◘
23. The project execution plan supported the objectives of this project.	◘	◘	◘	◘	◘
24. The Front End Planning process adapted to changes in project objectives or market conditions.	◘	◘	◘	◘	◘
25. The equipment procurement and vendor schedules were not a significant challenge during Front End Planning on this project.	◘	◘	◘	◘	◘
26. The project had an effective risk identification and management process.	◘	◘	◘	◘	◘
27. Preassembly*, prefabrication*, modularization*, and offsite fabrication* were thoroughly evaluated during Front End Planning.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
28. A formal startup execution plan was developed which incorporated operations and maintenance philosophy.	◘	◘	◘	◘	◘
29. Project management team* members were clear about their roles and how to work with others on the project.	◘	◘	◘	◘	◘
30. The project team including project manager(s) had skills and experiences with similar projects / processes.	◘	◘	◘	◘	◘
31. The project management team* was adequately staffed.	◘	◘	◘	◘	◘
32. People on this project worked effectively as a team.	◘	◘	◘	◘	◘
33. The project experienced a minimum number of project management team* personnel changes	◘	◘	◘	◘	◘
34. The interfaces between project stakeholders were well managed.	◘	◘	◘	◘	◘
35. Key project team members understood the owner's goals and objectives of this project.	◘	◘	◘	◘	◘
36. All of the necessary, relevant project team members were involved in the risk assessment process.	◘	◘	◘	◘	◘
37. Project leaders recognized and rewarded outstanding personnel and results.	◘	◘	◘	◘	◘
38. Leadership effectively communicated business objectives, priorities, and project goals.	◘	◘	◘	◘	◘
39. Project leaders were open to hearing "bad news", and they wanted input from project team members.	◘	◘	◘	◘	◘
40. The project management team* maintained open and effective communication.	◘	◘	◘	◘	◘
41. Project team members had the information they needed to do their jobs effectively.	◘	◘	◘	◘	◘
42. Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	◘	◘	◘	◘	◘
43. A high degree of trust, respect and transparency existed amongst companies working on this project.	◘	◘	◘	◘	◘
44. The project's startup objectives were appropriately communicated to the relevant project team members.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
45. The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	◘	◘	◘	◘	◘
46. When issues arose, there were effective mechanisms to ensure they were resolved.	◘	◘	◘	◘	◘
47. Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Front End Planning is in compliance.	◘	◘	◘	◘	◘
48. The project team members attended sufficient professional training directly related to their Front End Planning work.	◘	◘	◘	◘	◘

III. Output Measures

1. Please provide the estimated and actual phase (Front End Planning) cost.

Estimated Cost ($)	Actual Cost ($)

2. Please provide the ***forecasted*** total project cost and duration.

Cost: $	Duration: weeks

3. Please provide the total number of major equipment* items

piece count

4. Please provide the estimated and actual phase (FEP) start and end dates

Estimated Schedule (mm/dd/yyyy)		Actual Schedule (mm/dd/yyyy)	
Start	Stop	Start	Stop

5. What is the ***forecasted*** name plate capacity of the facility?

Product Name		
Name Plate Capacity	Unit (e.g., tons/day, BOE/day)	
	Capacity	

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10-10 Program – Engineering Questionnaire

Industrial Projects

Instructions

This questionnaire is for the Engineering phase. The starting point of the Engineering phase is the beginning of **detailed design activity**. Engineering concludes with the **completion of all plans and specifications** for the project.

Each questionnaire includes three sections. The first section focuses on general project information such as project location, nature, and selected delivery method. The second section addresses input measures by asking various types of questions such as those requiring yes/no and sliding-scale (Likert-scale) responses (i.e., from 'strongly agree' to 'strongly disagree'). The final (third) section asks project outputs such as cost, schedule, and capacity. In the questionnaire, for the terms marked with an *asterisk (*)*, additional description is available in the Appendix.

The questionnaire is designed to be **completed by members of the project's management team**. If you are a member of this team, please answer the following questions to the best of your ability. If you are unable to answer a particular question, leave it blank and move to the next question. Remember, some of these questions are intentionally subjective by design.

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The Performance Assessment Committee thanks you for your participation in this very important industry initiative!

CII Performance Assessment Committee

I. General Information

Your Company Name:

Your Name:

Project Name:

Owner Company Name:

Project Construction Location: City: _____, (State or Province): _____, Country: _____

Lead Construction Contractor:

Lead Engineering Office Location: City: _____, (State or Province): _____, Country: _____

Lead Engineering Contractor:

Currency:

Unit System: ( ) Imperial ( ) Metric

Exchange Rate: 1 USD =

Midpoint of Actual Phase (Engineering) (mm/dd/yyyy)

Closest Cost Index Location: City: _____, (State or Province): _____, Country: _____

Project Type

( ) Chemical Manufacturing
( ) Environmental
( ) Mining
( ) Natural Gas Processing
( ) Oil Refining
( ) Oil Sands SAGD
( ) Cogeneration
( ) Automotive Manufacturing
( ) Foods
( ) Office Products Manufacturing
( ) Pharmaceutical Labs
( ) Other Industrial
( ) Electrical (Generating)
( ) Metals Refining/Processing
( ) Trailing
( ) Oil/Gas Exploration/Production (well-site)
( ) Oil Sands Mining/Extraction
( ) Oil Sands Upgrading
( ) Pulp and Paper
( ) Consumer Products Manufacturing
( ) Microelectronics Manufacturing
( ) Pharmaceutical Manufacturing
( ) Clean Room

Project Nature

Grass Roots, Greenfield ( ) Brownfield (co-locate) ( ) Addition, Expansion ( )

Modernization, Renovation, Upgrade ( )

Project Delivery Method

( )	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
( )	Design-Build (EPC)	Owner contracts with Design-Build (EPC) contractor.
( )	CM at Risk	Owner contracts with designers and construction manager (CM). CM holds the contracts.
( )	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.

Primary Contract Type for Detail Design / Engineering

( ) Lump Sum	( ) Unit Price
( ) Cost Reimbursable	( ) Guaranteed Maximum Price (GMP)

[Contractor Only] Which phase(s) did your company participate in on this project? (check all that apply)

( ) FEP ( ) Engineering ( ) Procurement ( ) Construction ( ) Startup & Commissioning

Project Description

Please briefly describe this project (i.e., what does the facility produce (?), what is its scope (?))

What was the average engineering team size (in FTE) and the maximum engineering team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

What was the average project management team* size (in FTE)? What was the maximum project management team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

II. Input Measures

1. Your Cumulative Years of Experience in Capital Projects: _____

2. Are you the Project Manager? ◘ YES ◘ NO

3. The complexity of this project was very high based on its (check all that apply):
   ( ) Size ( ) Schedule ( ) Contract strategy ( ) Location
   ( ) Technology risks ( ) Process scope ( ) Diversity of project team ( ) Supply chain reliability
   Other (specify): _____

4. Did the major project objectives change during Engineering?

Yes (Major Change)	Yes (Minor Change)	No
◘	◘	◘

5. This project used the following engineering, standards and specifications. (Please check all that apply)
   - ◘ Existing owner standards
   - ◘ Existing engineering contracting company standard
   - ◘ Published industry standard

6. This project experienced a high number of (please check all that apply):
   - ◘ Scope change / creep
   - ◘ Deviation notices
   - ◘ Major equipment* list changes
   - ◘ Project development changes
   - ◘ Non-conformance reports
   - ◘ Program changes

7. Please characterize how project meetings were conducted (check all that apply).
   - ◘ Including appropriate representation of stakeholders, i.e., the 'right' people are present
   - ◘ Effective mechanisms for resolving project related issues (as measured by pre-planning, time, content, documentation, follow-up, etc.)
   - ◘ Occurring with a frequency that meets the project's needs
   - ◘ Having meaningful output that justifies my time investment.

8. Which of the following statements characterized the decisions made by the manager(s) of this project? (check all that apply).
   - ◘ Considered final and not revisited
   - ◘ Collaborative and inclusive
   - ◘ Made at the lowest appropriate level in the organization
   - ◘ Communicated promptly to the team
   - ◘ Made in a timely and effective manner
   - ◘ Consistent with the delegation of authority

9. Was a life cycle cost analysis completed for this project? ◘ **YES** ◘ **NO**

If yes, which of the following were considered? (please check all that apply)

◘ Carbon Footprint Measurement ◘ Energy Optimization

◘ Waste Minimization ◘ Sustainability Certification

10. What percentage of Engineering was completed prior to the start of construction?

[ ] %

	Yes	No
11. Was the construction manager involved during Detailed Design / Engineering?	◘	◘
12. Were multiple design offices used on this project?	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
13. The owner level of involvement was appropriate.	◘	◘	◘	◘	◘
14. The project team members were familiar with the project execution plan (PEP) and they used it to manage their work.	◘	◘	◘	◘	◘
15. The procurement strategy and plan were communicated to the project team during Engineering.	◘	◘	◘	◘	◘
16. The project objective and priorities were clearly defined.	◘	◘	◘	◘	◘
17. The equipment procurement and vendor schedules were not a significant challenge for this project during Engineering.	◘	◘	◘	◘	◘
18. Comprehensive constructability suggestions (e.g., preassembly*, prefabrication*, modularization*, and offsite fabrication*) were evaluated and incorporated into the Engineering of the project.	◘	◘	◘	◘	◘
19. A formal startup execution plan including operations and maintenance philosophy was incorporated in Engineering.	◘	◘	◘	◘	◘
20. This project incorporated community relations issues in Engineering.	◘	◘	◘	◘	◘
21. Project management team* members were clear about their roles and how to work with others on the project.	◘	◘	◘	◘	◘
22. Project team members had the authority necessary to do their jobs.	◘	◘	◘	◘	◘
23. The project team including project manager(s) had skills and experiences with similar projects / processes.	◘	◘	◘	◘	◘
24. People on this project worked effectively as a team.	◘	◘	◘	◘	◘
25. The project experienced a minimum number of project management team* personnel changes	◘	◘	◘	◘	◘
26. The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Detailed Design / Engineering.	◘	◘	◘	◘	◘
27. The interfaces between project stakeholders were well managed.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
28. Key project team members understood the owner's goals and objectives of this project.	◘	◘	◘	◘	◘
29. All of the necessary, relevant project team members were involved in an effective risk identification and management process for Engineering.	◘	◘	◘	◘	◘
30. Project leaders recognized and rewarded outstanding personnel and results.	◘	◘	◘	◘	◘
31. Leadership effectively communicated business objectives, priorities, and project goals.	◘	◘	◘	◘	◘
32. Resources were allocated according to project priorities.	◘	◘	◘	◘	◘
33. Project leaders were open to hearing "bad news", and they wanted input from project team members.	◘	◘	◘	◘	◘
34. Project team members had the information they needed to do their jobs effectively.	◘	◘	◘	◘	◘
35. Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	◘	◘	◘	◘	◘
36. A high degree of trust, respect and transparency existed amongst companies working on this project.	◘	◘	◘	◘	◘
37. The project's startup objectives were appropriately communicated to the relevant project team members.	◘	◘	◘	◘	◘
38. The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	◘	◘	◘	◘	◘
39. The number and quality of Design / Engineering personnel was sufficient.	◘	◘	◘	◘	◘
40. When issues arose, there were effective mechanisms to ensure they were resolved.	◘	◘	◘	◘	◘
41. Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Engineering is in compliance.	◘	◘	◘	◘	◘
42. Engineering deliverables were released in a timely manner as a result of a good Engineering work sequence on this project.	◘	◘	◘	◘	◘
43. The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions).	◘	◘	◘	◘	◘
44. The project control system was effective in monitoring project progress in terms of cost, schedule, and scope.	◘	◘	◘	◘	◘
45. A dedicated process was used to proactively manage change on this project.	◘	◘	◘	◘	◘
46. A formal project Quality Management System was used for the Engineering of this project.	◘	◘	◘	◘	◘
47. An interim product database and/or standardized designs were used extensively in the Engineering of this project.	◘	◘	◘	◘	◘
48. The project team members attended sufficient professional training directly related to their Engineering work.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
49. The customer was satisfied with the Engineering phase deliverables.	◘	◘	◘	◘	◘
50. The cost of quality* was determined during the Engineering phase of this project.	◘	◘	◘	◘	◘

III. Output Measures

1. Please provide the estimated and actual phase (Engineering) cost.

Estimated Cost ($)	Actual Cost ($)

2. Please provide the ***forecasted*** total project cost and duration.

Cost: $	Duration: weeks

3. Please provide the total number of major equipment*.

piece count

4. Please provide the estimated and actual phase (Engineering) start and end dates

Estimated Schedule (mm/dd/yyyy)		Actual Schedule (mm/dd/yyyy)	
Start	Stop	Start	Stop

5. What is the ***forecasted*** name plate capacity of the facility?

Product Name		
Name Plate Capacity	Unit (e.g., tons/day, BOE/day)	
	Capacity	

6. What was the total number of Engineering work hours?

	hours

7. Please provide the IFC (Issued For Construction) quantities.

Total Concrete	( )	cy
Total Structural Steel	( )	ton
Total Wire and Cable	( )	lf
Total Piping	( )	lf
Total Equipment	( )	ton
Instrumentation	( )	I/O counts

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Owners • Contractors • Academics

10-10 Program – Procurement Questionnaire

Industrial Projects

Instructions

This questionnaire is for the Procurement phase. The Procurement phase begins with the **development of a Procurement plan** for the major equipment and a major equipment list. It concludes when **all materials and equipment have been delivered to the site**.

Each questionnaire includes three sections. The first section focuses on general project information such as project location, nature, and selected delivery method. The second section addresses input measures by asking various types of questions such as those requiring yes/no and sliding-scale (Likert-scale) responses (i.e., from 'strongly agree' to 'strongly disagree'). The final (third) section asks project outputs such as cost, schedule, and capacity. In the questionnaire, for the terms marked with an *asterisk (*)*, additional description is available in the Appendix.

The questionnaire is designed to be **completed by members of the project's management team**. If you are a member of this team, please answer the following questions to the best of your ability. If you are unable to answer a particular question, leave it blank and move to the next question. Remember, some of these questions are intentionally subjective by design.

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The Performance Assessment Committee thanks you for your participation in this very important industry initiative!

CII Performance Assessment Committee

I. General Information

Your Company Name:

Your Name:

Project Name:

Owner Company Name:

Project Construction Location: City: _____, (State or Province): _____, Country: _____

Lead Construction Contractor:

Lead Engineering Office Location: City: _____, (State or Province): _____, Country: _____

Lead Engineering Contractor:

Currency:

Unit System: ( ) Imperial ( ) Metric

Exchange Rate: 1 USD =

Midpoint of Actual Phase (Procurement) (mm/dd/yyyy)

Closest Cost Index Location: City: _____, (State or Province): _____, Country: _____

Project Type

- ( ) Chemical Manufacturing
- ( ) Environmental
- ( ) Mining
- ( ) Natural Gas Processing
- ( ) Oil Refining
- ( ) Oil Sands SAGD
- ( ) Cogeneration
- ( ) Automotive Manufacturing
- ( ) Foods
- ( ) Office Products Manufacturing
- ( ) Pharmaceutical Labs
- ( ) Other Industrial
- ( ) Electrical (Generating)
- ( ) Metals Refining/Processing
- ( ) Trailing
- ( ) Oil/Gas Exploration/Production (well-site)
- ( ) Oil Sands Mining/Extraction
- ( ) Oil Sands Upgrading
- ( ) Pulp and Paper
- ( ) Consumer Products Manufacturing
- ( ) Microelectronics Manufacturing
- ( ) Pharmaceutical Manufacturing
- ( ) Clean Room

Project Nature

Grass Roots, Greenfield ( ) Brownfield (co-locate) ( ) Addition, Expansion ( )

Modernization, Renovation, Upgrade ( )

Project Delivery Method

( )	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
( )	Design-Build (EPC)	Owner contracts with Design-Build (EPC) contractor.
( )	CM at Risk	Owner contracts with designers and construction manager (CM). CM holds the contracts.
( )	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.

[Contractor Only] Which phase(s) did your company participate in on this project? (check all that apply)

( ) FEP ( ) Engineering ( ) Procurement ( ) Construction ( ) Startup & Commissioning

Project Description

Please briefly describe this project (i.e., what does the facility produce (?), what is its scope (?))

What was the average procurement team size (in FTE) and the maximum procurement team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

What was the average project management team* size (in FTE)? What was the maximum project management team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

II. Input Measures

1. Your Cumulative Years of Experience in Capital Projects: _____

2. Are you the Project Manager? ◘ YES ◘ NO

3. The complexity of this project was very high based on its (check all that apply):

   ( ) Size ( ) Schedule ( ) Contract strategy ( ) Location

   ( ) Technology risks ( ) Process scope ( ) Diversity of project team ( ) Supply chain reliability

   Other (specify): _____

4. Did the project objectives change during Procurement?

Yes (Major Change)	Yes (Minor Change)	No
◘	◘	◘

5. This project experienced a high number of (please check all that apply):

   ◘ Scope change / creep
   ◘ Deviation notices
   ◘ Major equipment* list changes
   ◘ Project development changes
   ◘ Non-conformance reports
   ◘ Program changes

6. Please characterize how project meetings were conducted (check all that apply).

   ◘ Including appropriate representation of stakeholders, i.e., the 'right' people are present
   ◘ Effective mechanisms for resolving project related issues (as measured by pre-planning, time, content, documentation, follow-up, etc.)
   ◘ Occurring with a frequency that meets the project's needs
   ◘ Having meaningful output that justifies my time investment.

7. Which of the following statements characterized the decisions made by the manager(s) of this project? (check all that apply).

   ◘ Considered final and not revisited
   ◘ Collaborative and inclusive
   ◘ Made at the lowest appropriate level in the organization
   ◘ Communicated promptly to the team
   ◘ Made in a timely and effective manner
   ◘ Consistent with the delegation of authority

8. Was a life cycle cost analysis completed for this project? ◘ **YES** ◘ **NO**

   If yes, which of the following were considered? (please check all that apply)

   ◘ Carbon Footprint Measurement
   ◘ Waste Minimization
   ◘ Energy Optimization
   ◘ Sustainability Certification

		Strongly Disagree		Neutral		Strongly Agree
9.	The owner level of involvement was appropriate.	◘	◘	◘	◘	◘
10.	Preferred suppliers were used effectively to streamline the Procurement process.	◘	◘	◘	◘	◘
11.	The project team members were familiar with the project execution plan (PEP) and they used it to manage their work.	◘	◘	◘	◘	◘
12.	The project objective and priorities were clearly defined.	◘	◘	◘	◘	◘
13.	The Procurement plan adapted to changing market conditions.	◘	◘	◘	◘	◘
14.	The materials management plan for this project appropriately addressed elements such as project goals, responsibility, cost & schedule, and transportation & logistics.	◘	◘	◘	◘	◘
15.	The equipment procurement and vendor schedules were not a significant challenge for this project.	◘	◘	◘	◘	◘
16.	A formal startup execution plan including operations and maintenance philosophy was incorporated in Procurement.	◘	◘	◘	◘	◘
17.	Sustainability was an important consideration for the Procurement phase of this project.	◘	◘	◘	◘	◘
18.	The Procurement plan addressed local content requirements.	◘	◘	◘	◘	◘
19.	Appropriate contingencies were established to address materials and labor cost escalation.	◘	◘	◘	◘	◘
20.	Project management team* members were clear about their roles and how to work with others on the project.	◘	◘	◘	◘	◘
21.	Project team members had the authority necessary to do their jobs.	◘	◘	◘	◘	◘
22.	The project team including project manager(s) had skills and experiences with similar projects / processes.	◘	◘	◘	◘	◘
23.	People on this project worked effectively as a team.	◘	◘	◘	◘	◘
24.	The project experienced a minimum number of project management team* personnel changes	◘	◘	◘	◘	◘
25.	The interfaces between project stakeholders were well managed.	◘	◘	◘	◘	◘
26.	Key project team members understood the owner's goals and objectives of this project.	◘	◘	◘	◘	◘
27.	All of the necessary, relevant project team members were involved in an effective risk identification and management process for Procurement.	◘	◘	◘	◘	◘
28.	Project leaders recognized and rewarded outstanding personnel and results.	◘	◘	◘	◘	◘
29.	Leadership effectively communicates business objectives, priorities, and project goals.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
30. Resources were allocated according to project priorities.	◘	◘	◘	◘	◘
31. Project leaders were open to hearing "bad news", and they wanted input from project team members.	◘	◘	◘	◘	◘
32. The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Procurement.	◘	◘	◘	◘	◘
33. Project team members had the information they needed to do their jobs effectively.	◘	◘	◘	◘	◘
34. Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	◘	◘	◘	◘	◘
35. A high degree of trust, respect and transparency existed amongst companies working on this project.	◘	◘	◘	◘	◘
36. The project's startup objectives were appropriately communicated to the relevant project team members.	◘	◘	◘	◘	◘
37. The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	◘	◘	◘	◘	◘
38. When issues arose, there were effective mechanisms to ensure they were resolved.	◘	◘	◘	◘	◘
39. Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Procurement is in compliance.	◘	◘	◘	◘	◘
40. The project encountered few problems associated with the late delivery of equipment and bulk materials.	◘	◘	◘	◘	◘
41. Site materials management was effective.	◘	◘	◘	◘	◘
42. Major equipment* was delivered complete and on time.	◘	◘	◘	◘	◘
43. Risks were appropriately allocated through effective purchasing agreements.	◘	◘	◘	◘	◘
44. This project implemented a supplier quality surveillance program.	◘	◘	◘	◘	◘
45. The project control system was effective in monitoring project progress in terms of cost, schedule, and scope.	◘	◘	◘	◘	◘
46. A dedicated process was used to proactively manage change on this project.	◘	◘	◘	◘	◘
47. A formal project Quality Management System was used for the Procurement of this project.	◘	◘	◘	◘	◘
48. The project team members attended sufficient professional training directly related to their work in Procurement.	◘	◘	◘	◘	◘
49. The customer was satisfied with the Procurement phase deliverables.	◘	◘	◘	◘	◘
50. The cost of quality* was determined during the Procurement phase of this project.	◘	◘	◘	◘	◘

III. Output Measures

1. How many vendors and suppliers were awarded purchase orders?

2. What was the total number of purchase orders awarded?

3. Please provide the total number of major equipment*.

   piece count

4. Please provide the total cost of major equipment*.

   $

5. Please provide the estimated and actual phase (Procurement) start and end dates

Estimated Schedule (mm/dd/yyyy)		Actual Schedule (mm/dd/yyyy)	
Start	Stop	Start	Stop

6. Please provide the ***forecasted*** total project cost and duration.

   Cost: $

   Duration: weeks

7. What is the ***forecasted*** name plate capacity of the facility?

Product Name		
Name Plate Capacity	Unit (e.g., tons/day, BOE/day)	
	Capacity	

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10-10 Program – Construction Questionnaire

Industrial Projects

Instructions

This questionnaire is for the Construction phase. The Construction phase begins with the **commencement of foundations or driving piles**. It concludes at **mechanical completion**.

Each questionnaire includes three sections. The first section focuses on general project information such as project location, nature, and selected delivery method. The second section addresses input measures by asking various types of questions such as those requiring yes/no and sliding-scale (Likert-scale) responses (i.e., from 'strongly agree' to 'strongly disagree'). The final (third) section asks project outputs such as cost, schedule, and capacity. In the questionnaire, for the terms marked with an *asterisk (*)*, additional description is available in the Appendix.

The questionnaire is designed to be **completed by members of the project's management team**. If you are a member of this team, please answer the following questions to the best of your ability. If you are unable to answer a particular question, leave it blank and move to the next question. Remember, some of these questions are intentionally subjective by design.

All data provided for the survey by participating individuals and organizations are considered confidential. These data will not be viewed by any party other than CII staff members.

You can review the CII Benchmarking Code of Conduct at the following site: https://www.construction-institute.org/scriptcontent/bmm-code.cfm?section=bmm

Should you have any questions about the 10-10 Performance Assessment Campaign, please contact Dr. Daniel Oliveira via e-mail (Daniel.Oliveira@cii.utexas.edu) or by phone at (512) 232-3050.

The Performance Assessment Committee thanks you for your participation in this very important industry initiative!

CII Performance Assessment Committee

I. General Information

Your Company Name:

Your Name:

Project Name:

Owner Company Name:

Project Construction Location: City: _____, (State or Province): _____, Country: _____

Lead Construction Contractor:

Lead Engineering Office Location: City: _____, (State or Province): _____, Country: _____

Lead Engineering Contractor:

Currency:

Unit System: ( ) Imperial ( ) Metric

Exchange Rate: 1 USD =

Midpoint of Actual Phase (Construction) (mm/dd/yyyy)

Closest Cost Index Location: City: _____, (State or Province): _____, Country: _____

Project Type

( ) Chemical Manufacturing
( ) Environmental
( ) Mining
( ) Natural Gas Processing
( ) Oil Refining
( ) Oil Sands SAGD
( ) Cogeneration
( ) Automotive Manufacturing
( ) Foods
( ) Office Products Manufacturing
( ) Pharmaceutical Labs
( ) Other Industrial
( ) Electrical (Generating)
( ) Metals Refining/Processing
( ) Trailing
( ) Oil/Gas Exploration/Production (well-site)
( ) Oil Sands Mining/Extraction
( ) Oil Sands Upgrading
( ) Pulp and Paper
( ) Consumer Products Manufacturing
( ) Microelectronics Manufacturing
( ) Pharmaceutical Manufacturing
( ) Clean Room

Project Nature

Grass Roots, Greenfield ( ) Brownfield (co-locate) ( ) Addition, Expansion ( )

Modernization, Renovation, Upgrade ( )

Project Delivery Method

( )	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
( )	Design-Build (EPC)	Owner contracts with Design-Build (EPC) contractor.
( )	CM at Risk	Owner contracts with designers and construction manager (CM). CM holds the contracts.
( )	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.

Primary Contract Type for Construction

( ) Lump Sum	( ) Unit Price
( ) Cost Reimbursable	( ) Guaranteed Maximum Price (GMP)

[Contractor Only] Which phase(s) did your company participate in on this project? (check all that apply)

( ) FEP ( ) Engineering ( ) Procurement ( ) Construction ( ) Startup & Commissioning

Project Description

Please briefly describe this project (i.e., what does the facility produce (?), what is its scope (?))

What was the average project management team* size (in FTE)? What was the maximum project management team size (in FTE)?

Ave. Team Size (in FTE)		Max. Team Size (in FTE)	

What was the typical foreman to craft ratio?

≤ 5:1	6:1 ~ 8:1	9:1 ~ 12:1	≥13:1
◘	◘	◘	◘

Overall how many workers per safety professional were typically (i.e., in terms of the average workforce) on site?

1 : 20	1 : 21-40	1 : 41-60	1 : 61-100	1: over 101
◘	◘	◘	◘	◘

II. Input Measures

1. Your Cumulative Years of Experience in Capital Projects: _____

2. Are you the Project Manager? ◘ YES ◘ NO

3. The complexity of this project was very high based on its (check all that apply):

   ( ) Size ( ) Schedule ( ) Contract strategy ( ) Location

   ( ) Technology risks ( ) Process scope ( ) Diversity of project team ( ) Supply chain reliability

   Other (specify): _____

4. Did the project objectives change during Construction?

Yes (Major Change)	Yes (Minor Change)	No
◘	◘	◘

5. This project experienced a high number of (please check all that apply):

   ◘ Scope change / creep
   ◘ Deviation notices
   ◘ Major equipment* list changes
   ◘ Project development changes
   ◘ Non-conformance reports
   ◘ Program changes

6. Was a turnaround involved in the scope of this project? ◘ **YES** ◘ **NO**

   (If yes) Construction was well integrated with the turnaround.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
◘	◘	◘	◘	◘

7. Please characterize how project meetings were conducted (check all that apply).

   ◘ Including appropriate representation of stakeholders, i.e., the 'right' people are present
   ◘ Effective mechanisms for resolving project related issues (as measured by pre-planning, time, content, documentation, follow-up, etc.)
   ◘ Occurring with a frequency that meets the project's needs
   ◘ Having meaningful output that justifies my time investment.

8. Which of the following statements characterized the decisions made by the manager(s) of this project? (check all that apply).

   ◘ Considered final and not revisited
   ◘ Collaborative and inclusive
   ◘ Made at the lowest appropriate level in the organization
   ◘ Communicated promptly to the team
   ◘ Made in a timely and effective manner
   ◘ Consistent with the delegation of authority

9. This project used the following methods (please check all that apply):

◘ Plan Percent Complete	◘ Workface Planning/Last Planner
◘ Work Packaging	◘ Subcontractor Prequalification
◘ Ongoing Craft Training Programs	◘ Substance Abuse Testing
◘ Preassembly*	◘ Prefabrication*
◘ Modularization*	◘ Offsite Fabrication*

10. Formal (classroom) safety training was attended:

Monthly	Quarterly	Annually	Initial/once	Never
◘	◘	◘	◘	◘

Was there a formal new hire safety orientation process? ◘ **YES** ◘ **NO**

Did an owner representative participate in the orientation? ◘ **YES** ◘ **NO**

	Yes	No
11. Did the original primary contractor(s) complete the project?	◘	◘
12. Was safety performance a criterion for contractor and subcontractor selection?	◘	◘
13. Were safety toolbox meetings held daily?	◘	◘
14. Were accidents including near misses formally investigated?	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
15. The availability and competency of craft labor was adequate.	◘	◘	◘	◘	◘
16. The owner level of involvement was appropriate.	◘	◘	◘	◘	◘
17. The owner and primary contractor(s) maintain a long-standing partnering arrangement.	◘	◘	◘	◘	◘
18. The project team members were familiar with the project execution plan (PEP) and they used it to manage their work.	◘	◘	◘	◘	◘
19. A formal startup execution plan including operations and maintenance philosophy was incorporated in Construction.	◘	◘	◘	◘	◘
20. The work planning and scheduling processes were effective.	◘	◘	◘	◘	◘
21. Project cash flow was managed well during Construction.	◘	◘	◘	◘	◘
22. The Construction execution plan addressed community relations issues.	◘	◘	◘	◘	◘
23. The project team including project manager(s) had skills and experiences with similar projects / processes.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
24. The project experienced a minimum number of project management team* personnel changes	◘	◘	◘	◘	◘
25. All of the necessary, relevant project team members were involved in an effective risk identification and management process for Construction.	◘	◘	◘	◘	◘
26. Project safety procedures were well defined and strictly followed.	◘	◘	◘	◘	◘
27. Project management team* members were clear about their roles and how to work with others on the project.	◘	◘	◘	◘	◘
28. Subcontractors provided the majority of the Construction craft workers.	◘	◘	◘	◘	◘
29. People on this project worked effectively as a team.	◘	◘	◘	◘	◘
30. Key project team members understood the owner's goals and objectives of this project.	◘	◘	◘	◘	◘
31. The interfaces between project stakeholders were well managed.	◘	◘	◘	◘	◘
32. Engineering deliverables were released in a timely manner and in a proper sequence.	◘	◘	◘	◘	◘
33. Project team members had the authority necessary to do their jobs.	◘	◘	◘	◘	◘
34. This project experienced a minimum amount of labor disruption.	◘	◘	◘	◘	◘
35. The owner and primary contractor(s) maintained positive working relationships.	◘	◘	◘	◘	◘
36. Leadership effectively communicated business objectives, priorities, and project goals.	◘	◘	◘	◘	◘
37. The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Construction.	◘	◘	◘	◘	◘
38. Project leaders were open to hearing "bad news", and they wanted input from project team members.	◘	◘	◘	◘	◘
39. Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	◘	◘	◘	◘	◘
40. The project's startup objectives were appropriately communicated to the relevant project team members.	◘	◘	◘	◘	◘
41. Resources were allocated according to project priorities.	◘	◘	◘	◘	◘
42. A high degree of trust, respect and transparency existed amongst companies working on this project.	◘	◘	◘	◘	◘
43. The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	◘	◘	◘	◘	◘
44. Project team members had the information they needed to do their jobs effectively.	◘	◘	◘	◘	◘
45. Project leaders recognized and rewarded outstanding personnel and results.	◘	◘	◘	◘	◘
46. The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions).	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
47. When issues arose, there were effective mechanisms to ensure they were resolved.	◘	◘	◘	◘	◘
48. The project encountered few problems associated with the late delivery of equipment and bulk materials.	◘	◘	◘	◘	◘
49. A dedicated process was used to proactively manage change on this project.	◘	◘	◘	◘	◘
50. A formal project Quality Management System was used on this project.	◘	◘	◘	◘	◘
51. Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Construction is in compliance.	◘	◘	◘	◘	◘
52. Site materials management was effective.	◘	◘	◘	◘	◘
53. The project employed regular safety audits or observations.	◘	◘	◘	◘	◘
54. Materials and equipment were typically received on time, without damage, and per design specification.	◘	◘	◘	◘	◘
55. The project team members attended sufficient professional training directly related to their work in Construction.	◘	◘	◘	◘	◘
56. The customer was satisfied with the Construction phase deliverables.	◘	◘	◘	◘	◘
57. The cost of quality* was determined during the Construction phase of this project.	◘	◘	◘	◘	◘
58. Sustainability was an important consideration for the Construction phase of this project.	◘	◘	◘	◘	◘

III. Output Measures

1. Please provide the ***forecasted*** total project cost and duration.

Cost: $	Duration: weeks

2. Please provide the estimated and actual phase (Construction) start and end dates

Estimated Schedule (mm/dd/yyyy)		Actual Schedule (mm/dd/yyyy)	
Start	Stop	Start	Stop

3. Please provide the total number of major equipment*.

piece count

4. Please provide the number of cases.

Medical Treatment	(	)
Days Away	(	)
Job Restriction or Transfer	(	)

5. What was the average and peak Construction craft workforce?

Ave. Craft Workforce		Max./Peak Craft Workforce	

6. Excluding the major equipment* cost, please provide the estimated and actual phase (Construction) cost.

Estimated Cost ($)	Actual Cost ($)

7. What is the forecasted name plate capacity of the facility?

Product Name		
Name Plate Capacity	Unit (e.g., tons/day, BOE/day)	
	Capacity	

8. What was the total number of Construction work hours?

	hours

9. Please provide the IFC (Issued For Construction) quantities.

Total Concrete	( )	cy
Total Structural Steel	( )	ton
Total Wire and Cable	( )	lf
Total Piping	( )	lf
Total Equipment	( )	ton
Instrumentation	( )	I/O counts

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10-10 Program – Startup Questionnaire

Industrial Projects

Instructions

This questionnaire is for the Startup phase. The Startup phase begins at **mechanical completion** and concludes with **custody transfer to user/operator** for steady state operation.

Each questionnaire includes three sections. The first section focuses on general project information such as project location, nature, and selected delivery method. The second section addresses input measures by asking various types of questions such as those requiring yes/no and sliding-scale (Likert-scale) responses (i.e., from 'strongly agree' to 'strongly disagree'). The final (third) section asks project outputs such as cost, schedule, and capacity. In the questionnaire, for the terms marked with an *asterisk (*)*, additional description is available in the Appendix.

The questionnaire is designed to be **completed by members of the project's management team or startup team**. If you are a member of one of these teams, please answer the following questions to the best of your ability. If you are unable to answer a particular question, leave it blank and move to the next question. Remember, some of these questions are intentionally subjective by design.

All data provided for the survey by participating individuals and organizations are considered confidential. These data will not be viewed by any party other than CII staff members.

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The Performance Assessment Committee thanks you for your participation in this very important industry initiative!

CII Performance Assessment Committee

I. General Information

Your Company Name:

Your Name:

Project Name:

Owner Company Name:

Project Construction Location: City: _____, (State or Province): _____, Country: _____

Lead Construction Contractor:

Lead Engineering Office Location: City: _____, (State or Province): _____, Country: _____

Lead Engineering Contractor:

Currency:

Unit System: ( ) Imperial ( ) Metric

Exchange Rate: 1 USD =

Midpoint of Actual Phase (Startup) (mm/dd/yyyy)

Closest Cost Index Location: City: _____, (State or Province): _____, Country: _____

Project Type

( ) Chemical Manufacturing
( ) Environmental
( ) Mining
( ) Natural Gas Processing
( ) Oil Refining
( ) Oil Sands SAGD
( ) Cogeneration
( ) Automotive Manufacturing
( ) Foods
( ) Office Products Manufacturing
( ) Pharmaceutical Labs
( ) Other Industrial
( ) Electrical (Generating)
( ) Metals Refining/Processing
( ) Trailing
( ) Oil/Gas Exploration/Production (well-site)
( ) Oil Sands Mining/Extraction
( ) Oil Sands Upgrading
( ) Pulp and Paper
( ) Consumer Products Manufacturing
( ) Microelectronics Manufacturing
( ) Pharmaceutical Manufacturing
( ) Clean Room

Project Nature

Grass Roots, Greenfield ( ) Brownfield (co-locate) ( ) Addition, Expansion ( )

Modernization, Renovation, Upgrade ( )

Project Delivery Method

( )	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
( )	Design-Build (EPC)	Owner contracts with Design-Build (EPC) contractor.
( )	CM at Risk	Owner contracts with designers and construction manager (CM). CM holds the contracts.
( )	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.

[Contractor Only] Which phase(s) did your company participate in on this project? (check all that apply)

( ) FEP ( ) Engineering ( ) Procurement ( ) Construction ( ) Startup & Commissioning

Project Description

Please briefly describe this project (i.e., what does the facility produce (?), what is its scope (?))

What was the average startup management team* size (in FTE)?

Ave. Team Size (in FTE)	

II. Input Measures

1. Your Cumulative Years of Experience in Capital Projects: _____

2. Are you the Project Manager? ◘ YES ◘ NO

3. The complexity of this project was very high based on its (check all that apply):

   ( ) Size ( ) Schedule ( ) Contract strategy ( ) Location

   ( ) Technology risks ( ) Process scope ( ) Diversity of project team ( ) Supply chain reliability

   Other (specify): _____

4. Was a turnaround involved in the scope of this project? ◘ **YES** ◘ **NO**

   (If yes) Startup was well integrated with the turnaround.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
◘	◘	◘	◘	◘

5. Please characterize how project meetings were conducted (check all that apply).
   - ◘ Including appropriate representation of stakeholders, i.e., the 'right' people are present
   - ◘ Effective mechanisms for resolving project related issues (as measured by pre-planning, time, content, documentation, follow-up, etc.)
   - ◘ Occurring with a frequency that meets the project's needs
   - ◘ Having meaningful output that justifies my time investment.

6. Which of the following statements characterized the decisions made by the manager(s) of this project? (check all that apply).
   - ◘ Considered final and not revisited
   - ◘ Collaborative and inclusive
   - ◘ Made at the lowest appropriate level in the organization
   - ◘ Communicated promptly to the team
   - ◘ Made in a timely and effective manner
   - ◘ Consistent with the delegation of authority

	Yes	No
7. Was there a written, Startup-specific safety plan for this project?	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
8. The owner level of involvement was appropriate.	◘	◘	◘	◘	◘
9. A formal Startup execution plan including the impact to operations and maintenance was implemented.	◘	◘	◘	◘	◘
10. The Startup planning and scheduling processes were effective.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
11. The Startup plan addressed community relations issues.	◘	◘	◘	◘	◘
12. The Startup team had skills and experiences with similar projects / processes.	◘	◘	◘	◘	◘
13. The project experienced a minimum number of Startup team personnel* changes.	◘	◘	◘	◘	◘
14. All of the necessary, relevant Startup team members were involved in an effective risk identification and management process for Startup.	◘	◘	◘	◘	◘
15. Startup management team* members were clear about their roles and how to work with others during Startup.	◘	◘	◘	◘	◘
16. People on this project worked effectively as a team.	◘	◘	◘	◘	◘
17. Key startup management team* members understood the owner's goals and objectives of this project.	◘	◘	◘	◘	◘
18. Startup management team* members had the authority necessary to do their jobs.	◘	◘	◘	◘	◘
19. Leadership effectively communicated Startup goals and priorities.	◘	◘	◘	◘	◘
20. The key stakeholders were fully aligned before and during Startup.	◘	◘	◘	◘	◘
21. Startup leaders were open to hearing "bad news", and they wanted input from Startup team members.	◘	◘	◘	◘	◘
22. Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	◘	◘	◘	◘	◘
23. The project team members were familiar with the startup plan and they used it to manage their work.	◘	◘	◘	◘	◘
24. Resources were allocated according to Startup priorities.	◘	◘	◘	◘	◘
25. A high degree of trust, respect and transparency existed amongst companies working on this project during Startup.	◘	◘	◘	◘	◘
26. The Startup processes and systems supported project success.	◘	◘	◘	◘	◘
27. Startup management team* members had the information they needed to do their jobs effectively.	◘	◘	◘	◘	◘
28. Project leaders recognized and rewarded outstanding personnel and results during Startup.	◘	◘	◘	◘	◘
29. The Startup met the operability and product quality objectives.	◘	◘	◘	◘	◘
30. When issues arose, there were effective mechanisms to ensure they were resolved.	◘	◘	◘	◘	◘
31. A dedicated process was used to proactively manage change during Startup.	◘	◘	◘	◘	◘
32. Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Startup is in compliance.	◘	◘	◘	◘	◘

	Strongly Disagree		Neutral		Strongly Agree
33. The project's Startup processes were explicitly defined, managed, measured, and controlled	◘	◘	◘	◘	◘
34. The startup management team* members attended sufficient professional training directly related to their work.	◘	◘	◘	◘	◘
35. The customer was satisfied with the Startup phase deliverables.	◘	◘	◘	◘	◘
36. The cost of quality* was monitored during the Startup phase of this project.	◘	◘	◘	◘	◘
37. Sustainability was an important consideration for the Startup phase of this project.	◘	◘	◘	◘	◘
38. The project's process safety objectives were appropriately communicated amongst the relevant startup management team* members.	◘	◘	◘	◘	◘
39. Startup safety procedures were well defined and strictly followed.	◘	◘	◘	◘	◘
40. Pre-task planning (including safety) was regularly conducted by foremen and/or other Startup managers.	◘	◘	◘	◘	◘

III. Output Measures

1. Please provide the ***actual*** total project cost and duration.

Cost: $	Duration: weeks

2. Please provide the total number of major equipment*.

piece count

3. Please provide the estimated and actual phase (Startup) start and end dates

Estimated Schedule (mm/dd/yyyy)		Actual Schedule (mm/dd/yyyy)	
Start	Stop	Start	Stop

4. Please provide the estimated and actual phase (Startup) cost.

Estimated Cost ($)	Actual Cost ($)

5. What is the actual name plate capacity of the facility?

Product Name		
Name Plate Capacity	Unit (e.g., tons/day, BOE/day)	
	Capacity	

When Startup was complete, what percentage of name plate capacity was achieved?

	%

6. What was the total number of Startup work hours?

	hours