

## 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 <u>identification of a single project concept</u> and the establishment of a dedicated project team. Front End Planning concludes at <u>full funding authorization</u> 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.

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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 (<u>Daniel.Oliveira@cii.utexas.edu</u>) or by phone at (512) 232-3050.

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

Your Company Name: Your Name:				
Project Name:				
Owner Company Name:				
<b>Project Construction Location:</b>	City:	, (Sta	te c	or Province):, Country:
Lead Construction Contractor:				
Lead Engineering Office Location: Lead Engineering Contractor:	City:	, (Sta	te c	or Province):, Country:
Currency:				
Unit System:	( ) Imperial			( ) Metric
Exchange Rate:	1 USD =			
Midpoint of Actual Phase (Front E	nd Planning) (mm	n/dd/y	′уу)	уу)
Closest Cost Index Location:	City:	, (Sta	te c	or Province):, Country:
Project Type				
( ) Chemical Manufacturing		(	)	Electrical (Generating)
( ) Environmental		(	)	Metals Refining/Processing
( ) Mining		(	)	Trailing
( ) Natural Gas Processing		(	)	Oil/Gas Exploration/Production (well-site)
( ) Oil Refining		(	)	Oil Sands Mining/Extraction
( ) Oil Sands SAGD		(	)	Oil Sands Upgrading
( ) Cogeneration		(	)	Pulp and Paper
( ) Automotive Manufacturing		(	)	Consumer Products Manufacturing
( ) Foods		(	)	Microelectronics Manufacturing
( ) Office Products Manufacturing	ıg	(	)	Pharmaceutical Manufacturing
( ) Pharmaceutical Labs		(	)	Clean Room
( ) Other Industrial				
Project Nature				
Grass Roots, Greenfield ( )  Modernization, Renovation, Upgrad	Brownfield (co	o-loca	ate)	Addition, Expansion ( )

<u>Proj</u>	ject	: 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.						
[Co	ont	ractor Only] Which phas	se(s) did your company participate in on this project? (check all that apply)						
(	) F	FEP ( ) Engineering	( ) Procurement ( ) Construction ( ) Startup & Commissioning						
-		t <b>Description</b> briefly describe this proj	ect (i.e., what does the facility produce (?), what is its scope (?))						
Did th	nis	project use PDRI?	□ YES □ NO						
lf	yes	s, was the PDRI external	ly facilitated? □ YES □ NO						
lf	yes	s, what was the total PDF	RI score at Full Funding Authorization?						
	L								
			anagement team* size (in FTE)? What was the maximum project management						
team	siz	e (in FTE)?							
		Ave. Team Size (in FTE	) Max. Team Size (in FTE)						

	I.	In	put	<b>Measures</b>
--	----	----	-----	-----------------

1.	Your Cu	umulative Years of Experier	nce in Capital Projects:	
2.	Are you	the Project Manager?	□ YES □ NC	
	( ) Size ( ) Tecl	` ,	dule ( ) Contract sess scope ( ) Diversity	strategy ( ) Location of project team ( ) Supply chain reliability
4.	A robus	t, formal stage-gate proces	s was rigorously followed f	or this project.
	R	obust Process, No Rigor	No Process, No Rigor	Robust Process, Rigor
		0		
6.	Was the		I documented constructabi	lity plan.
	0		ructability plan, but not forn ructability plan.	nally documented.
7.	Please o	Effective mechanisms f content, documentation Occurring with a freque	epresentation of stakeholde or resolving project related	ers, i.e., the 'right' people are present l issues (as measured by pre-planning, time, s needs
8.		all that apply).  Considered final and no	ot revisited	s made by the manager(s) of this project?
9.	Was the	Communicated promptl Made in a timely and ef Consistent with the dele ere a formal (documented in Yes, a formal, documen	fective manner egation of authority	nent process for this project? process existed
	•	No change managemer	nt process existed	

		arbon Footprint Measurement aste Minimization		Energy Optimization Sustainability Certifica	ation				
							Yes		No
11.	Did Front End F	Planning incorporate community relati	tions is	ssues?					
12.	Was the owner	s project manager assigned at the be	eginni	ng of Front End Plann	ing?				
13.	Was the constru	uction manager assigned during Fron	nt End	Planning?			•		
14.	Was the engine	eering manager assigned during Fron	nt End	Planning?			•		
15.	Was the lead so	cheduler assigned during Front End F	Planni	ng?			•		
16.	Was the cost er	ngineer assigned during Front End Pl	Plannin	g?			•		
17.	The project had	I integrated peer reviews during Front	nt End	Planning.			•		
					Strongly Disagree		Neutral	;	Strongly Agree
18.		Planning process included sufficient fine the scope.	nt resou	urces necessary to					
19.	The owner lev	el of involvement was appropriate.			0		0		
20.	•	am members were familiar with the pr y used it to manage their work.	oroject	execution plan	0		0		
21.	•	ent strategy and plan were developed uring Front End Planning.	ed and	communicated to the	0	٥	•		
22.	The project tea	am was well aligned in terms of the orons.	owner's	s objectives, needs	0	•	D	•	0
23.	The project ex	ecution plan supported the objectives	s of th	is project.	0		D		
24.	The Front End market condition	Planning process adapted to change ons.	ges in p	project objectives or			D		
25.	•	t procurement and vendor schedules ng Front End Planning on this project		not a significant			•		
26.	The project ha	d an effective risk identification and n	manaç	gement process.	0		•		
27.		, prefabrication*, modularization*, and aluated during Front End Planning.	nd offsi	te fabrication* were			•		

■ YES

□ NO

10. Was a life cycle cost analysis completed for this project?

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

		Strongly Disagree		Neutral	8	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.			•		0
30.	The project team including project manager(s) had skills and experiences with similar projects / processes.	0			•	0
31.	The project management team* was adequately staffed.	•		0		
32.	People on this project worked effectively as a team.			•	•	0
33.	The project experienced a minimum number of project management team* personnel changes	0	•	•	•	0
34.	The interfaces between project stakeholders were well managed.		•	•	•	0
35.	Key project team members understood the owner's goals and objectives of this project.	0		0		0
36.	All of the necessary, relevant project team members were involved in the risk assessment process.			•		0
37.	Project leaders recognized and rewarded outstanding personnel and results.	0			•	0
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.	0			•	
40.	The project management team* maintained open and effective communication.	0	•		•	
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.			0		
43.	A high degree of trust, respect and transparency existed amongst companies working on this project.			0		
44.	The project's startup objectives were appropriately communicated to the relevant project team members.	0			•	

								Neutral		Strongly Agree	
45.	The project's work proces project controls, business	•	, •		•						
46.	When issues arose, there resolved.	e were effec	tive mechar	nisms to e	ensure they were	Disagree Neutral Ag				0	
47.	Regulatory requirements properly managed and Fr		•		•			0			
48.	The project team membe related to their Front End			rofessiona	ional training directly						
	Output Measures	ted and act	ıal nhasa (F	Front End	Planning) cost						
١.	Please provide the estimated and actual phase (Front End Planning) cost.  Estimated Cost (\$) Actual Cost (\$)										
	Estimated Cos	ι (ψ)		icidal Cos	π (ψ)						
2.	Please provide the <i>forecas</i>	sted total pro	oiect cost a	nd duratio	on.						
	Cost: \$	<u></u>	,		Duration:			wee	ks		
3.	Please provide the total nu	umber of ma	ajor equipmo	ent* items	3						
	pi	ece count									
4.	Please provide the estimated School		<u> </u>	T .						]	
	Estimated Sched Start	<u> </u>	••••		Actual Schedule (m						
	Otart	31	top		Start	31	ор				
5.	What is the <i>forecasted</i> nar	ne plate cap	pacity of the	e facility?							
	Р	roduct Nam	e								
	Name Plate	Unit (e.g.	, tons/day, I	BOE/day)							
	Capacity		Capacity								
			Japaony								



# 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 <u>detailed design activity</u>. Engineering concludes with the <u>completion of all plans and specifications</u> 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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Your Company Name: Your Name:				
Project Name:				
Owner Company Name:				
Project Construction Location:	City:	, (Sta	te c	or Province):, Country:
Lead Construction Contractor:				
Lead Engineering Office Location: Lead Engineering Contractor:	City:	, (Sta	te d	or Province):, Country:
Currency:				
Unit System:	( ) Imperial			( ) Metric
Exchange Rate:	1 USD =			
Midpoint of Actual Phase (Enginee	ring) (mm/dd/yyy	y)		
Closest Cost Index Location:	City:	, (Sta	te d	or Province):, Country:
Project Type				
( ) Chemical Manufacturing		(	)	Electrical (Generating)
( ) Environmental		(	)	Metals Refining/Processing
( ) Mining		(	)	Trailing
( ) Natural Gas Processing		(	)	Oil/Gas Exploration/Production (well-site)
( ) Oil Refining		(	)	Oil Sands Mining/Extraction
( ) Oil Sands SAGD		(	)	Oil Sands Upgrading
( ) Cogeneration		(	)	Pulp and Paper
( ) Automotive Manufacturing		(	)	Consumer Products Manufacturing
( ) Foods		(	)	Microelectronics Manufacturing
( ) Office Products Manufacturin	g	(	)	Pharmaceutical Manufacturing
( ) Pharmaceutical Labs		(	)	Clean Room
( ) Other Industrial				
Project Nature				
Grass Roots, Greenfield ( )	Brownfield (co	o-loca	ate)	) Addition, Expansion ( )
Modernization, Renovation, Upgrad	e ( )			

Projec	ct Delivery Method									
( )	Design-Bid-Build	Serial sequence of design separately with designer a	and construction phases: o	wner contracts						
( )	Design-Build (EPC)	Owner contracts with Des	wner contracts with Design-Build (EPC) contractor.							
( )	CM at Risk	Owner contracts with desi the contracts.	gners and construction man	ager (CM). CM holds						
( )	Parallel Primes	Owner contracts separate	ly with designer and multiple	e prime constructors.						
Prima	ary Contract Type for Det	ail Design / Engineering								
( )	Lump Sum	(	) Unit Price							
( )	Cost Reimbursable	(	) Guaranteed Maximum	Price (GMP)						
[Con	ntractor Only] Which phas	e(s) did your company par	ticipate in on this project? (c	heck all that apply)						
( )	FEP ( ) Engineering	( ) Procurement (	) Construction ( ) Star	tup & Commissioning						
What w	vas the average engineeri	ng team size (in FTE) and t	he maximum engineering te	am size (in FTE)?						
	Ave. Team Size (in FTE	)	Max. Team Size (in FTE)							
	vas the average project maize (in FTE)?	anagement team* size (in F	TE)? What was the maximu	ım project managemeni						
	Ave. Team Size (in FTE	)	Max. Team Size (in FTE)							

	I.	In	put	<b>Measures</b>
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1.	Your Cu	mulative Years of Experier	ce in Capital	Projects: _				
2.	Are you	the Project Manager?	□ YES	■ NO	)			
	( ) Size ( ) Tecl	nplexity of this project was v ( ) Sched nnology risks ( ) Proce ecify):	lule (	) Contract s ) Diversity of	strateg of proj	ect team (	) Locatio ) Supply	n chain reliability
4.	Did the	major project objectives cha	ange during E	Engineering?				_
		Yes ( <u>Major</u> Change)	Yes ( <u>N</u>	<u>/linor</u> Change	)	No	)	
5.	This pro	ject used the following eng	ineering, star	ndards and sp	ecifica	ations. (Pleas	e check a	Il that apply)
		Existing owner standard	•	'		,		11 77
		Existing engineering co	ntracting com	pany standar	d			
	_	Published industry stand	•	. ,				
6.	This pro	ject experienced a high nui	mber of (plea	se check all t	hat ap	ply):		
		Scope change / creep			Proje	ct developme	ent change	es
		Deviation notices			Non-	conformance	reports	
	•	Major equipment* list ch	anges	•		ram changes	•	
7.	Please o	characterize how project me	eetings were	conducted (cl	heck a	ıll that apply).	ı	
		Including appropriate re	presentation	of stakeholde	ers, i.e.	., the 'right' p	eople are	present
	•	Effective mechanisms for content, documentation	or resolving p	roject related			-	•
		Occurring with a freque	ncy that meet	ts the project's	s need	ds		
	•	Having meaningful outp	ut that justifie	es my time inv	estme	ent.		
8.		f the following statements oll that apply).	characterized	the decisions	s made	e by the man	ager(s) of	this project?
		Considered final and no						
		Collaborative and inclus						
	_	Made at the lowest appl	•	•	zation			
	0	Communicated promptly Made in a timely and eff						
	0	Consistent with the dele						

9.	Was a life cycle cost analysis completed for this project?   YES  If yes, which of the following were considered? (please check all that apply)	NO				
	□ Carbon Footprint Measurement □ Energy Optimization	on				
	■ Waste Minimization ■ Sustainability Cert	ificatio	on			
40	What paragraph of Europe spin a vice a complete during to the atom of comptunctions	<b>.</b>				
10.	What percentage of Engineering was completed prior to the start of construction?	?				
	%					
		,	Yes		ı	No
	Was the construction manager involved during Detailed Design / Engineering?		•			
12.	Were multiple design offices used on this project?		•			
	s	Strongly		Neutral	s	Strongly
13.	The owner level of involvement was appropriate.	oisagree •		• • • • • • • • • • • • • • • • • • •	•	Agree
	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.	0		0	•	0
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	8	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.	0				
30.	Project leaders recognized and rewarded outstanding personnel and results.	•	•	•	•	•
31.	Leadership effectively communicated business objectives, priorities, and project goals.	•				0
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.	•				0
34.	Project team members had the information they needed to do their jobs effectively.	•				0
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.				•	D
37.	The project's startup objectives were appropriately communicated to the relevant project team members.	0	•			
38.	The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	0				
39.	The number and quality of Design / Engineering personnel was sufficient.	•	•	•	•	•
40.	When issues arose, there were effective mechanisms to ensure they were resolved.	0				0
41.	Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Engineering is in compliance.	0				
42.	Engineering deliverables were released in a timely manner as a result of a good Engineering work sequence on this project.	0				
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.				•	D
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.					

							Strongl Disagre		Neutra	5	Strongly Agree			
49.	Th	e customer was satisfie	d with the I	Engineering	phase del	iverables.								
50.		e cost of quality* was depict.	etermined (	during the E	ngineering	phase of this	•	•	•	•	•			
III.	Οι	ıtput Measures												
1.	Plea	ase provide the estimate	ed and actu	ıal phase (E	ngineering	g) cost.								
		Estimated Cost	(\$)	Ad	ctual Cost	(\$)								
2.	Plea	ase provide the <u>forecas</u>	<i>ted</i> total pro	oject cost an	d duration	<b>).</b>								
	Cost: \$ Duration:								wee	ks				
3.	Plea	ase provide the total nu												
4.	Plea	ase provide the estimate	ed and actu	ıal phase (E	ngineering	g) start and end	d dates							
		Estimated Sched	ated and actual phase (Engineering) start and end dates  dule (mm/dd/yyyy) Actual Schedule (mm/dd/yyyy)  Stop Start Stop											
		Start	St	юр	,	S	Stop							
5.	Wh	at is the <u>forecasted</u> nam	ne plate cap	pacity of the	facility?	I								
		Pr	oduct Nam	e										
		Name Plate	Unit (e.g.,	tons/day, B	OE/day)									
		Capacity		Capacity										
6. What was the total number of Engineering work hours?														
7.	Plea	ase provide the IFC (Iss	sued For Co	onstruction)	quantities.									
		Total Concrete	(		)	cy								
		Total Structural Steel	(		)	ton								
		Total Wire and Cable	(		)	lf								
		Total Piping	(		)	If								
		Total Equipment	(		)	ton								
		Instrumentation	)	I/O counts										



## 10-10 Program – Procurement Questionnaire

# **Industrial Projects**

### Instructions

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

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.

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		ompany Name: ame:					
Proj	ect	Name:					
Owr	er	Company Name:					
Proj	ect	Construction Location:	City:		, (Sta	ite (	or Province):, Country:
Lead	d C	onstruction Contractor:					
		ngineering Office Location: ngineering Contractor:	City: _		, (Sta	ite (	or Province):, Country:
Curi	en	су:					
Unit	Sy	vstem:	(	) Imperial			( ) Metric
Excl	har	nge Rate:	1 USI	) =			
Mid	ooi	nt of Actual Phase (Procure	ment)	(mm/dd/yy	уу)		
Clos	ses	t Cost Index Location:	City: _		, (Sta	ite (	or Province):, Country:
Proj	ect	туре					
(	)	Chemical Manufacturing			(	)	Electrical (Generating)
(	)	Environmental			(	)	Metals Refining/Processing
(	)	Mining			(	)	Trailing
(	)	Natural Gas Processing			(	)	Oil/Gas Exploration/Production (well-site)
(	)	Oil Refining			(	)	Oil Sands Mining/Extraction
(	)	Oil Sands SAGD			(	)	Oil Sands Upgrading
(	)	Cogeneration			(	)	Pulp and Paper
(	)	Automotive Manufacturing			(	)	Consumer Products Manufacturing
(	)	Foods			(	)	Microelectronics Manufacturing
(	)	Office Products Manufacturin	g		(	)	Pharmaceutical Manufacturing
(	)	Pharmaceutical Labs			(	)	Clean Room
(	)	Other Industrial					
Proi	ect	t Nature					
		s Roots, Greenfield ( )	Br	ownfield (c	o-loca	ate)	) Addition, Expansion ( )
Mo	ode	rnization, Renovation, Upgrad	` le (	)			

Pro	jeci	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.
IC.	ont	ractor Only! Which phas	se(s) did your company participate in on this project? (check all that apply)
[0	Onc	ractor Omyj Willon prias	so(s) did your company participate in on this project: (check all that apply)
(	) F	FEP ( ) Engineering	( ) Procurement ( ) Construction ( ) Startup & Commissioning
Pro	ject	Description	
Dlo	200	briefly describe this proje	ect (i.e., what does the facility produce (?), what is its scope (?))
Pie	ase	briefly describe this proje	ect (i.e., what does the facility produce (?), what is its scope (?))
Wha	t wa	as the average procureme	ent team size (in FTE) and the maximum procurement team size (in FTE)?
		Ave. Team Size (in FTE	) Max. Team Size (in FTE)
	<u> </u>		· · · · · · · · · · · · · · · · · · ·
		as the average project ma e (in FTE)?	anagement team* size (in FTE)? What was the maximum project management
		Ave. Team Size (in FTE	) Max. Team Size (in FTE)
	L	,	

II.	Input M	easures				
1.	Your Cum	nulative Years of Experie	nce in Capital Proje	ects:		
2.	Are you th	ne Project Manager?	□ YES	■ NO		
3.	The comp	plexity of this project was	very high based on	its (check a	all that apply):	
(	) Size	( ) Sche	dule ( ) C	ontract strat	egy (	) Location
(	) Techn	nology risks ( ) Proce	ess scope ( ) D	versity of pr	roject team (	) Supply chain reliabilit
(		cify):				, , , ,
	<b>\                                    </b>	,,				
4.	Did the pr	oject objectives change	during Procuremen	t?		
	Y	res ( <u>Major</u> Change)	Yes ( <u>Minor</u> Cl	nange)	No	
		•			•	
5.	This proje	ect experienced a high nu	imher of (please ch	ock all that	apply):	
٥.		Scope change / creep	imber or (please cir		appiy). oject developme	ant changes
	0	Deviation notices			n-conformance	•
		Major equipment* list o	hanges		ogram changes	•
	_				gram amangaa	
6.	Please ch	aracterize how project m	neetings were condu	ucted (check	k all that apply).	
		Including appropriate re	epresentation of sta	keholders, i	.e., the 'right' p	eople are present
	•	Effective mechanisms content, documentation		related issu	ues (as measur	ed by pre-planning, time
	•	Occurring with a freque	ency that meets the	project's ne	eds	
	<b>D</b>	Having meaningful out	out that justifies my	time investr	ment.	
7.		the following statements that apply). Considered final and n		ecisions ma	ade by the mana	ager(s) of this project?
		Collaborative and inclu				
	_	Made at the lowest app		organizatio	on	
	_	Communicated prompt	•	<b>J</b>		
		Made in a timely and e	•			
	•	Consistent with the del	egation of authority			
8.		e cycle cost analysis com which of the following w				NO

**Energy Optimization** 

Sustainability Certification

0

•

Waste Minimization

•

Carbon Footprint Measurement

		Strongly Disagree	I	Neutral	S	Strongly Agree
9.	The owner level of involvement was appropriate.	•				
10.	Preferred suppliers were used effectively to streamline the Procurement process.	•				0
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.					
	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.	0		•	•	
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.	D		•		•
20.	Project management team* members were clear about their roles and how to work with others on the project.	0				
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.	D		•	•	•
27.	All of the necessary, relevant project team members were involved in an effective risk identification and management process for Procurement.	•				0
28.	Project leaders recognized and rewarded outstanding personnel and results.		•			
29.	Leadership effectively communicates business objectives, priorities, and project goals.					0

		Strongly Disagree		Neutral	8	Strongly Agree
30.	Resources were allocated according to project priorities.	•		o		
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.	D		•	•	•
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.	0				0
48.	The project team members attended sufficient professional training directly related to their work in Procurement.	D		•	•	
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 su	ppliers were awarded p	urchase c	orders?								
2.	What was the total number	of purchase orders awa	arded?									
3.	Please provide the total nu	mber of major equipme	nt*.									
	pie	ece count										
	[ Procession											
4.	Please provide the total cost of major equipment*.											
	\$											
5.	Please provide the estimat	ed and actual phase (P	rocureme	nt) start and er	nd dates							
	Estimated Sched	ule (mm/dd/yyyy)	Actual Schedule (mm/dd/yyyy)									
	Start	Stop	Start		Stop							
6.	Please provide the <i>forecas</i>	<u>ted</u> total project cost an	d duratior	٦.								
	Cost: \$			Duration:	weeks							
7.	What is the <u>forecasted</u> nan	ne plate capacity of the	facility?									
	Pr	oduct Name										
	Name Plate	Unit (e.g., tons/day, B	OE/day)									
	Capacity	Capacity										



# 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 <u>completed by members of the project's management team</u>. 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 (<u>Daniel.Oliveira@cii.utexas.edu</u>) or by phone at (512) 232-3050.

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

		ompany Name: ame:				
-		Name: Company Name:				
Proj	ect	Construction Location:	City:	, (Sta	ate (	or Province):, Country:
Lead	J C	onstruction Contractor:				
		ngineering Office Location: ngineering Contractor:	City:	, (Sta	ate (	or Province):, Country:
	Sy	cy: /stem: nge Rate:	( ) Imperia	al		( ) Metric
		nt of Actual Phase (Constru		уууу)		
Clos	es	t Cost Index Location:	City:	, (Sta	ate (	or Province):, Country:
Proj	ect	Туре				
(	)	Chemical Manufacturing		(	)	Electrical (Generating)
(	)	Environmental		(	)	Metals Refining/Processing
(	)	Mining		(	)	Trailing
(	)	Natural Gas Processing		(	)	Oil/Gas Exploration/Production (well-site)
(	)	Oil Refining		(	)	Oil Sands Mining/Extraction
(	)	Oil Sands SAGD		(	)	Oil Sands Upgrading
(	)	Cogeneration		(	)	Pulp and Paper
(	)	Automotive Manufacturing		(	)	Consumer Products Manufacturing
(	)	Foods		(	)	Microelectronics Manufacturing
(	)	Office Products Manufacturin	ıg	(	)	Pharmaceutical Manufacturing
(	)	Pharmaceutical Labs		(	)	Clean Room
(	)	Other Industrial				
Proj	ect	Nature				
		Roots, Greenfield ( )	Brownfield (	(co-loca	ate)	Addition, Expansion ( )
Mc	ode	rnization, Renovation, Upgrad	de ( )			

Proj∈	ect Deli	very Method																			
(	) De	sign-Bid-Build					of des							oha	ses: (	OWI	ner	cor	ntrac	ts	
(	) De	sign-Build (EP		•	-		with [							ntra	ctor.						
(	) CM	/I at Risk		wner e con			with c	desig	jne	ers	and	l con	strud	ctio	n ma	naç	ger	(CN	Л). C	M ho	lds
(	) Pa	rallel Primes					separ	rately	y w	vith	n de	signe	er an	ıd m	nultip	le p	rim	ne d	onst	ructo	s.
Prim	ary Coı	ntract Type fo	r Const	ructi	on																
( )	) Lump	Sum						(	)	U	Jnit I	Price									
( )	Cost	Reimbursable						(	)	G	Suar	ante	ed M	<b>1</b> axi	mum	Pr	ice	(GI	MP)		
[Co	ntracto	or Only] Which	phase(s	s) did	your	com	npany	parti	icip	oat	e in	on th	nis p	roje	ect? (	che	eck	all	that	apply	)
(	) FEP	( ) Engine	ering	(	) P	rocui	remen	ıt (	)	Сс	onst	ructio	on (	(	) Sta	ırtu	р&	Со	mmi	ssion	ing
												- ( )					ре	(-//			
	was the	average proje FTE)?	ect mana	ageme	ent te														ct ma	ınage	mei
	size (in			agemo	ent te				ΓE)	)?	Wha	at wa	as the	e m					ct ma	ınage	mer
eam s	Ave.	FTE)?	FTE)						ΓE)	)?	Wha	at wa	as the	e m	axim				et ma	ınage	mer
eam s	Ave.	FTE)? Team Size (in	rFTE)		0?		size (		ΓE)	ax.	Wha	at wa	is the	e m	axim -TE)				et ma	ınage	mer

1:41-60

0

1:61-100

1 : 21-40

•

1:20

•

1: over 101

•

### **II. Input Measures**

1.	Your C	cumulative Years	of Experience in Ca	pital Projects:		
2.	Are yo	u the Project Mar	nager? ■ YES	■ NO		
3.	The co	mplexity of this p	roject was very high	based on its (check	all that apply):	
	( ) Siz		( ) Schedule	( ) Contract stra	,	ocation
	` ) Te	chnology risks	,	( ) Diversity of p	. ,	upply chain reliability
Ì	` ,	0,				apply chair rollability
'	other (s	pecity)				<del></del>
4.	Did the	project objective	s change during Co	nstruction?		
		Yes ( <u>Major</u> Cha		( <u>Minor</u> Change)	No	
		0		<b>D</b>		
			<u>,                                      </u>			
5.	This pr			please check all that		
	I	■ Scope chan			oject development c	•
	I	Deviation no			on-conformance repo	orts
	I	Major equipr	nent* list changes	<b>□</b> Pr	ogram changes	
c	\\\\a_ \a_	4	, a d : a tha a a a a a a f ti	nio proio et?	VEC - NO	
о.			ed in the scope of the was well integrated	with the turnaround.	YES • NO	
	<u> </u>	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
			•	•	•	
				I		
7.	Please			ere conducted (chec		
	I	•	•	tion of stakeholders,		•
	I	_	cnanisms for resolvi umentation, follow-u	• • •	ues (as measured b	y pre-planning, time,
	ı			neets the project's ne	eeds	
	I	<ul><li>Having mear</li></ul>	ningful output that ju	stifies my time invest	ment.	
8.		of the following s all that apply).	tatements character	ized the decisions ma	ade by the manager	(s) of this project?
	•		inal and not revisite	4		
			and inclusive	<b>.</b>		
	_			evel in the organization	on	

•

•

•

Communicated promptly to the team

Made in a timely and effective manner

Consistent with the delegation of authority

9.	This proje	ect used the fol	lowing methods (plea	ase check all that	apply):						
		Plan Percent	Complete	•	Workface Plann	ing/Last	t Pla	anner			
		Work Packag	ging		Subcontractor F	requalif	icat	ion			
		Ongoing Cra	ft Training Programs		Substance Abus	se Testii	ng				
		Preassembly	<b>/</b> *		Prefabrication*						
	•	Modularization	on*		Offsite Fabricati	on*					
10	Formal (a	olaceroom) cafe	ety training was atten	dod:							
10.	. Formar (c	Monthly	Quarterly	Annually	Initial/o	nce			Nev	er	_
				7 till daily		1100		'	•		
											_
	Was	there a formal	new hire safety orie	ntation process?	□ YES	□ NO					
	Did a	an owner repre	sentative participate	in the orientation	? <b>□</b> YES	□ NO					
		•									
11	Did the e	riginal primary	contractor(s) comple	to the project?		•	Yes			No	-
11.	Did the o	nginai primary	contractor(s) comple	te trie project?							
12.	Was safe	ty performance	a criterion for contra	actor and subcon	tractor selection?	)	•				•
13.	Were saf	ety toolbox me	etings held daily?				•				•
14.	Were acc	idents includin	g near misses forma	Ily investigated?						•	-
											-
						Strongly		Mandaal		Strongly	
15	The ava	ilability and cor	npetency of craft lab	or was adequate		Disagree		Neutral		Agree	_
10.	THOUVA	nability and ool	inpotently of ordit lab	or was adoquate	•		•				
16.	The owr	ner level of invo	lvement was approp	riate.			•	•	•		_
17	The own	or and primar	v contractor(s) mainta	nin a lang standin	a partnarina						
17.	arrangei		contractor(s) mainta	airi a iorig-stariuii	ig partnering		•		•		
18.	The proj	ect team meml	oers were familiar wi		cution plan	•	D	0	0	•	
			to manage their wor								
19.			tion plan including op orated in Construction		intenance	•					
20.	The wor	k planning and	scheduling processe	es were effective.		•	D	•	•		
21.	Project of	 cash flow was r	managed well during	Construction.		•	•	•	•	•	
22.	The Cor	struction execu	ution plan addressed	community relat	ions issues.	•	•		•		_
23.	The proi	ect team includ	ling project manager	(s) had skills and	experiences with	n 🗖		•			
		projects / proces	0	, , , , , , , , , , , , , , , , , , , ,			_	-4			

		Strongly Disagree		Neutral	8	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.	0	•			
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.	D	•	•		
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.	•		•		0
34.	This project experienced a minimum amount of labor disruption.	•		•		•
35.	The owner and primary contractor(s) maintained positive working relationships.	•		•		0
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.	•		•		0
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.	•		•		0
41.	Resources were allocated according to project priorities.	D	•	•		
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.	0	•	•		0
44.	Project team members had the information they needed to do their jobs effectively.	•		•		0
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).	0				0

		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.	3. The project employed regular safety audits or observations.							
54.	Materials and equipment were typically received on time, without damage, and per design specification.	D		•		•		
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.	0		•				
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.	0						
	Output Measures  Please provide the <u>forecasted</u> total project cost and duration.  Cost: \$ Duration:			wee	ks			
2.	Please provide the estimated and actual phase (Construction) start and end da	ates						
	Estimated Schedule (mm/dd/yyyy) Actual Schedule (m	m/dd/yy	/yy)					
	Start Stop Start	St	ор					
3.	Please provide the total number of major equipment*.  piece count							

4.	Ple	ase provide the	number of	cases.					
		Medical Treatn	nent		(		)		
		Days Away			(		)		
		Job Restriction	or Transf	er	(		)		
_									
5.	Wh	at was the avera	age and pe	eak Const	ruction craft w	orktorc	e?		
		Ave. Craft Wo	orkforce			Max./	Peak Craft W	orkforce/	
6.	Exc	cluding the major	r equipme	nt* cost, p	lease provide	the est	imated and a	ctual phas	se (Construction) cost
			ed Cost (\$			al Cost		]	,
			<u> </u>	,			( )	-	
7.	Wh	at is the forecas	ted name	plate capa	acity of the fac	ility?			
			Product	Name					
		Name Plate	Unit (e.o	g., tons/da	y, BOE/day)				
		Capacity		Capaci	ity				
8	W/h	at was the total	number of	Construc	tion work hour	·s?			
0.	****	at was the total l		0011011100	hours	0.			
					liouis				
9.	Ple	ase provide the	IFC (Issue	ed For Co	nstruction) qua	intities.			
		Total Concrete	<b>)</b>	(		)	су		
		Total Structura	l Steel	(		)	ton		
		Total Wire and	Cable	(		)	If		
		Total Piping		(		)	If		
		Total Equipme	nt	(		)	ton		
		Instrumentation	n	(		)	I/O counts		



# 10-10 Program – Startup Questionnaire

# **Industrial Projects**

### Instructions

This questionnaire is for the Startup phase. The Startup phase begins at <u>mechanical completion</u> and concludes with <u>custody transfer to user/operator</u> 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 <u>completed by members of the project's management team</u> <u>or startup team</u>. 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.

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

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

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

		Company Name: lame:						
Pro	jec	t Name:						
Ow	ner	Company Name:						
Pro	jec	t Construction Location:	City:	,	(Sta	te o	or Province):, Country:	
Lea	ad C	Construction Contractor:						
		Engineering Office Location: Engineering Contractor:	City:		(Sta	te o	or Province):, Country:	
Cu	rren	ісу:						
Uni	it Sy	ystem:	( ) I	mperial			( ) Metric	
Exc	cha	nge Rate:	1 USD =	:				
Mic	lpoi	int of Actual Phase (Startup)	(mm/dd/	′уууу)				
Clo	ses	et Cost Index Location:	City:	,	(Sta	te o	or Province):, Country:	-
Pro	jec	t Type						
(	)	Chemical Manufacturing			(	)	Electrical (Generating)	
(	)	Environmental			(	)	Metals Refining/Processing	
(	)	Mining			(	)	Trailing	
(	)	Natural Gas Processing			(	)	Oil/Gas Exploration/Production (well-site)	
(	)	Oil Refining			(	)	Oil Sands Mining/Extraction	
(	)	Oil Sands SAGD			(	)	Oil Sands Upgrading	
(	)	Cogeneration			(	)	Pulp and Paper	
(	)	Automotive Manufacturing			(	)	Consumer Products Manufacturing	
(	)	Foods			(	)	Microelectronics Manufacturing	
(	)	Office Products Manufacturin	ng		(	)	Pharmaceutical Manufacturing	
(	)	Pharmaceutical Labs			(	)	Clean Room	
(	)	Other Industrial						
Pro	jec	t Nature						
G	ras	s Roots, Greenfield ( )	Brow	nfield (co	o-loca	te)	) ( ) Addition, Expansion ( )	
M	lode	ernization, Renovation, Upgrad	de (	)				

Proje	ct 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.
[Con	ntractor Only] Which ph	ase(s) did your company participate in on this project? (check all that apply)
( )	FEP ( ) Engineering	( ) Procurement ( ) Construction ( ) Startup & Commissioning
What w	vas the average startup	management team* size (in FTE)?
	Ave. Team Size (in FT	-E)

II.	Input Measures							
1.	Your Cumulative Years	s of Experience in	Capital F	rojects:				
2.	Are you the Project Ma	anager? <b>□</b> YE	ES .		Ю			
	The complexity of this  ( ) Size  ( ) Technology risks  Other (specify):	( ) Schedule ( ) Process so	cope (	) Contract) Diversit	et strategy y of project team	( ) Loca	tion ly chain re	eliability
4.	Was a turnaround invo	s well integrated v	•	rnaround.	■ YES	□ NO	Disagrao	٦
	Strongly Agree	Agree	Nec		Disagree		Disagree	=
6	content, do  Cocurring v	echanisms for rescumentation, followith a frequency that aningful output the statements chara	ow-up, etc hat meets at justifies	.) the projemy time i	ct's needs nvestment.		·	
0.	(check all that apply).  Considered Collaborativ Made at the Communication Made in a terminal	I final and not revive and inclusive e lowest appropriated promptly to timely and effective with the delegation	isited ate level ir he team re manner	n the orga	·	managor(o)	or a no pro	joot.
<del>7</del> .	Was there a written, \$	Startup-specific sa	afety plan	for this pr	oject?	Yes		No 🗖
	<u>,                                      </u>			·		Strongly Disagree	Neutral	Strongly Agree

maintenance was implemented.

The owner level of involvement was appropriate.

10. The Startup planning and scheduling processes were effective.

A formal Startup execution plan including the impact to operations and

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		Strongly Disagree				trongly Agree
11.	The Startup plan addressed community relations issues.	•				•
12.	The Startup team had skills and experiences with similar projects / processes.	0			•	D
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.	0				D
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.	0				D
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.	0			•	0
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.	0				

									Strongly Disagree		Neutral	;	Strongly Agree
33.	<ol> <li>The project's Startup processes were explicitly defined, managed, measured, and controlled</li> </ol>											•	
34.	The startup management team* members attended sufficient professional training directly related to their work.										•	•	•
35.	Th	e customer was	satisfie	ed with the	Startup phas	se delive	erables.			•			
36.	6. The cost of quality* was monitored during the Startup phase of this project.												•
37.		istainability was oject.	an impo	ortant consi	ideration for	the Star	tup phase of thi	S	•		•	•	•
38.		e project's proce		•		•	•	d	•	•	•	•	•
39.	Sta	artup safety prod	edures	were well	defined and	strictly f	ollowed.						
40.		e-task planning d/or other Startu	•	•	vas regularly	y conduc	cted by foremen		D		•	•	
1. Please provide the <u>actual</u> total project cost and duration.  Cost: \$  Duration: weeks  2. Please provide the total number of major equipment*.  piece count													
3.	Plea	ase provide the	estimat	ed and actu	ual phase (S	Startup) s	start and end da	tes					
				ule (mm/dd	• •		Actual Schedul		n/dd/yy	/yy)	)		
		Start		St	тор		Start		St	ор			
4. Please provide the estimated and actual phase (Startup) cost.  Estimated Cost (\$) Actual Cost (\$)													
5.	Wh	at is the actual n	ame pl	ate capacity	y of the facil	ity?							
	Product Name												
		Name Plate	Unit (	e.g., tons/d	ay, BOE/da	y)							
	Capacity Capacity												

	when Startup was complete, what	percentage of na	ime plate capacity was achieved?
		%	
6.	What was the total number of Startup	work hours?	
		hours	