

10-10 Program – Front End Planning Questionnaire

Infrastructure 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.

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!

Your Company Name: Your Name:					
Project Name:					
Owner Company Name:					
Project Construction Location:	City:	, (State or P	rovince):	, Country:	
Lead Construction Contractor:					
Lead Engineering Office Location: Lead Engineering Contractor:	City:	, (State or P	rovince):	, Country:	
Currency:					
Unit System:	() Imperial		() Metric	
Exchange Rate:	1 USD =				
Midpoint of Actual Phase (Front E	nd Planning) (mm	n/dd/yyyy)			
Closest Cost Index Location:	City:	, (State or P	rovince):	, Country:	
Project Type					
() Airport		() Ra	ail		
() Electrical Distribution		() Tu	ınneling		
() Flood Control		() Wa	ater/Wastewa	ater	
() Highway		() Te	lecom, Wide	Area Network	
() Marine Facilities		() Pip	peline		
() Central Utility Plant (CUP)		() Ta	ınk Farms		
() Process Control		() Ga	as Distributior	า	
() Navigation		() Oth	her Infrastruc	cture	
Project Nature					
Grass Roots, Greenfield ()	Brownfield (co-lo	ocate) () Ac	ddition, Expansion ()
Modernization, Renovation, Upgrade	e ()				
If project nature is brownfield or gras expansion? PYES NO If project nature is Addition or expansion	·		·		tv's as-

built condition include specific provisions for its addition, expansion, modernization, renovation or upgrade?

■ NO

■ YES

roject 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
() Parallel Primes	the contracts. Owner contracts separately with designer and multiple prime constructors.
[Contractor Only] Which pha	se(s) did your company participate in on this project? (check all that apply)
() FEP () Engineering	() Procurement () Construction () Commissioning
roject Description Please briefly describe this proj	ect (i.e., what does the facility produce (?), what is its scope (?))
Did this project use PDRI? If yes, was the PDRI externa If yes, what was the total PD	■ YES ■ NO Ily facilitated? ■ YES ■ NO RI score at Full Funding Authorization?
What was the average project management team size (in F	ct management team [*] size (in FTE)? What was the maximum project TE)?
Ave. Team Size (in FTE	Max. Team Size (in FTE)
• •	concession agreement for the operation of the facility? TYES duration of concession agreement? Years
What is the service life of the	
	Years
What is the expected averag	e annual maintenance cost?
\$	

II.	In	put	Me	ası	ıres
-----	----	-----	----	-----	------

1.	Your Cumulative Years of Experience	ce in Capital Projects: _		
2.	Are you the Project Manager?	YES NO)	
3.	The complexity of this project was ve	ery high based on its (che	eck all that apply):	
() Size () Schedule	e () Contract str	rategy () Dive	ersity of project team
() Technology risks () Process	scope () Supply cha	in reliability () Exte	ernal stakeholders
(Traffic control () Location	() Work zone	congestion	
)	Other (specify):	,		
L				
4.	A robust, formal stage-gate process	was rigorously followed f	or this project.	
	Robust Process, No Rigor	No Process, No Rigor	Robust Process, Ri	gor
	0	•	•	
5	What percentage of engineering was	s completed prior to full fu	unding authorization?	
J.	virial percentage of engineering was	%	anding additionzation:	
6.	Was there a formal, documented cor	nstructability plan during	Front End Planning?	
	Yes, there was a formal of	documented constructabi	lity plan.	
	Yes, there was a construction	• •	nally documented.	
	No, there was no constru	ictability plan.		
7.	Please characterize how project mee	etings were conducted (c	heck all that apply).	
	Including appropriate rep		•	•
	Effective mechanisms for content, documentation, for the content of the conten		l issues (as measured l	by pre-planning, time,
	Occurring with a frequency		s needs	
	■ Having meaningful outpu			
0	Mile in the fallowing statements of			"(a) af this music at O
8.	 Which of the following statements ch (check all that apply). 	naracterized the decisions	s made by the manage	r(s) or this project?
	□ Considered final and not	revisited		
	 Collaborative and inclusive 	ve		
	Made at the lowest appro	opriate level in the organiz	zation	
	Communicated promptly	to the team		
	Made in a timely and effe			
	Consistent with the delea	ration of authority		

10.		NO			
	If yes, which of the following were considered? (please check all that apply) Carbon Footprint Measurement Energy Optimization				
	■ Waste Minimization ■ Sustainability Certification	ation			
		,	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?				0
13.	Was the construction manager assigned during Front End Planning?		0		0
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?				<u> </u>
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.	•		•	0
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.			•	D
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, public needs, or market conditions.	0		•	ō
25.	The equipment procurement and vendor schedules were a not significant challenge during Front End Planning on this project.	0		•	D
		Strongly		Neutral	Strongly

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

•

•

		Disagre	е			Agree
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.					0
28.	A formal Commissioning 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.			•		0
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 organizational 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.		•	•		0
43.	A high degree of trust, respect and transparency existed amongst organizations working on this project.	0		•		0
44.	The project's Commissioning objectives were appropriately communicated to the relevant project team members.					
45.	The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.		•	•	•	•

								Strongly Disagree		Neutral		Strongly Agree
46.		hen issues arose, there solved.	were effec	tive mechar	nisms to e	ensu	re they were					
47.	Th pla	e acquisition of land an	d/or Right o	of Way (RO	W) proce	eded	d according to			•		
48.		e project team member ated to their Front End		d sufficient professional training directly work.								
49.		ey stakeholders including ring Front End Planning	•	were prop	erly identi	fied	and involved	0	•			
50.	All	required environmenta	l impact as	sessments	were com	plet	ed.	•	•		0	
51.		e initial site and/or exist	•	conditions v	were fully	veri	fied for the	0		•		•
52.		applicable national, reg fined and understood by					ments were wel		•			
53.		fective cooperation and gulatory agencies involv			mongst th	ne oi	rganizations and	d 🗖				
2.	Plea	Estimated Cost ase provide the <u>forecas</u> Cost: \$			nd duratio	on.	ration:			wee	ks	
3.	Plea	ase provide the total nu	mber of ma	ajor equipme	ent* items	•						l.
4.	Plea	ase provide the estimate			1							Ī
		Estimated Sched Start	`				ual Schedule (m)		
		Otart	3	top		Sta	ırı	- 31	top			
5.	Wh	at is the <i>forecasted</i> cap	acity of the	facility?								ı
		Capacity		., lane-miles in./km)	s, diamete	er-						
		- 54 55.17		Capacity								



10-10 Program – Engineering Questionnaire

Infrastructure 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.

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!

Your Company Name: Your Name:					
Project Name: Owner Company Name:					
Project Construction Location: Lead Construction Contractor:	City:,	, (State	or Province):	, Country:	
Lead Engineering Office Location: Lead Engineering Contractor:	City:,	, (State	or Province):	, Country:	
Currency: Unit System: Exchange Rate: Midpoint of Actual Phase (Enginee	() Imperial 1 USD = ring) (mm/dd/yyyy	·v)	() Metric	
Closest Cost Index Location:			or Province):	, Country:	
Project Type () Airport () Electrical Distribution () Flood Control () Highway () Marine Facilities () Central Utility Plant (CUP) () Process Control () Navigation		()()()()()()	Rail Tunneling Water/Wastev Telecom, Wid Pipeline Tank Farms Gas Distribution Other Infrastru	e Area Network	
Project Nature Grass Roots, Greenfield () Modernization, Renovation, Upgrade If project nature is brownfield or grass			,	Addition, Expansion ()

expansion?

■ YES ■ NO

If project nature is Addition or expansion or modernization, renovation, upgrade; did the existing facility's asbuilt condition include specific provisions for its addition, expansion, modernization, renovation or upgrade?

■ YES ■ NO

Project Delivery Method	
() Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
() Design-Build (EPC) () CM at Risk	Owner contracts with Design-Build (EPC) contractor. 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 De	tail Design / Engineering
() Lump Sum	() Unit Price
() Cost Reimbursable	() Guaranteed Maximum Price (GMP)
[Contractor Only] Which pho	co(c) did your company participate in on this project? (check all that apply)
	se(s) did your company participate in on this project? (check all that apply)
() FEP () Engineering	() Procurement () Construction () Commissioning
Project Description Please briefly describe this proj	ect (i.e., what does the facility produce (?), what is its scope (?))
What was the average engin	eering 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 F 	ct management team* size (in FTE)? What was the maximum project TE)?
Ave. Team Size (in FTE	Max. Team Size (in FTE)
	concession agreement for the operation of the facility? NO eduration of concession agreement? Years
• What is the service life of the	facility? Years
What is the expected averag	e annual maintenance cost?
\$	
 The project delivery method 	and contract type were mandated by regulation(s). YES NO

II. In	put	Mea	sures
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	•					
1.	Your Cumulative Years of Experience	e in Capita	al Projects: _			
2.	Are you the Project Manager?	'ES	■ NO			
3.	The complexity of this project was ve	ry high ba	sed on its (che	eck all ti	nat appl	y):
() Size () Schedule	() Contract st	rategy	() Diversity of project team
() Technology risks () Process s	scope () Supply cha	in reliab	ility () External stakeholders
() Traffic control () Location	() Work zone	conaes	tion	
(Other (specify):	•	·			
_ _	B.1.11		.			
4.	Did the major project objectives chan			<u>, </u>		No
	Yes (<u>Major</u> Change)	Yes (Minor Change	*)		No
			•			
5.	This project used the following engine	eering, sta	andards and sr	pecificat	ions (P	lease check all that apply)
•	■ Existing owner standards	, o.c.				.oaoo ooo. a a.a. app.y/
	Existing engineering conti	acting cor	mpany standa	rd		
	Published industry standa	_	. ,			
6.	This project experienced a high numl	per of (ple	ase check all t	hat app	ly):	
	Scope change / creep		•			pment changes
	■ Deviation notices		_ _	_		ince reports
	■ Major equipment* list cha	nges	_		am chan	•
7.	Please characterize how project mee	tinas were	e conducted (c	heck al	that an	ply).
	Including appropriate repr	•	•		•	• • •
	•	resolving	project related		•	asured by pre-planning, time
	Occurring with a frequence	y that med	ets the project	's needs	6	
	Having meaningful output	that justifi	ies my time inv	estmer/	nt.	
8.	Which of the following statements characteristics (check all that apply).	aracterize	d the decision	s made	by the r	manager(s) of this project?
	Considered final and not in	evisited				
	Collaborative and inclusive	е				
	Made at the lowest appro	priate leve	el in the organi	zation		
	Communicated promptly t	o the tean	n			
	Made in a timely and effect					
	Consistent with the delegation	ation of au	ıthority			

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) ■ Carbon Footprint Measurement ■ Energy Optimizat	NO ion				
	■ Waste Minimization ■ Sustainability Cer	tificati	on			
10.	What percentage of Engineering was completed prior to the start of construction %	1?				
		,	Yes		ı	No
11.	Was the construction manager involved during Detailed Design / Engineering?					
12.	Were multiple design offices used on this project?					0
		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.		•	0	•	0
18.	Comprehensive constructability suggestions (e.g., preassembly*, prefabrication*, modularization*, and offsite fabrication*) were evaluated and incorporated into the Engineering of the project.			•		0
19.	A formal Commissioning 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.	•		•		

		Strongly Disagree	I	Neutral	8	Strongly Agree
24.	People on this project worked effectively as a team.	•				
25.	The project experienced a minimum number of project management team* personnel changes.					0
26.	The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Detailed Design / Engineering.					0
27.	The interfaces between project stakeholders were well managed.	•		•		•
28.	Key project team members understood the owner's goals and objectives of this project.	0		•		•
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.	0	•	•		
31.	Leadership effectively communicated organizational objectives, priorities, and project goals.		•			0
32.	Resources were allocated according to project priorities.	0		•		
33.	Project leaders were open to hearing "bad news", and they wanted input from project team members.	0	0	•		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.					0
36.	A high degree of trust, respect and transparency existed amongst organizations working on this project.	0	•	•		0
37.	The project's Commissioning 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.	Engineering deliverables were released in a timely manner as a result of a good Engineering work sequence on this project.	•				

		Strongly Disagree		Neutral	,	Strongly Agree	
42.	The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions).					•	
43.	The project control system was effective in monitoring project progress in terms of cost, schedule, and scope.				0	•	
44.	A dedicated process was used to proactively manage change on this project.					•	
45.	A formal project Quality Management System was used for the Engineering of this project.			•		•	_
46.	An interim product database and/or standardized designs were used extensively in the Engineering of this project.					•	_
47.	The project team members attended sufficient professional training directly related to their Engineering work.					•	
48.	The customer was satisfied with the Engineering phase deliverables.			•		•	_
49.	The cost of quality was determined during the Engineering phase of this project.					•	_
50.	The acquisition of land and/or Right of Way (ROW) proceeded according to plan.					•	_
51.	Key stakeholders including the public were properly identified and involved during Engineering.				0	•	
52.	All required environmental impact assessments were completed.				0	•	
53.	The initial site and/or existing facility conditions were fully verified for the deliverables of this phase				•	•	_
54.	All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders.		•		•	•	_
55.	Effective cooperation and coordination existed amongst the companies and regulatory agencies involved in this project.	0					

III. Output Measures

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

Estimated Cost (\$)	Actual Cost (\$)

2.	Plea	ase provide the <i>forecas</i>	<u>'ed</u> total pro	oject cost an	nd duration	٦.		
		Cost: \$				Duration:		weeks
3.	Plea	ase provide the total nur	mber of ma	ijor equipme	ent*.			
		pie	ce count					
4.	Plea	ase provide the estimate	ed and actu	ual phase (E	ngineerin	g) start and en	d dates	
		Estimated Schedu	ule (mm/dd	/yyyy)	P	Actual Schedul	e (mm/dd/yyyy)	
		Start	S	top		Start	Stop	
5.	Wh	at is the <i>forecasted</i> capa	acity of the	facility?				
		Capacity		(e.g., lane-m nmeter-in./kr				
		, , , , , , , , , , , , , , , , , , ,		Capacity				
6.	Wh	at was the total number	of Enginee	□Ĭ	ours?			
				hours				
7.	Plea	ase provide the IFC (Iss	ued For Co	onstruction)	quantities		1	
		Total Concrete	()	су		
		Total Structural Steel	()	ton		
		Total Wire and Cable	()	If		
		Total Piping	()	If		
		Total Equipment	()	ton		
		Instrumentation	()	I/O counts		



10-10 Program – Procurement Questionnaire

Infrastructure 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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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: Lead Engineering Contractor:	City:,	, (State	or Province): _	, Country:	
Currency:					
Unit System: Exchange Rate:	() Imperial 1 USD =		() Metric	
Midpoint of Actual Phase (Procure	ment) (mm/dd/yyy	уу)			
Closest Cost Index Location:	City:,	, (State	or Province): _	, Country:	
Project Type					
() Airport		()	Rail		
() Electrical Distribution		()	Tunneling		
() Flood Control		()	Water/Waste	ewater	
() Highway		()	Telecom, Wi	de Area Network	
() Marine Facilities		()	Pipeline		
() Central Utility Plant (CUP)		()	Tank Farms		
() Process Control		()	Gas Distribut	tion	
() Navigation		()	Other Infrast	ructure	
Project Nature					
Grass Roots, Greenfield ()	Brownfield (co-lo	ocate) ()	Addition, Expansion ()
Modernization, Renovation, Upgrade	; ()				
If project nature is brownfield or grass	sroots; did the proj	oject's d	esign incorpora	ate provisions for future	

expansion?

■ YES ■ NO

If project nature is Addition or expansion or modernization, renovation, upgrade; did the existing facility's asbuilt condition include specific provisions for its addition, expansion, modernization, renovation or upgrade?

■ YES ■ NO

<u>Proje</u> c	ct Delivery Method	
()	Design-Bid-Build	Serial sequence of design and construction phases: owner contracts separately with designer and constructor.
()	Design-Build (EPC) CM at Risk	Owner contracts with Design-Build (EPC) contractor. Owner contracts with designers and construction manager (CM). CM holds the contracts.
()	Parallel Primes	Owner contracts separately with designer and multiple prime constructors.
-		se(s) did your company participate in on this project? (check all that apply)
()	FEP () Engineering	() Procurement () Construction () Commissioning
	ct Description briefly describe this project	ct (i.e., what does the facility produce (?), what is its scope (?))
Wh	at was the average procu	rement team size (in FTE) and the maximum procurement team size (in FTE)
	Ave. Team Size (in FTE) Max. Team Size (in FTE)
	•	t management team* size (in FTE)? What was the maximum project
mai	nagement team size (in F	
	Ave. Team Size (in FTE) Max. Team Size (in FTE)
		concession agreement for the operation of the facility? YES NO
	If yes, what was the base	duration of concession agreement?
		Years
Wh.	at is the service life of the	facility?
V V I I	at is the service me of the	Years
		1 Gais
Wh	at is the expected average	e annual maintenance cost?
	\$	
The	project delivery method a	and contract type were mandated by regulation(s). YES NO

II.	Input Measures			
1.	Your Cumulative Years of Experien	nce in Capital Projects: _		
2.	Are you the Project Manager?	■ YES ■ NO		
3.	The complexity of this project was) Size () Schedu) Technology risks () Proces) Traffic control () Locatio Other (specify):	ule () Contract str s scope () Supply chai	ategy () Diversity on reliability () External s	of project team stakeholders
4.	Did the project objectives change of	during Procurement?		
	Yes (<u>Major</u> Change)	Yes (Minor Change)	No	
		0	0	
	■ Scope change / creep ■ Deviation notices ■ Major equipment* list cl Please characterize how project m ■ Including appropriate re ■ Effective mechanisms f content, documentation ■ Occurring with a freque ■ Having meaningful outp	hanges eetings were conducted (clepresentation of stakeholde for resolving project related a, follow-up, etc.) ency that meets the project's put that justifies my time inv	Project development change Non-conformance reports Program changes neck all that apply). rs, i.e., the 'right' people are issues (as measured by press needs estment.	e present e-planning, time,
7.	Which of the following statements (check all that apply). Considered final and not consistent with the deleter consistency c	ot revisited sive propriate level in the organiz ly to the team ffective manner		f this project?
8.	Was a life cycle cost analysis com	pleted for this project?	□ YES □ NO	

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

Energy Optimization

Sustainability Certification

•

Waste Minimization

0

Carbon Footprint Measurement

		Strongly Disagree		Neutral	8	Strongly Agree
9.	The owner level of involvement was appropriate.	•				
10.	Preferred suppliers were used effectively to streamline the Procurement process.	0				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.	0				
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.	0		•		D
15.	The equipment procurement and vendor schedules were not a significant challenge for this project.					
16.	A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in Procurement.	0		•	•	0
17.	Sustainability was an important consideration for the Procurement phase of this project.	D		•		0
18.	The Procurement plan addressed local content requirements.					
19.	Appropriate contingencies were established to address materials and labor cost escalation.	0			•	
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.	0		•		
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.	D		•	•	•
28.	Project leaders recognized and rewarded outstanding personnel and results.	•		•		•

		Strongly Disagree		Neutral	8	Strongly Agree
29.	Leadership effectively communicated organizational objectives, priorities, and project goals.					
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.	•		•		٥
32.	The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Procurement.	0				
33.	Project team members had the information they needed to do their jobs effectively.	0				
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 organizations working on this project.	•		•		
36.	The project's Commissioning 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.	The project encountered few problems associated with the late delivery of equipment and bulk materials.			•		0
40.	Site materials management was effective.					
41.	Major equipment* was delivered complete and on time.	•	•	•		•
42.	Risks were appropriately allocated through effective purchasing agreements.	•			•	
43.	This project implemented a supplier quality surveillance program.			•	•	
44.	The project control system was effective in monitoring project progress in terms of cost, schedule, and scope.	0				0
45.	A dedicated process was used to proactively manage change on this project.				•	
46.	A formal project Quality Management System was used for the Procurement of this project.	•		•	•	D
47.	The project team members attended sufficient professional training directly related to their work in Procurement.	0	•			0
48.	The customer was satisfied with the Procurement phase deliverables.	0				0

						Strongly Disagree		Neutral	;	Strongly Agree
	pro	ne cost of quality was de oject.	•		•	•		•		0
50.	. Th pla	ne acquisition of land and an.	d/or Right of Way (RO\	W) proceed	ded according to			•		•
51.		ne initial site and/or exist eliverables of this phase.	•	ere fully v	erified for the			•		•
52.		applicable national, regifined and understood by						•		
53.		fective cooperation and gulatory agencies involv		nongst the	e companies and		•	0	•	0
III.	. Oı	utput Measures								
1.	Hov	w many vendors and su	opliers were awarded p	ourchase o	rders?					
2.	Wh	at was the total number	of purchase orders aw	arded?						
3.	Plea	ase provide the total nu	mber of major equipme	ent*.						
4.	Ple	ase provide the total co	st of major equipment*.							
		\$								
5.	Ple	ase provide the estimate	ed and actual phase (P	rocuremer	nt) start and end da	ites				
		Estimated Sched	ule (mm/dd/yyyy)	А	ctual Schedule (mr	m/dd/yy	/уу)			
		Start	Stop		Start	St	ор			
6.	Plea	ase provide the <u>forecas</u>	<i>ted</i> total project cost ar	l nd duration	I.					
		Cost: \$		1	Ouration:			wee	ks	
7.	Wh	at is the <i>forecasted</i> cap	acity of the facility?							
		0 "	Unit (e.g., tons/day, E	BOE/day)						
		Capacity	Capacity							



10-10 Program - Construction Questionnaire

Infrastructure 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!

Your Company Name:					
Your Name:					
Project Name:					
Owner Company Name:					
Project Construction Location:	City:, (State or	Province):	, Country:	
Lead Construction Contractor:	,		, _	, <u>, </u>	
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 (Const	ruction) (mm/dd/\nn	n ()			
wildpoint of Actual Phase (Const	ruction) (mm/dd/yyy	/y)			
Midpoint of Actual Phase (Const Closest Cost Index Location:	, , , , , , , , , , , , , , , , , , , ,		Province): _	, Country:	
Closest Cost Index Location:	, , , , , , , , , , , , , , , , , , , ,		Province): _	, Country:	
Closest Cost Index Location:	, , , , , , , , , , , , , , , , , , , ,	State or	Province): _ Rail	, Country:	
Closest Cost Index Location: Project Type	, , , , , , , , , , , , , , , , , , , ,	State or		, Country:	
Closest Cost Index Location: Project Type () Airport	, , , , , , , , , , , , , , , , , , , ,	State or	Rail		
Closest Cost Index Location: Project Type () Airport () Electrical Distribution	, , , , , , , , , , , , , , , , , , , ,	State or () ()	Rail Tunneling Water/Waste		
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control	, , , , , , , , , , , , , , , , , , , ,	State or () () ()	Rail Tunneling Water/Waste	ewater	
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control () Highway	, , , , , , , , , , , , , , , , , , , ,	State or () () () ()	Rail Tunneling Water/Waste Telecom, Wi	ewater	
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control () Highway () Marine Facilities	, , , , , , , , , , , , , , , , , , , ,	State or () () () () ()	Rail Tunneling Water/Waste Telecom, Wi	ewater de Area Network	
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control () Highway () Marine Facilities () Central Utility Plant (CUP)	, , , , , , , , , , , , , , , , , , , ,	State or () () () () ()	Rail Tunneling Water/Waste Telecom, Wi Pipeline Tank Farms	ewater de Area Network tion	
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control () Highway () Marine Facilities () Central Utility Plant (CUP) () Process Control	, , , , , , , , , , , , , , , , , , , ,	State or () () () () ()	Rail Tunneling Water/Waste Telecom, Wi Pipeline Tank Farms Gas Distribu	ewater de Area Network tion	
Closest Cost Index Location: Project Type () Airport () Electrical Distribution () Flood Control () Highway () Marine Facilities () Central Utility Plant (CUP) () Process Control () Navigation	, , , , , , , , , , , , , , , , , , , ,	State or () () () () () ()	Rail Tunneling Water/Waste Telecom, Wi Pipeline Tank Farms Gas Distribu	ewater de Area Network tion)

expansion?

■ YES ■ NO

If project nature is Addition or expansion or modernization, renovation, upgrade; did the existing facility's asbuilt condition include specific provisions for its addition, expansion, modernization, renovation or upgrade?

■ YES ■ NO

roject Delive	ery Method									
() Desi	gn-Bid-Build	Serial sequence separately with o				owner o	ontracts			
` ,	gn-Build (EPC) at Risk		wner contracts with Design-Build (EPC) contractor. wner contracts with designers and construction manager (CM). CM holds le contracts.							
() Para	llel Primes	Owner contracts	separate	y with desi	gner and multi	ole prime	constructors.			
rimary Cont	ract Type for De	tail Design / Eng	ineering							
() Lump S	um		() Unit Pi	rice					
() Cost Re	eimbursable		() Guara	nteed Maximur	n Price (GMP)			
Contractor	Only] Which pha	se(s) did your com	npany part	icipate in c	n this project?	(check a	ıll that apply)			
) FEP () Engineering	() Procureme	ent () Construct	ion () Co	ommissio	oning			
What was	the average proje	ect management to	eam* size	(in FTE)? \	What was the r	naximum	n project			
manageme	ent team size (in I	TE)?		1						
Ave.	Γeam Size (in FT	E)		Max. Tea	am Size (in FTI	≣)				
What was	the typical forema	an to craft ratio?		ı		l				
	≤ 5:1	6:1 ~ 8:1	9:1 ~	12:1	≥13:1					
	D	0		3	•					
Overall how	<u> </u>	per safety profess		<u> </u>		the aver	age workforce)			
_	1:20	1 : 21-40	1:41	-60	1 : 61-100		1: over 101			
	0	•			•		•			
-	-	a concession agree			ion of the facili	ty? □ YE	S 🖪 NO			

•	What is the service life of the faci	lity?			
		Year	'S		
•	What is the expected average an	nual mainter	nance cost?		
	\$		ianos sost.		
•	The project delivery method and	contract type	were mandated by	y regulation(s).	YES • NO
II.	Input Measures				
1.	Your Cumulative Years of Experie	ence in Capi	tal Projects:		
2	Are you the Project Manager?	■ VEC	■ NO		
۷.	Are you the Project Manager?	u 123	■ NO		
3.	The complexity of this project was	s very high b	ased on its (check	all that apply):	
(, , ,	`) Contract strate	· ,	rsity of project team
() Technology risks () Proce	•			rnal stakeholders
(,	ion (•	ngestion	
L	Other (specify):				
4.	Did the project objectives change	during Cons	struction?		
	Yes (<u>Major</u> Change)	Yes (<u>N</u>	Minor Change)	No	
			•		
5.	This project experienced a high n	umber of (pl	ease check all that	apply):	
	■ Scope change / creep			oject development o	hanges
	Deviation notices		■ No	on-conformance rep	orts
	Major equipment* list	changes	□ Pr	ogram changes	
6.	Was a turnaround involved in the	scope of this	s proiect?	ı YES ■ NO	
	(If yes) Construction was well	-	• •		
	Strongly Agree Ag	gree	Neutral	Disagree	Strongly Disagree
			•	•	
7	Please characterize how project i	neetinas we	re conducted (chec	ck 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. •

(check a	all that apply).							
	Considered f	inal and not revisited						
	Collaborative	and inclusive						
	Made at the	lowest appropriate lev	vel in the organiza	tion				
	Communicat	ed promptly to the tea	am					
	Made in a tim	nely and effective ma	nner					
•	Consistent w	ith the delegation of a	authority					
9. This pro	iect used the fol	lowing methods (plea	ise check all that a	annly):				
0. This pre				Vorkface Planning/La	ct Dic	nnor		
	Work Packag	•		Subcontractor Prequal				
_	_	ft Training Programs		Substance Abuse Test		1011		
		• •		Prefabrication*	ung			
_				Offsite Fabrication*				
_	Moddianzane)	- \					
10. Formal		ty training was attend						
	Monthly	Quarterly	Annually	Initial/once			Nev	er
							•	
	s there a formal	new hire safety orien	ntation process?	□ YES □ NO				
	s there a formal	new hire safety orien	ntation process?	□ YES □ NO				No
Did	s there a formal	new hire safety orien	ntation process? in the orientation?	□ YES □ NO			1	No
Did	s there a formal an owner repre	new hire safety orien sentative participate i	itation process? in the orientation? e the project?	□ YES □ NO	Yes		N I	
1. Did the	s there a formal an owner repre original primary of	new hire safety orien sentative participate i contractor(s) complet	itation process? in the orientation? e the project?	□ YES □ NO	Yes		1	•
1. Did the 2. Was saf 3. Were sa	s there a formal an owner repre original primary of	new hire safety orien sentative participate i contractor(s) complet a criterion for contra	itation process? in the orientation? e the project? ctor and subcontra	□ YES □ NO	Yes		1	•
1. Did the 2. Was saf 3. Were sa	s there a formal an owner repre original primary of	new hire safety orients sentative participate is contractor(s) complete a criterion for contractings held daily?	itation process? in the orientation? e the project? ctor and subcontra	□ YES □ NO	Yes D		1	
1. Did the case of	original primary of the total and the total	new hire safety orients sentative participate is contractor(s) completes a criterion for contractings held daily?	in the orientation? e the project? ctor and subcontra	□ YES □ NO □ YES □ NO □ YES □ NO □ Strong Disagre	Yes D D U	Neutral	1	© © © © © © © © © © © © © © © © © © ©
1. Did the case of	original primary of the total and the total	new hire safety orients sentative participate is contractor(s) complete a criterion for contractings held daily?	in the orientation? e the project? ctor and subcontra	□ YES □ NO □ YES □ NO actor selection?	Yes	Neutral	1	• • • • • • • • • • • • • • • • • • •
1. Did the 2. Was saf 3. Were sa 4. Were ac	s there a formal an owner repre original primary of ety performance afety toolbox mee	new hire safety orients sentative participate is contractor(s) completes a criterion for contractings held daily?	in the orientation? e the project? ctor and subcontration ly investigated?	□ YES □ NO □ YES □ NO □ YES □ NO □ Strong Disagre	Yes D D U		1	© © © © © © © © © © © © © © © © © © ©
1. Did the 2. Was saf 3. Were sa 4. Were ac 15. The av 16. The ow	original primary of the total and owner representations of the total primary of the total pri	new hire safety orients sentative participate is contractor(s) complete a criterion for contractings held daily? In a given misses formally the contractor of craft laborates are the c	in the orientation? e the project? ctor and subcontration? ly investigated? or was adequate.	□ YES □ NO □ YES □ NO □ YES □ NO □ Strong □ Disagre	Yes	0		G G Strongly Agree
1. Did the case of	ailability and corvner level of invo	new hire safety orients sentative participate is contractor(s) complete a criterion for contractings held daily? In given misses formally an armisses formally contractor of craft laborations appropriate in the contractor of craft laboration of craft laborations appropriate in the contractor of craft laboration of craft laborations appropriate in the contractor of craft laboration of craft laboration of craft laborations appropriate in the contractor of craft laboration of craft laborations appropriate in the contractor of craft laboration	e the project? ctor and subcontration? by investigated? or was adequate. in a long-standing	Partnering	Yes D D U U U U U U U U U U U	0		Strongly Agree

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

		Strongly Disagree	I	Neutral	S	trongly Agree
19.	A formal Commissioning 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.	•				•
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.	D				
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.	0				0
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 organizational objectives, priorities, and project goals.	D				•
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.	D				•
39.	Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	D			•	•

		Strongly Disagree	I	Neutral	\$	Strongly Agree
40.	The project's Commissioning 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 organizations working on this project.	0		•	0	
43.	The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success.	0				
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).	0	•	•		
47.	When issues arose, there were effective mechanisms to ensure they were resolved.	D		•		•
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.	Site materials management was effective.					•
52.	The project employed regular safety audits or observations.	•	•	0	•	•
53.	Materials and equipment were typically received on time, without damage, and per design specification.	0		•	0	
54.	The project team members attended sufficient professional training directly related to their work in Construction.	•				
55.	The customer was satisfied with the Construction phase deliverables.		•		•	•
56.	The cost of quality was determined during the Construction phase of this project.	O		o		•
57.	Sustainability was an important consideration for the Construction phase of this project.			•		
58.	The acquisition of land and/or Right of Way (ROW) proceeded according to plan.	0		•	•	
59.	Key stakeholders including the public were properly identified and involved during Construction.	0				•
60.	The initial site and/or existing facility conditions were fully verified for the deliverables of this phase.			•		•

									Strongly Disagree		Neutral	;	Strongly Agree
61.		l applicable nation aftice of the series of					quirements were ers.	well	•	•			•
62.		fective cooperati gulatory agencie				mongst t	the companies a	nd	•		•		•
III.	Οι	utput Measu	res										
1.	Ple	ase provide the	forecast	<u>ed</u> total pr	oject cost ar	nd durati	on.						
		Cost: \$					Duration:				wee	ks	
2.	Ple					onstruc	tion) start and er						
		Estimated	l Schedu	ile (mm/do	l/yyyy)		Actual Schedul	e (mn	n/dd/yy	ууу)		
		Start		S	top		Start		St	top			
0	Dia		tatal	- h - n - e f - n - e									
3.	Pie	ase provide the			ajor equipme	ent".							
			pied	ce count									
4.	Ple	ase provide the	number	of cases.									
		Medical Treatn	nent		()						
		Days Away			()						
		Job Restriction	or Tran	sfer	()						
5.	Wh	at was the avera	age and	peak Cons	struction cra	ft workfo	orce?						
		Ave. Craft Wo	orkforce			Ма	x./Peak Craft Wo	orkfor	се				
6.	Exc	cluding the major	r equipm	ent* cost,	please prov	ide the (estimated and ac	ctual p	ohase ((Co	nstru	ction	n) cost
		Estimate	ed Cost ((\$)	А	ctual Co	st (\$)						
7.	Wh	at is the forecas	ted capa	city of the	facility?								
		Capacity			iles, diamet	er-							
		σαρασιιγ		Capa	city								
8.	Wh	at was the total	number	of Constru	ction work h	ours?							
					hours								

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

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



10-10 Program – Commissioning Questionnaire

Infrastructure Projects

Instructions

This questionnaire is for the Commissioning phase. The Commissioning phase begins at <u>mechanical</u> <u>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 **completed by members of the project's management team or Commissioning 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!

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** City: ______, (State or Province): _____, Country: _____ Location: **Lead Engineering Contractor: Currency:**) Imperial **Unit System:**) Metric 1 USD =**Exchange Rate:** Midpoint of Actual Phase (Commissioning) (mm/dd/yyyy) City: , (State or Province): , Country: **Closest Cost Index Location: Project Type**) Airport Rail) Electrical Distribution Tunneling) Water/Wastewater) Flood Control Telecom, Wide Area Network) Highway) Marine Facilities Pipeline) Central Utility Plant (CUP)) Tank Farms

Project Nature

) Process Control

) Navigation

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

Gas Distribution) Other Infrastructure

If project nature is brownfield or grassroots; did the project's design incorporate provisions for future expansion?

YES NO

If project nature is Addition or expansion or modernization, renovation, upgrade; did the existing facility's asbuilt condition include specific provisions for its addition, expansion, modernization, renovation or upgrade?

YES ■ NO

Pro	jec	t 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.
[C	ont	ractor Only] Which pha	se(s) did your company participate in on this project? (check all that apply)
() F	FEP () Eng	gineering () Procurement () Construction () Commissioning
		t Description briefly describe this proj	ect (i.e., what does the facility produce (?), what is its scope (?))
•	Wh	at was the average Com	missioning management team* size (in FTE)?
		Ave. Team Size (in FT	E)
•	Did		a concession agreement for the operation of the facility? YES NO e duration of concession agreement?
		,	Years
_	\ \/ h	at is the service life of the	o facility?
•	VVII	lat is the service life of the	Years
•	Wh	at is the expected averag	ge annual maintenance cost?
		\$	
•	The	e project delivery method	and contract type were mandated by regulation(s). TYES NO

II.	. Inp	ut M	easures							
1.	You	r Cum	nulative Years	s of Experience ir	Capit	al Projects:				
2.	Are	you th	ne Project Ma	nager? ■ YE	ES		Ю			
3.	The	comp	lexity of this	project was very	high ba	ased on its (c	heck all that a	pply):	
() S	Size	(() Schedule	() Contract	strategy	() Diversity of project to	eam
() T	echno	ology risks () Process sco	pe () Supply ch	ain reliability	() External stakeholde	rs
() T	raffic	control (() Location	() Work zon	e congestion			
	Othe	(spec	cify):							
_										
4.				Ived in the scope ning was well inte		. ,	■ YES		□ NO	
		•	ngly Agree	Agree	<u> </u>	Neutral	Disagree		Strongly Disagree	
				D D		D				
5.	Plea	ase ch	aracterize ho	w project meeting	gs wer	e conducted	(check all that	арр	ly).	
		•	Including ap	opropriate repres	entatio	n of stakehol	ders, i.e., the '	righ	t' people are present	
				echanisms for rescumentation, follo			ed issues (as r	nea	sured by pre-planning,	time,
		•	Occurring w	vith a frequency t	hat me	ets the proje	ct's needs			
		•	Having mea	aningful output the	at justi	fies my time i	nvestment.			
6.			the following that apply).	statements chara	cterize	ed the decisio	ns made by th	ie m	anager(s) of this proje	ct?
			Considered	final and not rev	isited					
			Collaborativ	e and inclusive						
			Made at the	e lowest appropria	ate leve	el in the orga	nization			
			Communica	ated promptly to t	he teai	m				
			Made in a ti	imely and effectiv	e man	ner				
			Consistent	with the delegation	on of a	uthority				

Was there a written, Commissioning-specific safety plan for this project?

No

•

Yes

0

		Strongly Disagree	ا	Neutral		Strongly Agree
8.	The owner level of involvement was appropriate.	•				
9.	A formal Commissioning execution plan including the impact to operations and maintenance was implemented.	D		•	•	•
10.	The Commissioning planning and scheduling processes were effective.			•	•	
11.	The Commissioning plan addressed community relations issues.	•		•	•	•
12.	The Commissioning team had skills and experiences with similar projects / processes.			•	•	0
13.	The project experienced a minimum number of Commissioning team personnel changes.	•				•
14.	All of the necessary, relevant Commissioning team members were involved in an effective risk identification and management process for Commissioning.	•		•		
15.	Commissioning management team* members were clear about their roles and how to work with others during Commissioning.	D			•	
16.	People on this project worked effectively as a team.		•		•	0
17.	Key Commissioning management team* members understood the owner's goals and objectives of this project.	D		•	•	0
18.	Commissioning management team* members had the authority necessary to do their jobs.	D			•	
19.	Leadership effectively communicated Commissioning goals and priorities.	D		•	•	
20.	The key stakeholders were fully aligned before and during Commissioning.	0				
21.	Commissioning leaders were open to hearing "bad news", and they wanted input from Commissioning team members.	0			•	0
22.	Plan and progress including changes were communicated clearly and frequently amongst project stakeholders.	•			•	
23.	The project team members were familiar with the Commissioning plan and they used it to manage their work.	•			•	
24.	Resources were allocated according to Commissioning priorities.				•	0
25.	A high degree of trust, respect and transparency existed amongst organizations working on this project during Commissioning.	0			•	0
26.	The Commissioning processes and systems supported project success.	•			•	•
27.	Commissioning management team* members had the information they needed to do their jobs effectively.	0			•	0

		Strongly Disagree	ı	Neutral	S	Strongly Agree
28.	Project leaders recognized and rewarded outstanding personnel and results during Commissioning.	•				•
29.	The Commissioning process achieved 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 Commissioning.	•				•
32.	The project's Commissioning processes were explicitly defined, managed, measured, and controlled	•				•
33.	The Commissioning management team* members attended sufficient professional training directly related to their work.	•				•
34.	The customer was satisfied with the Commissioning phase deliverables.	•				
35.	The cost of quality was monitored during the Commissioning of this project.	•			•	
36.	Sustainability was an important consideration for the Commissioning phase of this project.	0			•	
37.	The project's process safety objectives were appropriately communicated amongst the relevant Commissioning management team* members.	•			•	
38.	Commissioning safety procedures were well defined and strictly followed.	0		•	•	0
39.	Pre-task planning (including safety) was regularly conducted by foremen and/or other Commissioning managers.	0		•	•	0
40.	Key stakeholders including the public were properly identified and involved during Commissioning.	0		•	•	0
41.	The initial site and/or existing facility conditions were fully verified for the deliverables of this phase.	0	0		•	0
42.	All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders.	0			•	0
43.	Effective cooperation and coordination existed amongst the companies and regulatory agencies involved in this project.	0	•		•	

III. Output Measures

Cost: \$			Duration:	weeks
Please provide the	total number of m	ajor equipmer	nt*.	
	piece count			
Please provide the	estimated and ac	tual phase (Co	ommissioning) start and	end dates
Estimate	d Schedule (mm/d	ld/yyyy)	Actual Schedule	e (mm/dd/yyyy)
Start		Stop	Start	Stop
Please provide the	estimated and ac	tual phase (Co	ommissioning) cost.	
	e estimated and acted Cost (\$)	· · · · · · · · · · · · · · · · · · ·	ommissioning) cost. tual Cost (\$)	
		· · · · · · · · · · · · · · · · · · ·	<u> </u>	
		· · · · · · · · · · · · · · · · · · ·	<u> </u>	
	ted Cost (\$)	Ac	<u> </u>	
Estima What is the actual	ted Cost (\$)	Ac	tual Cost (\$)	
Estima	ted Cost (\$) capacity of the fac	Accility?	tual Cost (\$)	
Estima What is the actual Capacity	capacity of the factorial Unit (e.g., tons/	Acility? /day, BOE/day	tual Cost (\$)	s achieved?
Estima What is the actual Capacity	capacity of the factorial Unit (e.g., tons/	Acility? /day, BOE/day	centage of capacity was	achieved?
Estima What is the actual Capacity	capacity of the factorial Unit (e.g., tons/	Acility? /day, BOE/day	tual Cost (\$)	s achieved?
What is the actual Capacity When Commis	capacity of the factorial Unit (e.g., tons/Capacity of the factorial Capacity of the factorial C	Acidity? /day, BOE/day acity	centage of capacity was	s achieved?
Estima What is the actual Capacity	capacity of the factorial Unit (e.g., tons/Capacity of the factorial Capacity of the factorial C	Acidity? /day, BOE/day acity	centage of capacity was	achieved?