


Appendix 1

Questions to Input Measures Mapping

This session is intended to help you interpreting the 10-10 Project report. It will allow you to identify which questions are related to each Input metric score.

For a given report, for instance, the Industrial Front End Planning (IND-FEP) report, you should refer to the IND-FEP sheet of this document (represented below). There you will find one column for each of the 10 input metrics. The shaded rectangles indicate that a given question (row) is associated with a given input metric (column).



| <i>Industrial Projects Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | A robust, formal stage-gate process was rigorously followed for this project. | | | | | | | | | | |
| 6 | Was there a formal, documented constructability plan during Front End Planning? | | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | | | | | | | | |

A shaded rectangle in the 'Planning' column, for instance, for question number 4, indicates that question 4 is associated to the score of the 'Planning' metric. The same is true for question number 6 but not for question

| <i>Industrial Projects – Front End Planning Phase</i> | | Planning | Organizin | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|-----------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | A robust, formal stage-gate process was rigorously followed for this project. | | | | | | | | | | |
| 6 | Was there a formal, documented constructability plan during Front End Planning? | | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | | | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | | | | | | | | |
| 9 | Was there a formal (documented in writing) change management process for this project? | | | | | | | | | | |
| 10 | Was a life cycle cost analysis completed for this project? | | | | | | | | | | |
| 11 | Did Front End Planning incorporate community relations issues? | | | | | | | | | | |

| <i>Industrial Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 12 | Was the owner's project manager assigned at the beginning of Front End Planning? | ■ | ■ | ■ | | | | | | | |
| 13 | Was the Construction manager assigned during Front End Planning? | ■ | ■ | ■ | ■ | | ■ | | | | |
| 14 | Was the Engineering manager assigned during Front End Planning? | ■ | ■ | ■ | ■ | | ■ | | | | |
| 15 | Was the lead scheduler assigned during Front End Planning? | | ■ | | | | ■ | | | | |
| 16 | Was the cost engineer assigned during Front End Planning? | | ■ | | ■ | | ■ | | | | |
| 17 | The project had integrated peer reviews during Front End Planning. | | | ■ | ■ | | | | | | |
| 18 | The Front End Planning process included sufficient resources necessary to adequately define the scope. | ■ | ■ | | ■ | | ■ | | | | |
| 19 | The owner level of involvement was appropriate. | | | ■ | ■ | | | | | | |
| 20 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | | ■ | | | | | | |
| 21 | The Procurement strategy and plan were developed and communicated to the project team during Front End Planning. | ■ | | ■ | ■ | | | ■ | | ■ | |
| 22 | The project team was well aligned in terms of the owner's objectives, needs and expectations. | | ■ | | | | | | | | |
| 23 | The project execution plan supported the objectives of this project. | | | | | | | | | | |
| 24 | The Front End Planning process adapted to changes in project objectives or market conditions. | | ■ | | | | | | | | |
| 25 | The equipment Procurement and vendor schedules were not a significant challenge during Front End Planning on this project. | | | | ■ | | | | | ■ | |
| 26 | The project had an effective risk identification and management process. | | ■ | | ■ | | | ■ | | | |
| 27 | Preassembly, prefabrication, modularization, and offsite fabrication were thoroughly evaluated during Front End Planning. | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 28 | A formal Startup execution plan was developed which incorporated operations and maintenance philosophy. | ■ | | | ■ | | | ■ | | | |
| 29 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 30 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 31 | The project management team was adequately staffed. | | ■ | | ■ | | ■ | | | | |
| 32 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 33 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |

| <i>Industrial Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 34 | The interfaces between project stakeholders were well managed. | | | | | | | | | | |
| 35 | Key project team members understood the owner's goals and objectives of this project. | | | | | | | | | | |
| 36 | All of the necessary, relevant project team members were involved in the risk assessment process. | | | | | | | | | | |
| 37 | Project leaders recognized and rewarded outstanding personnel and results. | | | | | | | | | | |
| 38 | Leadership effectively communicated business objectives, priorities, and project goals. | | | | | | | | | | |
| 39 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | | | | | | | | |
| 40 | The project management team maintained open and effective communication. | | | | | | | | | | |
| 41 | Project team members had the information they needed to do their jobs effectively. | | | | | | | | | | |
| 42 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | | | | | | | | |
| 43 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | | | | | | | | |
| 44 | The project's Startup objectives were appropriately communicated to the relevant project team members. | | | | | | | | | | |
| 45 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | | | | | | | | |
| 46 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | | | | | | | | |
| 47 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Front End Planning is in compliance. | | | | | | | | | | |
| 48 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | | | | | |

| <i>Industrial Projects – Engineering Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | Did the project objectives change during Engineering? | ■ | | ■ | ■ | ■ | | ■ | | | |
| 6 | This project experienced a high number of : | ■ | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 9 | Was a life cycle cost analysis completed for this project? | | | | | | | | ■ | | |
| 11 | Was the Construction Manager involved during Detailed Engineering? | | ■ | | | | | | | | |
| 12 | Were multiple Design offices used on this project? | ■ | ■ | | | ■ | | | | | |
| 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 during Engineering. | ■ | | | ■ | | | | | ■ | |
| 18 | Comprehensive constructability suggestions (e.g., preassembly, prefabrication, modularization, and offsite fabrication) were evaluated and incorporated into the Engineering of the project. | ■ | ■ | | ■ | ■ | | | | | |
| 19 | A formal Startup execution plan including operations and maintenance philosophy was incorporated in Engineering. | ■ | | | ■ | | | ■ | | | |
| 20 | This project incorporated community relations issues in Engineering. | ■ | | | ■ | | | | ■ | | |
| 21 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 22 | Project team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 23 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 24 | People on this project worked effectively as a team. | | ■ | ■ | ■ | | | | | | |
| 25 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 26 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Detailed Design / Engineering. | | ■ | ■ | | ■ | | ■ | | ■ | |
| 27 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |

| <i>Industrial Projects – Engineering Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 28 | Key project team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | ■ | | | |
| 29 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Engineering. | ■ | ■ | | ■ | | | | | | |
| 30 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 31 | Leadership effectively communicated business objectives, priorities, and project goals. | | | ■ | | | | | | | |
| 32 | Resources were allocated according to project priorities. | ■ | | ■ | | | ■ | | | | |
| 33 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 34 | Project team members had the information they needed to do their jobs effectively. | | | ■ | ■ | | | | | | |
| 35 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 36 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 37 | The project's Startup objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 38 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | ■ | | ■ | | | |
| 39 | The number and quality of Engineering personnel was sufficient. | | ■ | | | | ■ | | | | |
| 40 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 41 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Engineering is in compliance. | | | | ■ | | ■ | ■ | ■ | | ■ |
| 42 | Engineering deliverables were released in a timely manner as a result of a good Engineering work sequence on this project. | | ■ | | ■ | ■ | | | | | |
| 43 | The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions). | | | | ■ | ■ | | ■ | | | |
| 44 | The project control system was effective in monitoring project progress in terms of cost, schedule, and scope. | | | | ■ | | | | | | |
| 45 | A dedicated process was used to proactively manage change on this project. | | | | ■ | | | | | | |

| <i>Industrial Projects – Engineering Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 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 work in the phase. | | | | | | ■ | | | | |
| 49 | The customer was satisfied with the Engineering deliverables. | | | | | | | ■ | | | |
| 50 | The cost of quality was determined during the Engineering phase of this project. | | | | | | | ■ | | | |

| <i>Industrial Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | Did the project objectives change during Procurement? | | | | | | | | | | |
| 5 | This project experienced a high number of: | | | | | | | | | | |
| 6 | Please characterize how project meetings were conducted. | | | | | | | | | | |
| 7 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | | | | | | | | |
| 8 | Was a life cycle cost analysis completed for this project? | | | | | | | | | | |
| 9 | The owner level of involvement was appropriate. | | | | | | | | | | |
| 10 | Preferred suppliers were used effectively to streamline the Procurement process. | | | | | | | | | | |
| 11 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | | | | | | | | | | |
| 12 | The project objective and priorities were clearly defined. | | | | | | | | | | |
| 13 | The Procurement plan adapted to changing market conditions. | | | | | | | | | | |
| 14 | The materials management plan for this project appropriately addressed elements such as project goals, responsibility, cost & schedule, and transportation & logistics. | | | | | | | | | | |
| 15 | The equipment Procurement and vendor schedules were not a significant challenge for this project. | | | | | | | | | | |
| 16 | A formal Startup execution plan including operations and maintenance philosophy was incorporated in the Procurement. | | | | | | | | | | |
| 17 | Sustainability was an important consideration for the Procurement phase of this project. | | | | | | | | | | |
| 18 | The Procurement plan addressed local content requirements. | | | | | | | | | | |
| 19 | Appropriate contingencies were established to address materials and labor cost escalation. | | | | | | | | | | |
| 20 | Project management team members were clear about their roles and how to work with others on the project. | | | | | | | | | | |
| 21 | Project team members had the authority necessary to do their jobs. | | | | | | | | | | |
| 22 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | | | | | | | | | |
| 23 | People on this project worked effectively as a team. | | | | | | | | | | |
| 24 | The project experienced a minimum number of project management team personnel changes | | | | | | | | | | |
| 25 | The interfaces between project stakeholders were well managed. | | | | | | | | | | |
| 26 | Key project team members understood the owner's goals and objectives of this project. | | | | | | | | | | |
| 27 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Procurement. | | | | | | | | | | |
| 28 | Project leaders recognized and rewarded outstanding personnel and results. | | | | | | | | | | |

| <i>Industrial Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 29 | Leadership effectively communicated business 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. | | | ■ | | | | | | | |
| 32 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Procurement. | | ■ | | | | | | | ■ | |
| 33 | Project team members had the information they needed to do their jobs effectively. | | | ■ | | | | | | | |
| 34 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 35 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 36 | The project's Startup objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 37 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | | | ■ | | | |
| 38 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 39 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Procurement is in compliance. | | | | ■ | | ■ | ■ | ■ | | ■ |
| 40 | The project encountered few problems associated with the late delivery of equipment and bulk materials. | | | | ■ | | | ■ | | ■ | |
| 41 | Site materials management was effective. | ■ | | | ■ | | | ■ | | ■ | ■ |
| 42 | Major equipment was delivered complete and on time. | | | | ■ | | | | | ■ | |
| 43 | Risks were appropriately allocated through effective purchasing agreements. | ■ | ■ | | ■ | | | | | ■ | |
| 44 | This project implemented a supplier quality surveillance program. | | | | ■ | | | ■ | | ■ | ■ |
| 45 | The project control system was effective in monitoring project progress in terms of cost, schedule, and scope. | | | | ■ | | | | | | |
| 46 | A dedicated process was used to proactively manage change on this project. | | | | ■ | | | | | | |
| 47 | A formal project Quality Management System was used for the Procurement of this project. | | | | ■ | | | ■ | | | |
| 48 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |
| 49 | The customer was satisfied with the Procurement phase deliverables. | | | | | | | ■ | | | |
| 50 | The cost of quality was determined during the Procurement phase of this project. | | | | | | | ■ | | | |

| <i>Industrial Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| G | What was the typical foreman to craft ratio? | | ■ | | ■ | | ■ | | | | |
| G | Overall how many workers per safety professional were typically (i.e., in terms of the average workforce) on site? | | | | ■ | | ■ | | | | ■ |
| 4 | Did the project objectives change during Construction? | ■ | | | | ■ | | | | | |
| 5 | This project experienced a high number of: | ■ | | | | | | | | | |
| 6 | Was a turnaround involved in the scope of this project? | ■ | | | | | ■ | | | | |
| 7 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 9 | This project used the following methods. | ■ | ■ | ■ | ■ | ■ | | ■ | | | ■ |
| 10 | Formal (classroom) safety training was attended: | | | ■ | | | | | | | ■ |
| 11 | Did the original primary contractor(s) complete the project? | | ■ | | | | | | | | |
| 13 | Was safety performance a criterion for contractor and subcontractor selection? | | ■ | | | | | | | | ■ |
| 14 | Were safety toolbox meetings held daily? | | | | | | | | | | ■ |
| 15 | Were accidents including near misses formally investigated? | | | | | | | | | | ■ |
| 16 | The availability and competency of craft labor was adequate. | ■ | | | | | ■ | ■ | | | ■ |
| 17 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 18 | The owner and primary contractor(s) maintain a long-standing partnering arrangement. | ■ | ■ | ■ | | | | | | ■ | |
| 19 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | ■ | ■ | | | | | | |
| 20 | A formal Startup execution plan including operations and maintenance philosophy was incorporated in the Construction. | ■ | | | ■ | | | ■ | | | |
| 21 | The work planning and scheduling processes were effective. | ■ | | | | | | | | | |
| 22 | Project cash flow was managed well during Construction. | | | | ■ | | | | | | |
| 23 | The Construction execution plan addressed community relations issues. | ■ | | | | | | | | | |
| 24 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 25 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 26 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Construction. | ■ | ■ | | ■ | | | | | | |
| 27 | Project safety procedures were well defined and strictly followed. | | ■ | ■ | ■ | | | | | | ■ |
| 28 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 29 | Subcontractors provided the majority of the Construction craft workers. | | ■ | | ■ | | ■ | | | | |
| 30 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 31 | Key project team members understood the owner's goals and objectives of this project. | | ■ | | | | | | | | |

| <i>Industrial Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 32 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 33 | Engineering deliverables were released in a timely manner and in a proper sequence. | | | | ■ | ■ | | | | | |
| 34 | Project team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 35 | This project experienced a minimum amount of labor disruption | | ■ | | ■ | | ■ | | | | |
| 36 | The owner and primary contractor(s) maintained positive working relationships. | ■ | | ■ | ■ | | | | | ■ | |
| 37 | Leadership effectively communicated business objectives, priorities, and project goals. | | | ■ | | | | | | | |
| 38 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Construction. | | ■ | ■ | | | | | | | |
| 39 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 40 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 41 | The project's Startup objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 42 | Resources were allocated according to project priorities. | | | ■ | | | | | | | |
| 43 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 44 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | | | ■ | | | |
| 45 | Project team members had the information they needed to do their jobs effectively. | | | ■ | | | | | | | |
| 46 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 47 | The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions). | | | | ■ | ■ | | ■ | | | |
| 48 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 49 | The project encountered few problems associated with the late delivery of equipment and bulk materials. | | | | ■ | | | | | ■ | |
| 50 | A dedicated process was used to proactively manage change on this project. | | | | ■ | | | | | | |
| 51 | A formal project Quality Management System was used for the Construction of this project. | | | | ■ | | | ■ | | | |
| 52 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Construction is in compliance. | | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ |
| 53 | Site materials management was effective. | ■ | | | ■ | | | | | ■ | |
| 54 | The project employed regular safety audits or observations. | | | | | | | | | | ■ |
| 55 | Materials and equipment were typically received on time, without damage, and per Design specification. | | | | ■ | | | | | ■ | |

| <i>Industrial Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 56 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |
| 57 | The customer was satisfied with the Construction deliverables. | | | | | | | ■ | | | |
| 58 | The cost of quality was determined during the Construction phase of this project. | | | | | | | ■ | | | |
| 59 | Sustainability was an important consideration for the Construction phase of this project. | | | | | | | | ■ | | |

| <i>Industrial Projects – Startup Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | Was a turnaround involved in the scope of this project? | ■ | | | ■ | | ■ | | | | |
| 5 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 6 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 7 | Was there a written, Startup-Specific safety plan for this project? | ■ | | | | | | | | | ■ |
| 8 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 9 | A formal Startup execution plan including the impact to operations and maintenance was implemented. | ■ | | | ■ | | | ■ | | | |
| 10 | The Startup planning and scheduling processes were effective. | ■ | | | | | | | | | |
| 11 | The Startup plan addressed community relations issues. | ■ | | | ■ | | | | ■ | ■ | |
| 12 | The Startup team had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 13 | The project experienced a minimum number of Startup team personnel changes. | | ■ | ■ | | | ■ | | | | |
| 14 | All of the necessary, relevant Startup team members were involved in an effective risk identification and management process for Startup. | ■ | ■ | | ■ | | | | | | |
| 15 | Startup management team members were clear about their roles and how to work with others during Startup. | ■ | ■ | ■ | ■ | | | | | | |
| 16 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 17 | Key Startup management team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | | | | |
| 18 | Startup management team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 19 | Leadership effectively communicated Startup goals and priorities. | | | ■ | | | | | | | |
| 20 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Startup. | | ■ | ■ | | | | | | | |
| 21 | Startup leaders were open to hearing "bad news", and they wanted input from Startup team members. | | | ■ | | | | | | | |
| 22 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 23 | The project team members were familiar with the Startup plan and they used it to manage their work. | ■ | | ■ | ■ | ■ | | | | | |
| 24 | Resources were allocated according to Startup priorities. | ■ | | ■ | | | | | | | |
| 25 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 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. | | | | ■ | | | ■ | ■ | | ■ |

| <i>Industrial Projects – Startup Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 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. | | | | ■ | | ■ | ■ | ■ | | ■ |
| 33 | The project's Startup processes were explicitly defined, managed, measured, and controlled | | | | ■ | | | | | | |
| 34 | The Startup management team members attended sufficient professional training directly related to their work. | | | | | | ■ | | | | |
| 35 | The customer was satisfied with the Startup deliverables. | | | | | | | ■ | | | |
| 36 | The cost of quality was monitored during the Startup of this project. | | | | | | | ■ | | | |
| 36 | Sustainability was an important consideration for the Startup of this project. | | | | | | | | ■ | | |
| 37 | The project's process safety objectives were appropriately communicated amongst the relevant Startup management team members. | | | | | | | | | | ■ |
| 38 | Startup safety procedures were well defined and strictly followed. | | | | | | | | | | ■ |
| 39 | Pre-task planning (including safety) was regularly conducted by foremen and/or other Startup managers. | ■ | | | ■ | | | | | | ■ |

| <i>Building Projects – Programming Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 5 | A robust, formal stage-gate process was rigorously followed for this project. | ■ | ■ | | | | | | | | |
| 7 | Were pre-construction services used and was a constructability plan developed? | ■ | ■ | | ■ | | | | | | ■ |
| 8 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 9 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 10 | Was there a formal (documented in writing) change management process for this project? | | | | ■ | | | | | | |
| 11 | Was a life cycle cost analysis completed for this project? | ■ | | | | | | ■ | ■ | | |
| 12 | Is this project intended to be LEED certified or equivalent (certifiable)? | | | | | | | | ■ | | |
| 13 | Were bridging documents produced during Programming? | ■ | | | ■ | | | | | | |
| 14 | Did Programming incorporate community relations issues? | ■ | | | ■ | | | | ■ | | |
| 15 | Was the owner's project manager assigned at the beginning of Programming? | ■ | ■ | ■ | | | | | | | |
| 16 | Was the Construction manager assigned during Programming? | ■ | ■ | ■ | ■ | | ■ | | | | |
| 18 | Was the lead scheduler assigned during Programming? | | ■ | | | | ■ | | | | |
| 19 | Was the cost engineer assigned during Front End Planning? | | ■ | | ■ | | ■ | | | | |
| 20 | The project had integrated peer reviews during Programming. | | | ■ | ■ | | | | | | |
| 21 | The Programming process included sufficient resources necessary to adequately define the scope. | ■ | ■ | | ■ | | ■ | | | | |
| 22 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 23 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | | ■ | | | | | | |
| 24 | The Procurement strategy and plan were developed and communicated to the project team during Programming. | ■ | | ■ | ■ | | ■ | | | ■ | |
| 25 | The project team was well aligned in terms of the owner's objectives, needs and expectations. | ■ | ■ | | | | | | | | |
| 26 | The project execution plan supported the objectives of this project. | ■ | | | | | | | | | |
| 27 | Programming process adapted to changes in project objectives or market conditions. | ■ | ■ | | | | | | | | |
| 28 | The Procurement and vendor schedules were not a significant challenge during Programming on this project. | ■ | | | ■ | | ■ | | | ■ | |
| 29 | The project had an effective risk identification and management process. | ■ | ■ | | ■ | | ■ | | | | |
| 30 | Preassembly, prefabrication, modularization, and offsite fabrication were thoroughly evaluated during Programming. | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 31 | A formal Commissioning execution plan was developed which incorporated operations and maintenance philosophy. | ■ | | | ■ | | ■ | | | | |

| <i>Building Projects – Programming Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 32 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 33 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 34 | The project management team was adequately staffed. | | ■ | | | | ■ | | | | |
| 35 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 36 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 37 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 38 | Key project team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | | | | |
| 39 | All of the necessary, relevant project team members were involved in the risk assessment process. | | ■ | | ■ | | | | | | |
| 40 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 41 | Leadership effectively communicated business objectives, priorities, and project goals. | | | ■ | | | | | | | |
| 42 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 43 | The project management team maintained open and effective communication. | | | ■ | ■ | | | | | | |
| 44 | Project team members had the information they needed to do their jobs effectively. | | | ■ | ■ | | | ■ | | | |
| 45 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 46 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 47 | The project's Commissioning objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 48 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | ■ | ■ | ■ | ■ | | ■ | | | |
| 49 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 50 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Programming is in compliance. | | | | ■ | | ■ | ■ | ■ | | ■ |
| 51 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |

| <i>Building Projects – Design Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 5 | Did the project objectives change during Design? | ■ | | ■ | ■ | ■ | | ■ | | | |
| 7 | This project experienced a high number of: | ■ | | | | | | | | | |
| 8 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 9 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 10 | Was a life cycle cost analysis completed for this project? | | | | | | | | ■ | | |
| 11 | Is this project intended to be LEED certified or equivalent (certifiable)? | | | | | | | | ■ | | |
| 12 | Did this project use a Building Information Model? | ■ | | | | ■ | | | | | |
| 14 | Was the Construction manager involved during Design? | ■ | ■ | | | | | | | | |
| 15 | Were multiple Design offices used on this project? | ■ | | | | ■ | | | | | |
| 16 | The owner level of involvement was appropriate. | ■ | | | | | | | | | |
| 17 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | ■ | ■ | | | | | | |
| 18 | The Procurement strategy and plan were communicated to the project team during Design. | ■ | | | | | | ■ | | ■ | |
| 19 | The project objective and priorities were clearly defined. | ■ | | ■ | | | | | | | |
| 20 | The equipment Procurement and vendor schedules were a significant challenge during Design. | ■ | | | ■ | | | | | ■ | |
| 21 | Comprehensive constructability suggestions (e.g., preassembly*, prefabrication*, modularization*, and offsite fabrication*) were evaluated and incorporated into the Design of the project. | ■ | ■ | | ■ | ■ | | | | | |
| 22 | A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in Engineering. | ■ | | | ■ | | | ■ | | | |
| 23 | This project incorporated community relations issues in Design. | ■ | | | ■ | | | | ■ | | |
| 24 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 25 | Project team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 26 | The project team including project manager(s) had skills and experiences with similar projects /processes. | | ■ | | ■ | | ■ | | | | |
| 27 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 28 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 29 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Design. | | ■ | ■ | | ■ | | ■ | | ■ | |
| 30 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 31 | Key project team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | ■ | | | |
| 32 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Design. | ■ | ■ | | ■ | | | | | | |
| 33 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |

| Building Projects – Design Phase | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|-----------------|-------------------|----------------|--------------------|--------------------------|------------------------|----------------|-----------------------|---------------------|---------------|
| 34 | Leadership effectively communicated business objectives, priorities, and project goals. | | | ■ | | | | | | | |
| 35 | Resources were allocated according to project priorities. | ■ | | ■ | | | ■ | | | | |
| 36 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 37 | Project team members had the information they needed to do their jobs effectively. | | | ■ | ■ | | | | | | |
| 38 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 39 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 40 | The project's Commissioning objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 41 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | ■ | | ■ | | | |
| 42 | The number and quality of Design personnel was sufficient. | | ■ | | | | ■ | | | | |
| 43 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 44 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Design is in compliance. | | | | ■ | | ■ | ■ | ■ | | ■ |
| 45 | Design deliverables were released in a timely manner as a result of a good Design work sequence on this project. | | ■ | | ■ | ■ | | | | | |
| 46 | The Design deliverables received from consulting engineers or other architects were complete and accurate (possessing a minimal amount of errors and omissions). | | | | ■ | ■ | | ■ | | | |
| 47 | The project control system was effective in monitoring project progress in terms of cost, schedule, and scope. | | | | ■ | | | | | | |
| 48 | A dedicated process was used to proactively manage change on this project. | | | | ■ | | | | | | |
| 49 | A formal project Quality Management System was used for the Design of this project. | | | | ■ | | | ■ | | | |
| 50 | An interim product database and/or standardized Designs were used extensively in the Design of this project. | ■ | | | | ■ | | ■ | | ■ | |
| 51 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |
| 52 | The customer was satisfied with the Design deliverables. | | | | | | | ■ | | | |
| 53 | The cost of quality was determined during the Design of this project. | | | | | | | ■ | | | |

| <i>Building Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 5 | Did the project objectives change during Procurement? | | | | | | | | | | |
| 6 | This project experienced a high number of: | | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | | | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | | | | | | | | |
| 9 | Was a life cycle cost analysis completed for this project? | | | | | | | | | | |
| 10 | Is this project intended to be LEED certified or equivalent (certifiable)? | | | | | | | | | | |
| 11 | The owner level of involvement was appropriate. | | | | | | | | | | |
| 12 | Preferred suppliers were used effectively to streamline the Procurement process. | | | | | | | | | | |
| 13 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | | | | | | | | | | |
| 14 | The project objective and priorities were clearly defined. | | | | | | | | | | |
| 15 | The Procurement plan adapted to changing market conditions. | | | | | | | | | | |
| 16 | The materials management plan for this project appropriately addressed elements such as project goals, responsibility, cost & schedule, and transportation & logistics. | | | | | | | | | | |
| 17 | The equipment Procurement and vendor schedules were not a significant challenge for this project. | | | | | | | | | | |
| 18 | A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in the Procurement. | | | | | | | | | | |
| 19 | Sustainability was an important consideration for the Procurement of this project. | | | | | | | | | | |
| 20 | The Procurement plan addressed local content requirements. | | | | | | | | | | |
| 21 | Appropriate contingencies were established to address materials and labor cost escalation. | | | | | | | | | | |
| 22 | Project management team members were clear about their roles and how to work with others on the project. | | | | | | | | | | |
| 23 | Project team members had the authority necessary to do their jobs. | | | | | | | | | | |
| 24 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | | | | | | | | | |
| 25 | People on this project worked effectively as a team. | | | | | | | | | | |
| 26 | The project experienced a minimum number of project management team personnel changes | | | | | | | | | | |
| 27 | The interfaces between project stakeholders were well managed. | | | | | | | | | | |
| 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 Procurement. | | | | | | | | | | |
| 30 | Project leaders recognized and rewarded outstanding personnel and results. | | | | | | | | | | |

| | | <i>Building Projects – Procurement Phase</i> | | | | | | | | | |
|----|---|--|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
| 31 | Leadership effectively communicated business objectives, priorities, and project goals. | | | | | | | | | | |
| 32 | Resources were allocated according to project priorities. | | | | | | | | | | |
| 33 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | | | | | | | | |
| 34 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Procurement. | | | | | | | | | | |
| 35 | Project team members had the information they needed to do their jobs effectively. | | | | | | | | | | |
| 36 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | | | | | | | | |
| 37 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | | | | | | | | |
| 38 | The project's Commissioning objectives were appropriately communicated to the relevant project team members. | | | | | | | | | | |
| 39 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | | | | | | | | |
| 40 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | | | | | | | | |
| 41 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Procurement is in compliance. | | | | | | | | | | |
| 42 | The project encountered few problems associated with the late delivery of equipment and bulk materials. | | | | | | | | | | |
| 43 | Site materials management was effective. | | | | | | | | | | |
| 44 | Major equipment was delivered complete and on time. | | | | | | | | | | |
| 45 | Risks were appropriately allocated through effective purchasing agreements. | | | | | | | | | | |
| 46 | This project implemented a supplier quality surveillance program. | | | | | | | | | | |
| 47 | The project control system was effective in monitoring project progress in terms of cost, schedule, and scope. | | | | | | | | | | |
| 48 | A dedicated process was used to proactively manage change on this project. | | | | | | | | | | |
| 49 | A formal project Quality Management System was used for the Procurement of this project. | | | | | | | | | | |
| 50 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | | | | | |
| 51 | The customer was satisfied with the Procurement deliverables. | | | | | | | | | | |
| 52 | The cost of quality was determined during the Procurement of this project. | | | | | | | | | | |

| <i>Building Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| G | What was the typical foreman to craft ratio? | | ■ | | ■ | | ■ | | | | |
| G | Overall how many workers per safety professional were typically (i.e., in terms of the average workforce) on site? | | | | ■ | | ■ | | | | ■ |
| 5 | Did the project objectives change during Construction? | ■ | | | | ■ | | | | | |
| 6 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 6 | This project experienced a high number of: | ■ | | | | | | | | | |
| 7 | Was a renovation to an operating facility included in the scope of this project? | ■ | | | | | | | | | |
| 9 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 10 | This project used the following methods: | ■ | ■ | ■ | ■ | ■ | | ■ | | | ■ |
| 11 | Formal (classroom) safety training was attended: | | | ■ | | | | | | | ■ |
| 12 | Did the original primary contractor(s) complete the project? | | ■ | | | | | | | | |
| 13 | Was safety performance a criterion for contractor and subcontractor selection? | | ■ | | | | | | | | ■ |
| 14 | Were safety toolbox meetings held daily? | | | | | | | | | | ■ |
| 15 | Were accidents including near misses formally investigated? | | | | | | | | | | ■ |
| 16 | The availability and competency of craft labor was adequate. | ■ | | | | | ■ | ■ | | | ■ |
| 17 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 18 | The owner and primary contractor(s) maintain a long-standing partnering arrangement. | ■ | ■ | ■ | | | | | | ■ | |
| 19 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | ■ | ■ | | | | | | |
| 20 | A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in the Construction | ■ | | | ■ | | | ■ | | | |
| 21 | The work planning and scheduling processes were effective. | ■ | | | | | | | | | |
| 22 | Project cash flow was managed well during Construction. | | | | ■ | | | | | | |
| 23 | The Construction execution plan addressed community relations issues. | ■ | | | | | | | | | |
| 24 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 25 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 26 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Construction. | ■ | ■ | | ■ | | | | | | |
| 27 | Project safety procedures were well defined and strictly followed. | | ■ | ■ | | | | | | | ■ |
| 28 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 29 | Subcontractors provided the majority of the Construction craft workers. | | ■ | | ■ | | ■ | | | | |
| 30 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |

| <i>Building Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 31 | Key project team members understood the owner's goals and objectives of this project. | | ■ | | | | | | | | |
| 32 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 33 | Design deliverables were released in a timely manner and in a proper sequence. | | | | ■ | ■ | | | | | |
| 34 | Project team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 35 | This project experienced a minimum amount of labor disruption | | ■ | | ■ | | ■ | | | | |
| 36 | The owner and primary contractor(s) maintained positive working relationships. | ■ | | ■ | ■ | | | | | ■ | |
| 37 | Leadership effectively communicated business objectives, priorities, and project goals. | | | ■ | | | | | | | |
| 38 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Construction. | | ■ | ■ | | | | | | | |
| 39 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 40 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 41 | The project's Commissioning objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 42 | Resources were allocated according to project priorities. | | | ■ | | | | | | | |
| 43 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 44 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | | | ■ | | | |
| 45 | Project team members had the information they needed to do their jobs effectively. | | | ■ | | | | | | | |
| 46 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 47 | The Design deliverables were complete and accurate (possessing a minimal amount of errors and omissions). | | | ■ | ■ | ■ | | ■ | | | |
| 48 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 49 | The project encountered few problems associated with the late delivery of equipment and bulk materials. | | | ■ | ■ | | | | | ■ | |
| 50 | A dedicated process was used to proactively manage change on this project. | | | ■ | ■ | | | | | | |
| 51 | A formal project Quality Management System was used for the Construction of this project. | | | ■ | ■ | | | ■ | | | |
| 52 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Construction is in compliance. | | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ |
| 53 | Site materials management was effective. | ■ | | | ■ | | | | | ■ | |
| 54 | The project employed regular safety audits or observations. | | | | | | | | | | ■ |
| 55 | Materials and equipment were typically received on time, without damage, and per Design specification. | | | | ■ | | | | | ■ | |

| <i>Building Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 56 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | | | | | |
| 57 | The customer was satisfied with the Construction deliverables. | | | | | | | | | | |
| 58 | The cost of quality was determined during the Construction of this project. | | | | | | | | | | |
| 59 | Sustainability was an important consideration for the Construction of this project. | | | | | | | | | | |

| <i>Building Projects – Commissioning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 5 | Was a renovation to an operating facility included in the scope of this project? | | | | | | | | | | |
| 6 | Please characterize how project meetings were conducted. | | | | | | | | | | |
| 7 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | | | | | | | | |
| 8 | Was there a written, Commissioning-specific safety plan for this project? | | | | | | | | | | |
| 9 | The owner level of involvement was appropriate. | | | | | | | | | | |
| 10 | A formal Commissioning execution plan including the impact to operations and maintenance was implemented. | | | | | | | | | | |
| 11 | The Commissioning planning and scheduling processes were effective. | | | | | | | | | | |
| 12 | The Commissioning plan addressed community relations issues. | | | | | | | | | | |
| 13 | The Commissioning team had skills and experiences with similar projects / processes. | | | | | | | | | | |
| 14 | The project experienced a minimum number of Commissioning team personnel changes. | | | | | | | | | | |
| 15 | All of the necessary, relevant Commissioning team members were involved in an effective risk identification and management process for Commissioning. | | | | | | | | | | |
| 16 | Commissioning management team members were clear about their roles and how to work with others during Commissioning. | | | | | | | | | | |
| 17 | People on this project worked effectively as a team. | | | | | | | | | | |
| 18 | Key Commissioning management team members understood the owner's goals and objectives of this project. | | | | | | | | | | |
| 19 | Commissioning management team members had the authority necessary to do their jobs. | | | | | | | | | | |
| 20 | Leadership effectively communicated Commissioning goals and priorities. | | | | | | | | | | |
| 21 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Commissioning. | | | | | | | | | | |
| 22 | Commissioning leaders were open to hearing "bad news", and they wanted input from Startup team members. | | | | | | | | | | |
| 23 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | | | | | | | | |
| 24 | The project team members were familiar with the Commissioning plan and they used it to manage their work. | | | | | | | | | | |
| 25 | Resources were allocated according to Commissioning priorities. | | | | | | | | | | |
| 26 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | | | | | | | | |
| 27 | The Commissioning processes and systems supported project success. | | | | | | | | | | |
| 28 | Commissioning management team members had the information they needed to do their jobs effectively. | | | | | | | | | | |
| 29 | Project leaders recognized and rewarded outstanding personnel and results during Commissioning. | | | | | | | | | | |
| 30 | The Commissioning process achieved the operability and product quality objectives. | | | | | | | | | | |
| 31 | When issues arose, there were effective mechanisms to ensure they | | | | | | | | | | |

| <i>Building Projects – Commissioning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| | were resolved. | | | | | | | | | | |
| 32 | A dedicated process was used to proactively manage change during Commissioning. | | | | | | | | | | |
| 33 | Regulatory requirements (e.g., permitting and environmental issues) were properly managed and Commissioning is in compliance. | | | | | | | | | | |
| 34 | The project's Commissioning processes were explicitly defined, managed, measured, and controlled | | | | | | | | | | |
| 35 | The Commissioning management team members attended sufficient professional training directly related to their work. | | | | | | | | | | |
| 36 | The customer was satisfied with the Commissioning phase deliverables. | | | | | | | | | | |
| 37 | The cost of quality was monitored during the Commissioning of this project. | | | | | | | | | | |
| 38 | Sustainability was an important consideration for the Commissioning phase of this project. | | | | | | | | | | |
| 39 | The project's process safety objectives were appropriately communicated amongst the relevant Commissioning management team members. | | | | | | | | | | |
| 40 | Commissioning safety procedures were well defined and strictly followed. | | | | | | | | | | |
| 41 | Pre-task planning (including safety) was regularly conducted by foremen and/or other Commissioning managers. | | | | | | | | | | |
| 42 | Virtually all of punch list items were not very difficult to address in terms of time and cost. | | | | | | | | | | |

| <i>Infrastructure Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | A robust, formal stage-gate process was rigorously followed for this project. | | | | | | | | | | |
| 6 | Was there a formal, documented constructability plan during Front End Planning? | | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | | | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | | | | | | | | |
| 9 | Was there a formal (documented in writing) change management process for this project? | | | | | | | | | | |
| 10 | Was a life cycle cost analysis completed for this project? | | | | | | | | | | |
| 11 | Did Front End Planning incorporate community relations issues? | | | | | | | | | | |
| 12 | Was the owner's project manager assigned at the beginning of Front End Planning? | | | | | | | | | | |
| 13 | Was the Construction manager assigned during Front End Planning? | | | | | | | | | | |
| 14 | Was the Engineering manager assigned during Front End Planning? | | | | | | | | | | |
| 15 | Was the lead scheduler assigned during Front End Planning? | | | | | | | | | | |
| 16 | Was the cost engineer assigned during Front End Planning? | | | | | | | | | | |
| 17 | The project had integrated peer reviews during Front End Planning. | | | | | | | | | | |
| 18 | The Front End Planning process included sufficient resources necessary to adequately define the scope. | | | | | | | | | | |
| 19 | The owner level of involvement was appropriate. | | | | | | | | | | |
| 20 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | | | | | | | | | | |
| 21 | The Procurement strategy and plan were developed and communicated to the project team during Front End Planning. | | | | | | | | | | |
| 22 | The project team was well aligned in terms of the owner's objectives, needs and expectations. | | | | | | | | | | |
| 23 | The project execution plan supported the objectives of this project. | | | | | | | | | | |
| 25 | The equipment Procurement and vendor schedules were not a significant challenge during Front End Planning on this project. | | | | | | | | | | |
| 26 | The project had an effective risk identification and management process. | | | | | | | | | | |
| 27 | Preassembly, prefabrication, modularization, and offsite fabrication were thoroughly evaluated during Front End Planning. | | | | | | | | | | |
| 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. | | | | | | | | | | |

| <i>Infrastructure Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 31 | The project management team was adequately staffed. | | ■ | | | | ■ | | | | |
| 32 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 33 | The project experienced a minimum number of project management team personnel changes | | ■ | | ■ | | ■ | | | | |
| 34 | The interfaces between project stakeholders were well managed. | | ■ | | | | | | | | |
| 35 | Key project team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | | | | |
| 36 | All of the necessary, relevant project team members were involved in the risk assessment process. | | ■ | | ■ | | | | | | |
| 37 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 38 | Leadership effectively communicated 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. | | | ■ | ■ | | | | | | |
| 43 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 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. | | ■ | ■ | ■ | | | ■ | | | |
| 46 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 47 | The acquisition of land and/or Right of Way (ROW) proceeded according to plan | ■ | ■ | ■ | ■ | | | ■ | ■ | | |
| 48 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |
| 49 | Key stakeholders including the public were properly identified and involved during Front End Planning. | ■ | ■ | ■ | ■ | | ■ | | | ■ | ■ |
| 50 | All required environmental impact assessments were completed. | ■ | | | ■ | | | ■ | ■ | | |
| 51 | The initial site and/or existing facility conditions were fully verified for the deliverables of this phase. | ■ | | | | ■ | | ■ | ■ | | ■ |
| 52 | All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders. | ■ | ■ | ■ | | ■ | | ■ | ■ | | ■ |
| 53 | Effective cooperation and coordination existed amongst the organizations and regulatory agencies involved in this project. | ■ | ■ | ■ | ■ | | | ■ | ■ | ■ | |

| <i>Infrastructure Projects – Engineering Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | Did the project objectives change during Engineering? | ■ | | ■ | ■ | ■ | | ■ | | | |
| 6 | This project experienced a high number of : | ■ | | | | | | | | | |
| 7 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 9 | Was a life cycle cost analysis completed for this project? | | | | | | | | ■ | | |
| 11 | Was the Construction Manager involved during Detailed Engineering? | | ■ | | | | | | | | |
| 12 | Were multiple Design offices used on this project? | ■ | ■ | | | ■ | | | | | |
| 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 during Engineering. | ■ | | | ■ | | | | | ■ | |
| 18 | Comprehensive constructability suggestions (e.g., preassembly, prefabrication, modularization, and offsite fabrication) were evaluated and incorporated into the Engineering of the project. | ■ | ■ | | ■ | ■ | | | | | |
| 19 | A formal 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. | | ■ | | ■ | | ■ | | | | |
| 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 Engineering. | | ■ | ■ | | ■ | | ■ | | ■ | |
| 27 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 28 | Key project team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | ■ | | | |
| 29 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Engineering. | ■ | ■ | | ■ | | | | | | |
| 30 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 31 | Leadership effectively communicated organizational objectives, priorities, and | | | ■ | | | | | | | |

| <i>Infrastructure Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| | project goals. | | | | | | | | | | |
| 32 | Resources were allocated according to project priorities. | | | | | | | | | | |
| 33 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | | | | | | | | |
| 34 | Project team members had the information they needed to do their jobs effectively. | | | | | | | | | | |
| 35 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | | | | | | | | |
| 36 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | | | | | | | | |
| 37 | The project's 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 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. | | | | | | | | | | |
| 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. | | | | | | | | | | |
| 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 work in the phase. | | | | | | | | | | |
| 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 Front End Planning. | | | | | | | | | | |
| 52 | All required environmental impact assessments were completed. | | | | | | | | | | |

| <i>Infrastructure Projects – Front End Planning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 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 organizations and regulatory agencies involved in this project. | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | |

| <i>Infrastructure Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 4 | Did the project objectives change during Procurement? | ■ | | | ■ | ■ | | | | | |
| 5 | This project experienced a high number of (please check all that apply): | ■ | ■ | | | | | | | | |
| 6 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 7 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 8 | Was a life cycle cost analysis completed for this project? | | | | | | | | ■ | | |
| 9 | The owner level of involvement was appropriate. | ■ | ■ | ■ | ■ | | | | | | |
| 10 | Preferred suppliers were used effectively to streamline the Procurement process. | ■ | | | ■ | | | ■ | | ■ | |
| 11 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | ■ | ■ | | | | | | |
| 12 | The project objective and priorities were clearly defined. | ■ | ■ | ■ | | | | | | | |
| 13 | The Procurement plan adapted to changing market conditions. | ■ | ■ | | ■ | | | | | ■ | |
| 14 | The materials management plan for this project appropriately addressed elements such as project goals, responsibility, cost & schedule, and transportation & logistics. | | | | ■ | | | | | ■ | |
| 15 | The equipment Procurement and vendor schedules were not a significant challenge for this project. | ■ | | | ■ | | | | | ■ | |
| 16 | A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in the Procurement. | ■ | | | ■ | | | ■ | | | |
| 17 | Sustainability was an important consideration for the Procurement phase of this project. | ■ | | | ■ | | | | ■ | | |
| 18 | The Procurement plan addressed local content requirements. | ■ | ■ | | | | | | | | |
| 19 | Appropriate contingencies were established to address materials and labor cost escalation. | ■ | | | ■ | | | | | | |
| 20 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 21 | Project team members had the authority necessary to do their jobs. | ■ | ■ | ■ | ■ | | | | | | |
| 22 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 23 | People on this project worked effectively as a team. | | ■ | ■ | ■ | | | | | | |
| 24 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 25 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 26 | Key project team members understood the owner's goals and objectives of this project. | | ■ | ■ | | | | | | | |
| 27 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Procurement. | ■ | ■ | | ■ | | | | | | |
| 28 | Project leaders recognized and rewarded outstanding personnel and results. | | | | | | ■ | | | | |
| 29 | Leadership effectively communicated organizational objectives, priorities, and | | | ■ | | | | | | | |

| <i>Infrastructure Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| | 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. | | | | | | | | | | |
| 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 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. | | | | | | | | | | |
| 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. | | | | | | | | | | |
| 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. | | | | | | | | | | |
| 47 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | | | | | |
| 48 | The customer was satisfied with the Procurement phase deliverables. | | | | | | | | | | |
| 49 | The cost of quality was determined during the Procurement phase of this project. | | | | | | | | | | |
| 50 | The acquisition of land and/or Right of Way (ROW) proceeded according to plan | | | | | | | | | | |
| 51 | The initial site and/or existing facility conditions were fully verified for the deliverables of this phase. | | | | | | | | | | |
| 52 | All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders. | | | | | | | | | | |

| <i>Infrastructure Projects – Procurement Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 53 | Effective cooperation and coordination existed amongst the organizations and regulatory agencies involved in this project. | | | | | | | | | | |

| <i>Infrastructure Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|--|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| G | What was the typical foreman to craft ratio? | | ■ | | ■ | | ■ | | | | |
| G | Overall how many workers per safety professional were typically (i.e., in terms of the average workforce) on site? | | | | ■ | | ■ | | | | ■ |
| 4 | Did the project objectives change during Construction? | ■ | | | | ■ | | | | | |
| 5 | This project experienced a high number of (please check all that apply): | ■ | | | | | | | | | |
| 6 | Was a turnaround involved in the scope of this project? | ■ | | | ■ | | ■ | | | | |
| 7 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 8 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 9 | This project used the following methods (please check all that apply): | ■ | ■ | ■ | ■ | ■ | | ■ | | | ■ |
| 10 | Formal (classroom) safety training was attended: | | | ■ | | | | | | | ■ |
| 12 | Did the original primary contractor(s) complete the project? | | ■ | | | | | | | | |
| 13 | Was safety performance a criterion for contractor and subcontractor selection? | | ■ | | | | | | | | ■ |
| 14 | Were safety toolbox meetings held daily? | | | | | | | | | | ■ |
| 15 | Were accidents including near misses formally investigated? | | | | | | | | | | ■ |
| 16 | The availability and competency of craft labor was adequate. | ■ | | | | | ■ | ■ | | | ■ |
| 17 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 18 | The owner and primary contractor(s) maintain a long-standing partnering arrangement. | ■ | ■ | ■ | | | | | | ■ | |
| 19 | The project team members were familiar with the project execution plan (PEP) and they used it to manage their work. | ■ | ■ | ■ | ■ | | | | | | |
| 20 | A formal Commissioning execution plan including operations and maintenance philosophy was incorporated in the Construction phase. | ■ | | | ■ | | | ■ | | | |
| 21 | The work planning and scheduling processes were effective. | ■ | | | | | | | | | |
| 22 | Project cash flow was managed well during Construction. | | | | ■ | | | | | | |
| 23 | The Construction execution plan addressed community relations issues. | ■ | | | | | | | | | |
| 24 | The project team including project manager(s) had skills and experiences with similar projects / processes. | | ■ | | ■ | | ■ | | | | |
| 25 | The project experienced a minimum number of project management team personnel changes | | ■ | ■ | ■ | | ■ | | | | |
| 26 | All of the necessary, relevant project team members were involved in an effective risk identification and management process for Construction. | ■ | ■ | | ■ | | | | | | |
| 27 | Project safety procedures were well defined and strictly followed. | | ■ | ■ | | | | | | | ■ |
| 28 | Project management team members were clear about their roles and how to work with others on the project. | ■ | ■ | ■ | ■ | | | | | | |
| 29 | Subcontractors provided the majority of the Construction craft workers. | | ■ | | ■ | | ■ | | | | |
| 30 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 31 | Key project team members understood the owner's goals and objectives of this project. | | ■ | | | | | | | | |

| <i>Infrastructure Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 32 | The interfaces between project stakeholders were well managed. | | ■ | ■ | | | | | | | |
| 33 | Engineering deliverables were released in a timely manner and in a proper sequence. | | | | ■ | ■ | | | | | |
| 34 | Project team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 35 | This project experienced a minimum amount of labor disruption | | ■ | | ■ | | ■ | | | | |
| 36 | The owner and primary contractor(s) maintained positive working relationships. | ■ | | ■ | | | | | | ■ | |
| 38 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Construction. | | ■ | ■ | | | | | | | |
| 39 | Project leaders were open to hearing "bad news", and they wanted input from project team members. | | | ■ | | | | | | | |
| 40 | Plan and progress including changes were communicated clearly and frequently amongst project stakeholders. | | | ■ | ■ | | | | | | |
| 41 | The project's Commissioning objectives were appropriately communicated to the relevant project team members. | | | ■ | ■ | | | | | | |
| 42 | Resources were allocated according to project priorities. | | | ■ | | | | | | | |
| 43 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 44 | The project's work processes and systems (e.g., document management, project controls, business and financial systems) supported project success. | | | ■ | ■ | | | ■ | | | |
| 45 | Project team members had the information they needed to do their jobs effectively. | | | ■ | | | | | | | |
| 46 | Project leaders recognized and rewarded outstanding personnel and results. | | | ■ | | | ■ | | | | |
| 47 | The Engineering deliverables were complete and accurate (possessing a minimal amount of errors and omissions). | | | | ■ | ■ | | ■ | | | |
| 48 | When issues arose, there were effective mechanisms to ensure they were resolved. | | | ■ | ■ | | | | | | |
| 49 | The project encountered few problems associated with the late delivery of equipment and bulk materials. | | | | ■ | | | | | ■ | |
| 50 | A dedicated process was used to proactively manage change on this project. | | | | ■ | | | | | | |
| 51 | A formal project Quality Management System was used for the Construction of this project. | | | | ■ | | | ■ | | | |
| 52 | Site materials management was effective. | ■ | | | ■ | | | | | ■ | |
| 53 | The project employed regular safety audits or observations. | | | | | | | | | | ■ |
| 54 | Materials and equipment were typically received on time, without damage, and per Design specification. | | | | ■ | | | | | ■ | |
| 55 | The project team members attended sufficient professional training directly related to their work in the phase. | | | | | | ■ | | | | |
| 56 | The customer was satisfied with the Construction phase deliverables. | | | | | | | ■ | | | |
| 57 | The cost of quality was determined during the Construction phase of this project. | | | | | | | ■ | | | |

| <i>Infrastructure Projects – Construction Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|---|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 58 | Sustainability was an important consideration for the Construction phase of this project. | | | | | | | | ■ | | |
| 59 | The acquisition of land and/or Right of Way (ROW) proceeded according to plan | ■ | ■ | | ■ | | | ■ | ■ | | |
| 60 | Key stakeholders including the public were properly identified and involved during Front End Planning. | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ |
| 61 | The initial site and/or existing facility conditions were fully verified for the deliverables of this phase. | ■ | | | ■ | ■ | | ■ | ■ | | ■ |
| 62 | All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders. | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | ■ |
| 63 | Effective cooperation and coordination existed amongst the organizations and regulatory agencies involved in this project. | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ | |

| <i>Infrastructure Projects – Commissioning Phase</i> | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
|--|---|----------|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| 5 | Please characterize how project meetings were conducted. | | | ■ | ■ | | | | | | |
| 6 | Which of the following statements characterized the decisions made by the manager(s) of this project? | | | ■ | | | | | | | |
| 7 | Was there a written, Commissioning-specific safety plan for this project? | ■ | | | | | | | | | ■ |
| 8 | The owner level of involvement was appropriate. | ■ | ■ | ■ | | | | | | | |
| 9 | A formal Commissioning execution plan including the impact to operations and maintenance was implemented. | ■ | | | ■ | | | ■ | | | |
| 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. | | ■ | | ■ | | ■ | | | | |
| 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. | ■ | ■ | ■ | ■ | | | | | | |
| 16 | People on this project worked effectively as a team. | | | ■ | ■ | | | | | | |
| 17 | Key Commissioning management team members understood the owner's goals and objectives of this project. | ■ | ■ | | | | | | | | |
| 18 | Commissioning management team members had the authority necessary to do their jobs. | | ■ | ■ | | | | | | | |
| 19 | Leadership effectively communicated Commissioning goals and priorities. | | | ■ | | | | | | | |
| 20 | The key stakeholders (owner, design, vendors and suppliers) were fully aligned during Commissioning. | | ■ | ■ | | | | | | | |
| 21 | Commissioning 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 Commissioning plan and they used it to manage their work. | ■ | | ■ | ■ | ■ | | | | | |
| 25 | A high degree of trust, respect and transparency existed amongst companies working on this project. | | | ■ | | | | | | ■ | |
| 26 | The Commissioning processes and systems supported project success. | | | | | | | ■ | ■ | | |
| 27 | Commissioning management team members had the information they needed to do their jobs effectively. | | | ■ | | | | | | | |
| 28 | Project leaders recognized and rewarded outstanding personnel and results during Commissioning. | | | ■ | | | ■ | | | | |
| 29 | The Commissioning process achieved the operability and product quality | | | | ■ | | | ■ | ■ | | ■ |

| | | <i>Infrastructure Projects – Commissioning Phase</i> | | | | | | | | | |
|----|---|--|------------|---------|-------------|-------------------|-----------------|---------|----------------|--------------|--------|
| | | Planning | Organizing | Leading | Controlling | Design Efficiency | Human Resources | Quality | Sustainability | Supply Chain | Safety |
| | 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. | | | | | | | | | | |
| 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. | | | | | | | | | | |
| 39 | Pre-task planning (including safety) was regularly conducted by foremen and/or other Commissioning managers. | | | | | | | | | | |
| 40 | Key stakeholders including the public were properly identified and involved during Front End Planning. | | | | | | | | | | |
| 41 | The initial site and/or existing facility conditions were fully verified for the deliverables of this phase. | | | | | | | | | | |
| 42 | All applicable national, regional, and local compliance requirements were well defined and understood by all relevant project stakeholders. | | | | | | | | | | |
| 43 | Effective cooperation and coordination existed amongst the organizations and regulatory agencies involved in this project. | | | | | | | | | | |