

Appendix A:

ECIFP Contents and Best Practices

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The report must be project specific, should not be duplicative of the design analysis or design documentation report, and must minimally contain the following sections:

- Purpose
- General project information
- Discipline specific information
- Special requirements
- Risk Register developed during the design process

These sections must convey:

1. Important Design Decisions
 - a. Special Design Concepts
 - b. Assumptions
 - c. Material Requirements
 - d. Operational Performance
 - e. Sustainability Checks
 - f. Energy Calculations
2. Instruction on construction of unique design features
3. Information to allow construction to resolve minor construction issues without compromising design intent, included items to communicate during
 - a. Pre-construction conferences
 - b. Preparatory Phase Meetings
 - c. Submittal reviews
 - i. Shop drawing
 - ii. Samples
 - iii. Certifications
 - iv. Test results
 1. Guidance of laboratory testing
 - a. QA testing
 - b. QC testing
4. Specific DOR Services during the construction phase
 - a. Site Visits
 - b. Commissioning
 - c. Submittal Review

ECIFP Best Practices

1. The Technical Lead or Design Manager is responsible for briefing the ECIFP information along with general design conditions, to the construction field team executing the contract. This meeting should occur prior to the commencement of construction to ensure a common understanding of the design intent and any areas of potential difficulty in construction. At the conclusion of the meeting, construction teams should ensure they have enough information on unique design aspects, critical quality assurance considerations and milestones for engineering engagement/participating to inform creation of Quality Assurance Plan (USACE).
2. Hold follow-on ECIFP meetings when there are substantially different features of work occurring in sequence over long periods of time. For example, a large, complex project may require a year of site work, superstructure construction and systems installation. It may be most beneficial to discuss civil and geotechnical considerations at the first ECIFP meeting and hold a second meeting prior to the start of structural, or mechanical and electrical systems to discuss specifics of those features.
3. It is a best practice to coordinate the ECIFP (AE) and Quality Assurance Plans (USACE)
4. Construction involvement during the design phase is critical. To drive early discussion between engineering and construction, the following questions can be used in early design development and through each of the remaining design phases, ensuring development of a robust ECIFP.
 - What was the hardest part of the design and why?
 - Are there any critical components that if installed improperly would have a cascading impact?
 - What may be the hardest portion of the project to construct?
 - What decisions were made to make the project easier for the contractor to construct?
 - Were there any situations where the PDT had to choose the best of two or more poor options?
 - Where did we try something new or innovative?
 - Where could inter-trade conflicts occur? Has coordination occurred to ensure sufficient space at potential pinch points through modeling or other means, where numerous trades must construct (e.g., chase, corridors)?
 - What issues or features required additional discussion with the ♦stakeholder?
 - What milestones, activities or features would you recommend designers be engaged in?
 - Were there any issues selecting equipment or materials?
 - Were there any design factors that led to adjustments in the contract (options, ♦project schedule, budget)?
 - What areas of the project may provide ♦constructability challenges because of existing site conditions?
 - Are there any remaining end-user concerns?
 - What systems/elements of the project do you consider to be high-risk?
 - Are there any advanced modeling requirements that have implications for record drawings/modeling?
 - How would you characterize the thoroughness of the existing conditions survey and geotechnical report? What risks do you see?

- What areas are you open to ♦Value Engineering proposals from the contractor? Was a value engineering study completed during design?
- Are there any concerns or issues with local municipalities or service providers (e.g., permitting, water, gas)?
- Are there any special work restrictions (e.g., night operations, noise and vibration control, environmental timeframes)
- Are there any special sequencing requirements (e.g., public access, impact to stakeholder operations)?
- What are we trying to ensure is addressed in the contractor's plans identified within the submittal register?
- Which submittals require review by a Professional Engineer (PE) or specialized reviewer?
- What special inspections have you identified that are tied to project acceptance (e.g., Sensitive Compartmented Information Facility (SCIF) accreditation, fire department inspection)?

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