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SUBJECT: Technical Lead for E&C Deliverables.

CATEGORY: Directive and Policy.

1. References:

- a. Federal Acquisition Regulation (FAR Part 36 Construction and Architect -- Engineer Contracts, 36.601-4, 14 October 2014
- b. Engineer Regulation (ER) 5-1-11, USACE Business Process, 12 January 2007
- c. ER 1110-1-12, Quality Management, 31 March 2011
- d. ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 August 1999
- e. ER 1110-345-100, Design Policy for Military Construction, 15 February 1994
- f. ER 1110-2-1156, Safety of Dams – Policy and Procedures, 31 March 2014
- g. Engineer Circular (EC) 1165-2-217, Review Policy for Civil Works, 28 February 2018
- h. Engineer Pamphlet (EP) 715-1-7, Architect-Engineer Contracting in USACE, 29 February 2012
- i. Engineering and Construction Bulletin (ECB) 2015-18, Technical Lead for E&C Deliverables, Revision 1, 19 February 2016
- j. USACE Project Management Business Process (PMBP) Manual, Version 1.0 May 2009

2. Definitions.

- a. Current USACE policy documents use terms such as “Lead Engineer/Architect,” “Engineer-in-Charge” or “Technical Lead” to describe a technical leadership role within each Project Delivery Team (PDT). This ECB uses Technical Lead (TL) to refer to each of these roles.
- b. For the purpose of this criteria, “Professional Engineering Services” are analogous to “architect-engineer services” defined by FAR 36.601-4. “...(P)rofessional services of an architectural or engineering nature...that logically or justifiably require performance by registered architects or engineers...”

c. For the purpose of this criteria, “technical quality” refers specifically to the features of Engineering & Construction deliverables governed by quality control and quality assurance procedures. They do not refer to any other deliverable generated by the rest of the PDT.

3. Purpose.

a. This directive continues the requirements set forth in previous guidance (Ref. g), which are currently being written into permanent USACE policy (Refs. b, c, d and e).

b. Technical Lead responsibilities are assigned to one member of the PDT that serves as the proponent for the project’s technical quality. The TL is not a new position and its roles should be performed by current personnel within USACE Districts’ and Centers’ organizational structure (e.g. design managers, senior designers, subject matter experts).

c. The TL roles do not overlap those of the Project Manager (PM). This policy establishes a consistent delineation between project management and technical quality responsibilities, and reinforces the need for the TL and PM to collaborate with each other and the rest of the PDT.

4. Applicability.

a. This policy applies to all E&C deliverables executed by, or through, USACE labs, centers and districts for all stakeholders.

b. E&C deliverables include, but are not limited to, the generation of and/or contributions to: planning/programming documents; scopes of work and other solicitation documents; engineering considerations and information for field personnel; etc.

5. Policy Changes to ER 5-1-11. ER 5-1-11, USACE Business Process, will be revised to include the TL roles, responsibilities, and other requirements described below. While the exact wording may be different when the updated policy is published, the intent will remain.

a. Project Delivery Process, One Project, One Team, One Project Manager (PM)

The PDT consists of everyone necessary for successful development and execution of all phases of the project, to include a designated technical lead. The stakeholder is an integral part of the PDT. The PM is responsible for ensuring that the necessary disciplines and perspectives are represented within the PDT. The Technical Lead serves as the proponent for the project’s technical quality.

b. Project Delivery Process, The Project Delivery Team (PDT)

Changes to the project scope, budget or schedule that will affect the technical quality must be coordinated with the TL and brought to the PM’s attention so the PMP may be revised accordingly.

c. Roles and Responsibilities.

The TL serves as the proponent for technical quality of deliverables throughout the life of the project. This team member coordinates with the PM to provide project-specific information for

inclusion in the Quality Management Plan as part of the PMP. The QMP must include stakeholder quality objectives, as well as quality control and quality assurance plans, developed in accordance with district-established procedures. Revisions to the project scope, budget, or schedule that affect project quality may not be made unilaterally and must be coordinated with the technical lead to ensure quality objectives are still achieved at project completion.

d. Definitions.

Technical Lead: Designated PDT member responsible for ensuring technical quality is achieved. Role may be filled by a design manager, discipline lead, or senior technical team member and assigned by the district division that is responsible for technical deliverables. Must be involved in all project decisions that affect quality management processes. For projects that require professional engineering services, the technical lead must possess an active professional registration (e.g. PE, RA, PLA, PG, NCIDQ), unless waived by the District Chief of Engineering Division.

6. Policy Changes to ER 1110-1-12. ER 1110-1-12, Quality Management, will be revised to include the TL roles, responsibilities, and other requirements described below. While the exact wording may be different when the updated policy is published, the intent will remain.

a. Roles and Responsibilities

The Technical Lead responsibilities are assigned to one member of the PDT who serves as the proponent for the project's technical quality. The TL ensures appropriate technical quality through the project life cycle via risk informed decision making and coordination and collaboration with the PM, the other PDT members, and stakeholders. The TL confirms that all design deliverables include the authorized project scope and addresses compliance with all applicable code, policy, and criteria. The TL roles do not overlap those of the PM and a clear delineation should be established at the beginning of each project to avoid duplicative efforts. Any conflicts that arise between the PM, TL and PDT concerning roles, responsibilities, or project changes that impact technical quality should be resolved through District established procedures.

b. Technical Lead Qualifications.

(1) The District Chief of Engineering will consider the qualification requirements below and assign the TL for each project that generates E&C deliverables. When a project contains work performed by multiple E&C disciplines, the TL determination is based on the most appropriate skill-set needed to execute the full scope of the project within the parameters of the project budget and schedule. Include this assignment as part of the PDT list in the PMP.

(2) For projects with deliverables that require professional engineering services (per FAR Part 36), the TL must have an active professional registration (e.g. PE, RA, PLA, PG, NCIDQ).

(3) For projects with deliverables that do not require professional engineering services (per FAR Part 36), the TL is not required to have an active professional registration. The size, scope, risk and complexity of each project must be considered when determining the minimum qualifications for the TL assignment in these circumstances.

(4) Pursuant to the above qualifications, assignment of non-licensed personnel must be waived in a written memorandum by the district Chief of Engineering Division, and documented in the PMP.

(5) For projects in which a geographic district has partnered with another district (e.g. reachback work, regional projects), the geographic district's Chief of Engineering will designate which district holds the TL responsibility based on the scale of work for which the PDT is responsible.

c. Quality Management Plan.

(1) The PM, in collaboration with the TL and PDT, is responsible for determining the procedures necessary to achieve the level of quality required by the project and authoring the QMP. The Technical Lead will address compliance with all applicable code, policy, and criteria and ensure that the stakeholder's quality objectives are effectively defined and clearly articulated in the QMP.

(2) Any proposed change to the project scope, budget, or schedule that may affect the technical quality of deliverables or the execution of quality procedures in QAP/QCP portions of the QMP must be coordinated with the Technical Lead. The TL will provide input to update the QMP and its components; the PM will adjust the design budget and schedule accordingly. No decision affecting quality management procedures may be made unilaterally.

(3) Coordinate with the PM to provide input to the project-specific Quality Management Plan (QMP). Lead the development of product-specific components of the QMP to ensure the technical quality of E&C deliverables. These documents may include a Quality Control Plan (QCP), Quality Assurance Plan (QAP), Quality Assurance Surveillance Plan (QASP), Review Plan (RP), Construction Management Plan (CMP) and/or other necessary quality procedures. Refer to ER 1110-1-12 and the PMBP for more information on these requirements.

d. Quality Control Plan (QCP)

The TL will be the lead preparer for all in-house QCPs, and will involve other PDT members as required. This includes plans written to address quality control for in-house design work, or in-house generated requests for proposal (RFP) or scopes of work (SOW) for A-E services. Technical supervisors and the ITR/ATR Team will review the QCP before it is finalized and accepted by the PM.

e. Additional PMP Components

(1) Production Schedule

The TL will work with the PM to ensure proper definition of the project scope and schedule, and help facilitate the generation of the PDT design budget, design schedule, and deliverables. The PM will coordinate the draft schedule among all offices for comments and commitments.

(2) A-E Service Selection and Management

The TL and qualified members of the PDT will prepare a comprehensive scope of work for A-E services in accordance with Project Scope and Customer Requirements Definition - PROC2010 (Ref I). The TL will also participate in the selection of a highly qualified A-E firm, prepare an Independent Government Cost Estimate, assist in contract negotiations, and coordinate and oversee the A-E contractor's performance. The TL will coordinate technical QA reviews of AE submitted deliverables for compliance with contract requirements. The TL will provide technical recommendations for the acquisition method, proposal evaluation, and submitted QC Plan.

f. Design-Build

(1) As with other methods of delivery, USACE's stake holders continue to look to the District to assure the quality of all the engineering and design services that are included in the D-B scope. The TL is the primary point of contact within the PDT for technical quality, and will coordinate with the PM to communicate with the stake holders.

(2) The TL will serve as the primary technical point of contact for the in-house development and quality control of the Request for Proposal (RFP). When the generation of D-B RFPs are contracted to an A-E, the TL will serve as the primary point of contact for the quality assurance of the RFP.

(3) Ensure that the Design-Build contractor, through its Designer of Record, is taking all actions required to provide quality engineering services and design deliverables through all phases of work in accordance with the D-B contract.

(4) Post award, the TL will remain the primary technical point of contact for the review of contractor design submittals and all other associated deliverables with impacts to technical quality.

g. Technical Coordination

(1) Coordination includes frequent in-person, telephonic, written and email communications. Progress, design review, special coordination, and other typical project meetings will be facilitated by the PM with support from the TL. The TL will facilitate and ensure resolution of technical issues and comments resulting from each review as necessary, engaging the rest of the PDT and PM when required.

(2) Provide input on technical related source selection criteria for Contractor evaluation.

(3) Lead the preparation of the Engineering Considerations and Information for Field Personnel (ECIFP) document, prepared in accordance with applicable policies.

(4) Remain the primary design lead for projects during construction. All design related modifications will be coordinated with the TL and will be reviewed for acceptable technical quality and potential technical impacts to other design features.

h. Risk Management.

Provide technical related information for risk management procedures, to include risk informed decisions and development of risk registers.

7. Changes to additional policies. The requirements described below impact several different policies and will be incorporated as appropriate. While the exact wording may be different when the updated policy is published, the intent will remain.

a. When applicable, ensure design coordination with the appropriate USACE Centers of Expertise (CX) – including, Centers of Standardization (COS), Technical Centers of Expertise (TCX) and Mandatory Centers of Expertise (MCX) – to meet all applicable requirements and criteria.

b. Work with the CAD/BIM Manager to ensure all CAD/BIM related requirements and deliverables are developed in accordance with current criteria and policies. This includes, but is not limited to, development of the BIM Project Execution Plan (PxP), contract documents and record drawings/files.

8. Update.

a. As noted previously, existing policy documents include some reference to the roles described in this ECB. The expansion of these requirements will be included in the next appropriate update to those documents prior the expiration of this ECB.

b. Pending revisions to the USACE Project Delivery Business Process, in lieu of the USACE PMBP, will not affect the requirements of this ECB.

9. Points of Contact. HQUSACE point of contact for this ECB is Brandon Tobias, CECW-EC, (202) 761-0505.

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