

APPENDIX H MANAGEMENT CONTROL EVALUATION CHECKLIST

H-1. FUNCTION. The function covered by this checklist is Civil Works Engineering and Design.

H-2. PURPOSE. The purpose of this checklist is to assist the District Chiefs of Engineering in evaluating the key management controls listed below. It is *not* intended to cover *all* controls.

H-3. INSTRUCTIONS. Answers must be based on the actual *testing* of key management controls (e.g., document analysis, direct observation, sampling, simulation, etc.). Answers, which indicate deficiencies, must be explained and corrective action indicated in supporting documentation. These management controls *must* be evaluated at least once every five years and may be evaluated as often as very project. Certification that this evaluation has been conducted must be accomplished on DA Form 11-2-R (Management Control Evaluation Certification Statement).

H-4. TEST QUESTIONS.

H-4.1. Do project managers (PM's) develop detailed management plans including appropriate engineering functions for each phase of a project?

H-4.2. Does the engineering staff conduct periodic conferences with the Programming, Planning, Construction, Operations, and other Engineering elements of the organization to discuss overall organizational workload?

H-4.3. Are budget estimates included in the management plan to fund the engineering elements for all phases of the project?

H-4.4. Are estimates based on a realistic schedule for accomplishing the engineering work by the engineering element?

H-4.5. Do estimates show direct labor, other direct costs, and all indirect costs in accordance with the operating budget guidance of EP 37-1-3?

H-4.6. Does the engineering staff, in coordination with the other technical staffs and with the local interests, develop a sufficient scope of work on new projects to allow for preparation of budget estimates in accordance with the programming cycles?

H-4.7. Are analyses and investigations conducted in accordance with published engineering criteria and guidance and/or recognized engineering practice?

H-4.8. Has an HTRW Preliminary Assessment been included in the Reconnaissance Phase and all follow-on activities included in subsequent phases?

H-4.9. Are engineers encouraged to consider alternative designs when analysis and investigation indicate special conditions and/or problems exist?

H-4.10. Are technical coordination meetings scheduled to review complex problems?

H-4.11. Is the engineering level of detail sufficient for an engineering assessment of potential alternatives to determine if they will function safely, reliably, efficiently, and economically and if they are practical to construct, operate, and maintain?

ER 1110-2-1150
31 Aug 99

H-4.12. Are the engineering efforts for the feasibility phase of the project fully defined in the Management Plan for this phase? Also, does the Management Plan include

H-4.12.1. Accurate citation of all policy documents?

H-4.12.2. Regulations/guidance documents that are unfamiliar to all reviewers? If outside document references are included, is there an abstract/discussion provided respecting the document requirements/contents?

H-4.12.3. Does the work efforts presented refer to the appropriate policy documents being considered for compliance?

H-4.12.4. Does the Quality Control Plan (QCP) accompany the project Management Plan? Does the Management Plan provide, in specific terms, a discussion of the proposed accomplishment of the independent technical review (ITR) certification of the final feasibility report?

H-4.12.5. Does the QCP include consideration to the maximum extent practicable our longstanding commitment to integrate the metric system into our Civil Works plan formulation and design processes?

H-4.12.6. Is the FCSA and Management Plan a companion document to the reconnaissance report?

H-4.13. Are costs estimates and schedules prepared including engineering and design costs and schedules?

H-4.14. Is a conference conducted at the conclusion of the reconnaissance phase to establish aspects of the Management Plan and FCSA and engineering documentation required during the next two phases of the projects?

H-4.15. Does the engineering assessment made of alternatives include a constructibility analysis and establish that the alternative fully meets safety, reliability, and functional requirements?

H-4.16. Does the engineering concept support the PM's development of the complete project schedule as presented in the Management Plan?

H-4.17. Does the engineering concept, for engineering and design of the project, address the engineering objectives outlined in ER 1110-2-1150?

H-4.18. Is a complete engineering appendix included in the feasibility report?

H-4.19. Are the proper technical functions (Hydrology and Hydraulics, Surveying and Mapping, Real Estate, Geotechnical, Structural, and Construction) addressed in the engineering appendix?

H-4.20. Has the National Geospatial Data Clearinghouse been checked for existing data? And has geospatial data been documented using the Federal Geospatial Metadata Standards and has the metadata been posted on the USACE Geospatial Clearinghouse?

- H-4.21. Does the Management Plan provide budget and schedules for the preparation of the project O&M manual?
- H-4.22. Does the baseline cost estimate include the total (Federal and non-Federal) costs of implementing the project?
- H-4.23. Are all elements in the project, including real estate and work to be performed by local interest, included in the cost estimate in accordance with ER 1105-2-100?
- H-4.24. Is engineering input used in the development of the schedule for design and construction in accordance with ER 1105-2-100?
- H-4.25. Has engineering provided the PM the data on the project description, real estate requirements, cost estimate, and other critical performance items for inclusion in the draft PCA?
- H-4.26. Is there continuing coordination between Federal engineering staff and engineers representing the local sponsor?
- H-4.27. Has the Corps-Wide Centers of Expertise Program, as outlined in ER 1110-1-8158, been used in the planning and design of this project as appropriate?
- H-4.28. Do completed feasibility reports and Management Plans contain sufficient information and detail to allow start of PED phase?
- H-4.29. Has the district engineer's recommendation for the selected plan been signed?
- H-4.30. Can the preparation of plans and specifications proceed during the DDR review process?
- H-4.31. Are DDR's completed in accordance with the outline and format shown in Appendix D of ER 1110-2-1150?
- H-4.32. Are VE studies scheduled and conducted with local interest participation, when appropriate?
- H-4.33. Are engineering changes, with the potential of causing a Post Authorization Change, promptly reported to the PM?
- H-4.34. Are DDR's given an independent technical review and approved promptly upon completion?
- H-4.35. Are copies of all correspondence concerning a DDR bound with the DDR and maintained with the district's record copy?
- H-4.36. Is proper distribution of approved DDR's made to Headquarters, the MSC, and to Research Library at Waterways Experiment Station?
- H-4.37. Has engineering provided the PM updated data on the project description, cost estimate, real estate requirements and other critical performance items for inclusion in the final PCA?

ER 1110-2-1150
31 Aug 99

H-4.38. Are P&S schedules and costs estimates included in the Management Plan and baseline cost estimate?

H-4.39. Has the engineering staff prepared P&S in accordance with DDR's and applicable engineering guidance? Are the P&S in metric units where required? Were the Plans prepared using CADD and to Tri-Service standards?

H-4.40. Does the district's engineering staff periodically review the modifications to current construction contracts to improve the preparation of future P&S?

H-4.41. Are bid estimates prepared and safeguarded in accordance with applicable procurement regulations?

H-4.42. Are contract bids correlated and compared with the baseline cost estimate for the project?

H-4.43. Are contract solicitations issued in Electronic Bid Solicitation (EBS) format?

H-4.44. Are approvals for P&S obtained in a timely matter in accordance with the Management Plan?

H-4.45. Are contractor's ENG Forms 4288 a recognized requirement in the specifications?

H-4.46. Are shop drawing submittals tracked with reviews and approvals processed in the timely manner?

H-4.47. Are site visits regularly scheduled, conducted, and well documented?

H-4.48. Are claims and modifications reviewed by design engineers prior to execution?

H-4.49. Is feedback and technical advice concerning claims and modifications provided to the cost engineers and the PM?

H-4.50. Are the O&M manuals for projects completed and provided to the local sponsor no later than when the project is placed into operations?

H-4.51. Does engineering maintain a complete set of as-built drawings in CADD format with duplicates furnished to the operating manager?

H-4.52. Are periodic inspections scheduled and conducted in accordance with established guidance?

H-4.53. Are inspection results analyzed and specific O&M recommendations furnished to the operations manager?

H-4.54. Do the operating plans and manuals conform to the current use patterns for each function project?

H-4.55. Are water control plans consistent with current state water allocations and environmental standards?

H-4.56. Are operating and water control manuals reviewed on a periodic cycle and updated as necessary?

H-4.57. Are project operations conducted in accordance with the approved operating and water control manuals?

H-4.58. Does engineering develop an annual budget submission for technical functions on O&M projects in accordance with the annual budget EC and applicable PCA's and are approved funds provided to engineering?

H-4.59. Are deficiencies reported and tracked in accordance with ER 1110-2-101?

H-4.60. Does the engineering staff conduct periodic reviews, with operating personnel, to update Federally operated project deficiency lists and backlog maintenance listings?

H-4.61. Are advance P&S prepared for correcting project deficiencies to permit usage of year-end funds when available?

H-4.62. Does the engineering staff review the scheduled replacement and major maintenance program for each Federally operated project on a periodic basis?

H-4.63. Is the current technology reviewed when operating equipment is replaced and is equipment replaced with newer items consistent with current energy and environmental standards?

H-5. SUPERSESSION. This checklist replaces the checklist for Civil Works Engineering and Design previously published in Appendix F, ER 1110-2-1150, dated 31 March 1994.

H-6. COMMENTS. Help to make this a better tool for evaluating management controls. Submit comments to HQUSACE ATTN: CECW-EP, 20 Massachusetts Avenue, NW, Washington, DC 20314-1000.