

CHAPTER C-5

BIDDABILITY, CONSTRUCTIBILITY, AND OPERABILITY (BCO) REVIEWS

1. Purpose. Engineering Division is responsible for insuring that all Biddability, Constructibility, and Operability (BCO) Review comments on in-house and A-E designs are addressed prior to and during the advertising period in order to eliminate potential problems and modifications during the construction phase, insure a quality product, and increase customer satisfaction.
2. Applicability. This policy applies to all elements of Engineering Division.
3. References.
 - a. ER 415-1-11
 - b. ER 1110-1-1300, Cost Engineering Policy and General Requirements
4. Procedures. In accordance with the above references, Construction Division (ER 415-1-11) and Cost Engineering Branch (ER 1110-1-1300) will develop BCO comments on each construction project advertised by the District. The designer, whether an A-E or in-house engineer/architect, will be responsible for annotating the comments and providing the appropriate revised design documents to incorporate any changes.
 - a. Construction Division Review.

The Project Manager currently tasks Construction Division to perform the BCO review following the receipt of the final design submittal for both A-E and in-house designs. Following their review, their BCO comments are sent to the Project Manager, who forwards them to the designer for annotation.

(1) A-E Designs.

Following the receipt of the annotated BCO comments from the A-E, the Project Manager furnishes them to Construction Division. Engineering Division receives a copy of the A-E's annotations with the final plans and specifications. Project Engineering Section (EN-EP) is responsible for insuring that all BCO comments are addressed prior to sending the plans and specifications to reproduction for advertising. The EN-EP Project Engineers coordinates with the appropriate branches in Engineering Division, the Project Manager, and the BCO reviewers in resolving any discrepancies in the annotations and the actual bid documents.

(2) In-house Designs.

On in-house designs, the Project Manager furnishes the BCO comments to the EN-EP Project Engineers, who forwards them to the design team for annotation. The Project Engineers will consolidate all annotations, insure that all comments were adequately addressed, and forward the annotated comments to the Project Manager. The Project Engineers will insure that any changes required by the comments are reflected in the plans and specifications.

b. Cost Engineering Branch (EN-C) Review.

During the preparation of the final CWE or the Government estimate for each construction project, EN-C will prepare their BCO review. When errors, omissions, and ambiguities are discovered during the preparation of the estimate, the Cost Engineer/Estimator will prepare comments, using Automated Review Management System (ARMS).

(1) A-E Designs.

EN-C will forward their BCO comments to the Project Manager, who will forward them to the A-E for annotation. The A-E's annotations will be furnished back to EN-C through EN-EP. The A-E will revise the plans and specifications in accordance with the annotations. EN-EP is responsible for insuring that all BCO comments are addressed prior to sending the plans and specifications to reproduction for advertising.

(2) In-house Designs.

EN-C will forward their BCO comments to the EN-EP Project Engineers. The Project Engineers will provide them to the design team for annotation. The Project Engineers will consolidate all annotations, insure that all comments were adequately addressed, and forward the annotated comments to EN-C. The Project Engineers will insure that any changes required by the comments are reflected in the plans and specifications.

c. Incorporating BCO Comments.

Preferably, all BCO reviews will be conducted during the final review period or during the preparation of the final estimate, so comments requiring changes to the plans and specifications can be addressed prior to the bid documents being reproduced. However, if due to workload or other constraints, the reviews are not conducted until the project has been advertised, changes to the bid documents will be incorporated by amendment to the maximum extent possible. Those changes, required but not incorporated, will be addressed as "known changes" and handled in accordance with CHAPTER D-5 HANDLING KNOWN CHANGES ON INVITATIONS FOR BIDS (IFBs).

d. BCO Certification.

Following the satisfactory incorporation of all BCO comments into the design, EN-EP will prepare a memorandum to the Project Manager informing him/her the disposition of all comments. The Project Manager will prepare the BCO Certificate, which is signed by Chief, Engineering Division and Chief, Construction Division or authorized CD representative. The Project Manager, who will route the certificate to EN and CD for signature and will attach the EN-EP memorandum to the certificate, so the Chief, Engineering Division will know that all comments have been properly addressed.