Section 10.2

PRECAST PRESTRESSED CONCRETE COMPONENTS

10.2.1 Purpose

To provide a process for the inspection, evaluation and disposition of ~~proposals for acceptance of~~ prestressed concrete components including those~~that~~ ~~are~~ not in compliance with the contract plans and specifications. ~~This procedure has the corresponding ***Flow Chart 10-2***, which graphically displays each major step of this procedure starting with the identification of a defect by the Producer.~~

10.2.2 Authority

Sections 20.23(4)(a) and 334.048(3), Florida Statutes (F.S.)

10.2.3 Reference

Section 450, "Precast Prestressed Concrete Construction," Standard Specifications for Road and Bridge Construction

10.2.4 General

The responsibility of quality assurance (QA) during the production of prestressed concrete components is a primary function of verification inspection staff at the casting yard. The Construction Engineering Inspection (CEI) staff is primarily responsible for QA once components leave the casting yard and are shipped to the project site. Such efforts by CEI staff at the jobsite include inspections for damage during handling and erection, for defects discovered after delivery as well as overall compliance with the Contract Documents.

CEI staff must verify that prestressed products are stamped by the producer and that delivery tickets are signed and stamped and accompany all precast products that arrive at the jobsite in accordance with requirements of the ***Materials Manual***. Delivery tickets must also be verified to contain certification of compliance with ~~that~~ Buy America requirements ~~have been complied with~~.

10.2.54 ~~General~~Noncomplying Products

~~The Producer of a prestressed concrete product is the party expected to directly address the disposition of defects; however, the Contractor always has the total and final responsibility for the quality of all products and must concur with all Producer proposals prior to review by the Department. Repeated production of non-complying components is not acceptable and the cause of such problems must be resolved. Non-complying components containing specific defects or damage which are classified as minor by ***Specification 450-12*** are not covered by this procedure and are not subject to the disposition requirements in this procedure but instead must be repaired in accordance with ***Specification 450-13***. However, if for a minor defect, an alternate nonstandard repair method not covered by ***Specification 450-13*** is proposed by the Producer or if the defect will be encased within the diaphragm concrete, then this procedure applies. For~~ When major defects occur on prestressed products as defined in ~~covered by this procedure, the Producer must comply with~~ ***Specification 450-142***, ~~which,~~ ~~requires the submittal of~~ an Engineering Analysis Scope and ensuing Engineering Analysis Report (EAR) ~~e~~ are required to be submitted to the Department, when required~~and a signed and sealed Engineering Analysis Report (EAR) by the Contractor's Engineer of Record to the Project Administrator that specifies what the repair method shall be~~. ~~Alternatively, t~~The Producer may use a previously approved EAR with the permission and reevaluation of the deficiency by the original engineer for the disposition of an individual major defect. The Producer of a prestressed concrete product is the party expected to directly address the disposition of defects; however, the Contractor always has the total and final responsibility for the quality of all products incorporated on a project and must concur with all Producer proposals prior to review by the Department.

Noncomplying components containing specific defects or damage which are classified as minor by ***Specification 450-12*** are not covered by this procedure and are not subject to the disposition requirements in this procedure but instead must be repaired in accordance with ***Specification 450-13***. However, if for a minor defect, an alternate nonstandard repair method not covered by ***Specification 450-13*** is proposed by the Producer or if the defect will be encased within the diaphragm concrete, then the same procedure outlined for major defects applies.

~~Components~~ Precast prestressed products ~~in the casting yard~~ which require repair shall not be shipped to the project site from the casting yard until such repairs are complete and the ~~component~~ product has been accepted by the Department. If the ~~component~~ product is repaired and determined to be acceptable to the Department, the ~~component~~ product ~~shall~~ may be stamped by the Producer as approved. Producer-stamped prestressed ~~components~~ products arriving at the job site shall not be rejected by project personnel for reasons other than obvious shipping damage or other incurred major defects which makes the ~~component~~ product unacceptable. If the CEI personnel on the project site have

questions about the acceptability of stamped components, these questions shall be resolved only after consulting with the District Materials Verification personnel at the shipping point.

Beam end defects that begin within the limits of the diaphragm and extend beyond the limits of the diaphragm must be repaired prior to diaphragm construction. Cleaning and preparation of all defects prior to diaphragm concrete placement shall be in accordance with the Specification or as approved by the ~~Resident~~ Engineer.

10.2.~~5~~6 Repair Proposal Requirements

The Contractor's proposal must be prepared in accordance with ***Specification~~s~~ 6-4.1*** and~~, and~~ ***450-1~~4~~2*** and ~~must include~~ the following ~~information~~:

(A) A completed ***Non-complying Prestressed/Precast Concrete Component Data Sheet (NCR), Form No. 700-030-10***, prepared by the Producer or Contractor and countersigned by the District ~~Structural Research and~~ Materials and Research ~~Engineer~~ Office (D~~S~~MRO~~E~~) or designee to indicate agreement with the described defect or noncompliance feature. If not in agreement with the information or description, the D~~S~~MRO~~E~~ shall either reject the submittal indicating reason(s) for rejection or comment on the submittal as necessary. In the latter event, the preparer shall address any comments made. Supporting information may be attached including photos, sketches, crack maps or other records on the NCR.

~~(B)~~ An E~~ngineering~~ A~~nalysis~~ R Scope is prepared and submitted by the Contractor (when applicable).

~~(B)~~(C) The District Structure~~s~~al ~~Maintenance~~ Materials Engineer (DSME) evaluates the EAR Scope, accepting and/or commenting as necessary.

~~(C)~~(D) An E~~ngineering~~ A~~nalysis~~ R~~eport~~ signed and sealed by the Contractor's Engineer of Record is submitted to the DSME for disposition. ~~A previously approved signed and sealed EAR repair method must have the permission and reevaluation of the deficiency by the original Contractor's Engineer of Record.~~

10.2.7~~6~~ Review and Evaluation

(A) Resident Level Responsibilities

Prior to tThe Project AdministratorPA's will transmittal issue of the official Department response to the Producer's EAR repair proposal upon, the Project Administrator must consultation with the DSME for his or her recommendations on the disposition of the EAR. The Project Administrator must consult the Engineer of Record, and if necessary the District Construction Office and District Materials Engineer (DME)RO of the District in which the products are produced. For Category I structures, the Project Administrator must also receive concurrence from the District Structures Design Engineer. For Category II structures, the Project Administrator must receive concurrence from the State Construction Structures Engineer.

(B) District Level Responsibilities

The DSME shall will review the Contractor's Engineering Analysis Scope and either accept or reject/revise it. Upon acceptance of the Engineering Analysis Scope, the Contractor will submit a signed and sealed EAR or provide a previously used EAR repair method. When warranted the DSME will enlist the assistance of various offices within the Department (State Construction Office, District Structures Design Office, State Structures Design Office, State Materials Office) and the Engineer of Record, as deemed appropriate.

Upon completion of the evaluation, the DSME will make a recommendation to the Project Administrator of acceptance of the Contractor's EAR, recommend that a more satisfactory repair method be proposed or recommend rejection of the EAR. Department costs associated with proposal review shall be addressed per ***Specification 450-124.2***.

10.2.78 Disposition and Distribution

(A) Resident Level Responsibilities

Upon acceptance of the Contractor's EAR, the Project Administrator shall enter the findings into MAC and grant the Producer permission to proceed with repairs and submit the proposal and the disposition to the appropriate District and State personnel in addition to the following:

1. Collaboration site and/or EDMS
2. State Materials Office
3. DSME

The Department's Official response as transmitted by the Project Administrator will require one of three actions by the Producer as follows:

Correct: The Producer will be permitted to correct the defect and the correction may be witnessed by the D~~S~~MROE~~E~~. A credit to the Department may be required since the defective component, even if satisfactorily repaired, is not considered by the Department to be fully equivalent to a component that has never had a defect.

Reject: The Producer will not be permitted to correct the defect and the component must not be used on any Department project.

Revise: The Producer's EAR proposal is such that the Department cannot make a final decision about the proposal due to incomplete or unclear information and therefore, the Producer has the option of revising the EAR proposal and then resubmitting it to the Department.

If the Producer disagrees with any of the three (3) actions above, the Producer may appeal to the DCE of the project District for a hearing. The DCE shall have the discretion to hear or not hear the appeal but if heard, will make the final decision on the disposition of the defect.