



Guidelines and Procedures for Hurricane Deck ATC Process



Description

This project will allow contractors the opportunity to include in their bid proposal, pricing for a pre-approved Alternate Technical Concept (ATC) that differs from the Commission-furnished bid proposal. ATCs allow for innovation, project schedule reduction and cost savings to obtain the best value for the project that meets or exceeds the project goals, and which provides a product, which is equal to or better than the concept it replaces. ATCs may address, but are not limited to, specifications, materials, products, design standards, design solutions, staging or traffic control.

For this request-for-bid, the contractor may submit a bid for the Commission-furnished proposal, including the Commission-furnished design solution or a bid that includes pricing for the pre-approved ATC.

General Conditions

The Commission-furnished proposal documents contain all of the proposed work for the project to be bid. The contractor may propose an ATC to do the work. The minimum requirements for the finished project are listed below. If an ATC is pre-approved by the Commission, the contractor has the option of submitting a bid for the pre-approved ATC proposal or the Commission furnished proposal. The contractor will only be allowed to submit one bid for this project.

The Commission will be responsible for completing all roadway and structural design plans for approved ATCs.

Process for Submittal of Alternate Technical Concepts

Submittal and evaluation of ATCs will include the following three step process:

Step 1: This will consist of one-on-one confidential meetings between the contractor and the Hurricane Deck ATC team to discuss what portion of the project their ATC impacts. If the Commission confirms this portion of the design has been finalized, then the ATC process proceeds to Step 2.

The Commission warns that any idea submitted by the contractor, in which the Commission design has not yet been completed, may possibly be the design direction that was intended for the Commission-furnished plans. To avoid discussing concepts on portions of the design that have not been completed; the contractor will be asked to describe which portion of the design their ATC will impact. If the ATC proposal impacts an incomplete portion of the base design, the contractor will have the option of delaying their ATC submittal until after the final design solution has been selected. If a contractor chooses to proceed with submitting an ATC on an incomplete portion of the base design that ends up being the same solution as the base design, the contractor shall have no ownership or right to that specific ATC. The contractor will be informed of this situation if it occurs.

Step 2: The ATC team will be available to review contractor’s Conceptual Alternate Technical Concepts (CATC). CATCs will require minimal engineering and are intended to allow contractors to present their ideas to the ATC team in a confidential environment prior to investing time and resources into detailed engineering of their concept.

The Commission will review submitted CATCs and respond back to the contractor as soon as possible, but not to exceed 2 weeks. Yet, the Commission reserves the right to take longer depending on resources and evaluation needs of the specific CATC. The contractor will be notified prior to completion of the 2 week time period if more time will be required.

Although there is not a limit to the number of CATC submittals, the Commission reserves the right to limit the number of CATC submittals if in its own determination it feels that a contractor is abusing the process by not limiting their submittals to reasonable concepts. The contractor will receive a written warning from the Commission before being limited on the number of CATC submittals.

Step 3: Once a CATC is approved, the contractor may choose to pursue the ATC in more detail and submit it for final approval and inclusion in the bidding documents.

All inquiries regarding ATCs for this project should be directed to the contact as listed below:

Nicole Kolb Hood, PE
 Transportation Project Manager
 Missouri Department of Transportation
 1511 Missouri Blvd.
 Jefferson City, MO 65102
 Email: Nicole.hood@modot.mo.gov

Hurricane Deck ATC Process Schedule	
February 10, 2011	An informational meeting will be held at the MoDOT District 5 Office to explain the ATC process.
March 1, 2011	Commission confirms direction for base design.
March 18, 2011	30% base plans will be posted to the Project website.
March 21, 2011	Start date of confidential one-on-one contractor meetings. CATCs will be accepted for review.
May 27, 2011	60% base plans will be posted to the Project website. Guidelines for Hurricane Deck ATC Process and Procedures finalized and posted to website.
August 15, 2011*	Last day to submit ATCs.
November 10, 2011*	ATC biddable set of plans available to contractor.
December 16, 2011	Bids due.
* Dates subject to change depending on the number and complexity of ATC design.	

Requirements for Step 2 Conceptual Alternate Technical Concept Submittal

Requirements for the CATC submittal shall include at a minimum:

- a) Detailed narrative of the CATC being proposed (detailed to at least enough information for the Commission to estimate cost and time savings).
- b) Estimate of cost savings.

- c) Estimate of time savings.
- d) Impact to the environment, utilities and right of way and any previous permits or approvals.
- e) A description of any previous use or submission of similar technical concepts or value engineering proposals, including dates, job numbers, results, and/or outcome of the ATC/VE if previously submitted, as known by the contractor. This would include ATCs/VEs from any state DOT.

CATCs may propose specifications and design standards that differ from MoDOT standard practice. MoDOT understands that, at times, MoDOT manuals, specifications and standards do not allow for maximum flexibility. Contractors are encouraged to propose Additional Applicable Standards (AAS) as part of the CATC/ATC process. The proposed manuals, specifications and standards, shall be limited to those already reviewed by FHWA, for example, standards from other state departments of transportation. The Contractor shall provide the Additional Applicable Standards including but not limited to construction specifications, special provisions, design requirements (by discipline), standard drawings, materials and testing requirements, and manuals for review and approval with CATC and ATC submittals. MoDOT will have sole authority to approve or disapprove any AAS. If an AAS is disallowed, the contractor will be notified as to why.

Evaluation of Step 2 - Conceptual Alternate Technical Concepts

The minimum basis of acceptance for a CATC shall adhere to the project specific minimum requirements, general requirements and submittal requirements. Any CATC failing to include the required submittal information or one that fails to meet the project minimum requirements will be rejected and returned to the contractor.

If a CATC is accepted, the Commission will provide written approval of the CATC. The Commission will estimate a cost to develop the CATC into a biddable set of plans. **A CATC proposal must produce an estimated net savings after design costs are deducted greater than \$100,000 to be considered for design.** Approval of the CATC to the contractor will include the Commission's maximum redesign cost and redesign time for the ATC.

If a CATC is disallowed, the contractor will be notified as to why.

Requirements for Step 3 Alternate Technical Concept Submittals

ATC submittals will only be considered if accompanied with a pre-approved CATC. The contractor shall request and submit four copies of the ATC form with the following information:

- a) All original CATC submittal documents with a copy of the approval letter acknowledging the Commission's acceptance.
- b) Deviation: Reference all requirements of the Commission-furnished proposal that are inconsistent with the proposed ATC, an explanation of the nature of the ATC deviations from said requirements, and impacts to other design elements.
- c) Description: Provide a detailed description of the ATC including specifications and conceptual drawings, and a description of where and how the ATC would be used on the Project.
- d) Justification: An analysis justifying the ATC and demonstrating why modifications or revisions to requirements of the Commission-furnished proposal should be allowed. Include information on how the ATC meets the project goals.

- e) Cost Savings: A detailed statement of the cost savings associated with the implementation of the ATC. Include an itemized list of impacted bid items and quantities supporting the cost savings for the ATC.
- f) Schedule Impact: A discussion of the effect the ATC will have on the contract completion time including design, construction, right of way, utility relocation and permitting issues.
- g) Certification that the ATC meets all applicable federal and state design standards, or conforms to a pre-approved AAS.
- h) Utilities: A discussion of utility (public and private) impacts.
- i) Permits: A discussion of permit changes, additional permits and/or agency approvals that may be required for the ATC.
- j) Right of Way: A discussion of the right of way requirements (both temporary and permanent) for the ATC.
- k) Traffic and Safety Impacts: A discussion of the impacts the ATC will have on maintenance of traffic during construction.
- l) Environmental Impacts: A discussion of the ATC environmental impacts as compared to the approved project Environmental Document including impacts to environmental commitments and community impacts.
- m) Maintenance: A discussion of the maintenance impacts over the 75 year life of the project.
- n) History: A detailed description of other projects on which the proposed ATC has been used including contact information (name, title, phone number, address and email) for project owners that can confirm ATC implementation.
- o) Inspection: Any additional testing and construction inspection requirements.
- p) Risks: A discussion of added risks to MoDOT and other parties associated with implementing the ATC.
- q) A description of both the existing contract requirements for performing the work and the proposed ATC (if more information has become available since CATC narrative).

ATC submittals shall include enough roadway and structural design details to determine acceptance of the ATC which shall include if applicable, but not limited to: geometrics, hydraulic calculations, profiles, typical sections, and traffic control concepts; and structures to include type, size and location superstructure information, substructure information, and any other significant information. Where different from the Commission-furnished bid proposal, the ATC submittal shall also identify the contractor's specific approach to the following, as applicable:

- a) Mechanically stabilized earth (MSE), the contractor shall define the MSE system to be used and its associated application criteria.
- b) Describe the corrosion protection measures for structural steel and concrete reinforcing steel subject to chloride exposure, such as decks, elements under joints and locations within splash zones. The definition of splash zone shall be included if utilized.
- c) The application limits and material requirements for structures for protective coatings such as graffiti protection to be used.
- d) The specifications for the application of proposed coatings for bridge superstructure, signs, message boards, steel piling and miscellaneous steel.
- e) The types of bridge expansion joints and bearings to be used.
- f) Specify what materials will be used for drainage pipes in various applications.
- g) For traffic related items the proposer shall define how they will interpret the 'guidance' recommendations in MUTCD.

Evaluation of Step 3 - Alternate Technical Concepts

ATCs will be evaluated based on compliance to the requirements of these guidelines. ATCs that do not meet these requirements will fail and not be considered for bid. The Commission and FHWA shall be the sole judges in determining compliance with these requirements. If a CATC is proposed and approved based on the requirements, but does not fulfill these requirements when it is submitted as an ATC, it will not be considered for bid.

ATCs will be evaluated using the following criteria. If any of the following criteria are not met, the ATC request fails.

- a) The ATC meets or exceeds the minimum requirements and engineering standards listed in these guidelines. The ATC was first evaluated and accepted as a Conceptual ATC (CATC).
- b) The ATC does not adversely affect the long-term maintenance of the project.
- c) The ATC is consistent with the overall project goals, which include but are not limited to the following:
 - a. Deliver the project on budget
 - b. Minimize public impact by keeping regional and local traffic flowing efficiently and safely through the impacted area
 - c. Incorporate innovative design including faster/better construction techniques, quality control & inspection
 - d. Coordinate with all partners and the local community resulting in a project that is viewed as successful
 - e. Demonstrate quality construction, encourage green techniques and provide a long lasting facility that complies to ADA requirements.
- d) The ATC is equal to or better than the original design proposal. The ATC shall not cause a decrease in engineering standards for any safety related items, including but not limited to: reduction in shoulder widths, reduction in lane widths, decrease in design speed, decrease in clear zone, ~~reduction in clear distance to piers and/or abutments, reduction in vertical clearance,~~ or reduced traffic control performance, etc. To be considered for approval, all safety related elements of the ATC must meet or exceed the MoDOT design. Evaluation of ATC proposals may, at MoDOT's discretion, take into account the overall project design including increases and decreases in safety related items throughout the project. For example a decrease in engineering standard may be allowed in one area if, in MoDOT's and FHWA's sole discretion, it is determined that the overall safety of the project, as compared to the original MoDOT baseline design, is increased by increasing the engineering standard of other parts of the project.
- e) Direct or secondary cost and/or delay related to utility conflicts.

 **REVISED**

The Commission will make every effort to evaluate the ATC within 10 working days of submittal, and give the contractor a pass or fail decision. The Commission will, in writing, notify the contractor of the ATCs pass/fail status. If an ATC with a promising concept is submitted with insufficient information, it will be rejected. A rejected ATC response will include a list of one or more of the criteria listed above as to why the ATC failed. The contractor will be allowed to address the Commission's cause for rejection and resubmit the ATC prior to the ATC submittal deadline. All specific ATC discussions shall be written or in-person with minutes recorded by the contractor, and approved by the Commission. In no way will the Commission discuss specific ATCs without documentation. The Commission and Federal Highway

Administration will be the sole judges of acceptability of the ATC. The Commission and Federal Highway Administration reserve the right to reject any ATC request for any reason.

A request from the Commission for additional information from the contractor will be considered a response and allows for extension of the evaluation period.

If the proposed ATC is given a “pass” recommendation the concept is considered pre-approved and may be submitted by the contractor along with bids for the other items of work contained in the request for proposal. If the ATC is given a pass recommendation the Commission will provide a date for completion of the final re-design, i.e. construction plan set, with the ATC approval letter. The contractor shall notify the Commission in writing within 5 calendar days of approval of the ATC their intent to pursue the ATC. An approved ATC which is comprised of multiple elements must be bid as a whole, selective implementation of less than all the elements will not be accepted.

The contractor will have no claim for additional costs or delays, including development costs, loss of anticipated profits, or increased material or labor costs, if the ATC is rejected.

An approved ATC that is not submitted with the bid will not be considered a pre-approved value engineering change proposal (VECP). The awarded contractor may submit their approved ATC as a VECP, however, the fact that it was approved as an ATC shall have no bearing on potential approval as a VECP, and it will be reviewed independently in accordance with Sec 104.6.

In the event that the awarded contractor utilized a sunshine request to obtain information about approved ATCs submitted by other bidders, these ideas shall not be considered eligible for submittal as a VECP, unless the awarded contractor has an agreement letter from other bidders stating it is permissible.

Confidentiality

The Commission expressly reserves the right to adopt any specific CATC or ATC as standard practice for use on other contracts administered by the Commission, whether the CATC or ATC is accepted or rejected. The CATC or ATC shall not be used by the Commission until after the award of the Hurricane Deck bridge project.

Other than as listed above, all CATC and ATC submittals are considered confidential and will not be shared with other bidders. All members of the review team (except FHWA) will be required to sign a confidentiality agreement before reviewing any submittals. A copy of the form to be used for this purpose may be requested.

Design Requirements

The Commission will be responsible for completing all roadway and structural design plans for approved ATCs. The Commission will work with the contractor on any ATC that requires design and/or plan changes. If necessary, weekly meetings will be held. The plans will be developed to a degree such that the Commission and contractor are satisfied that biddable quantities are established. If the successful low bidder’s proposal contains an ATC, their ATC will be developed into a finalized set of construction plans.

Plans shall be complete before any construction related to the ATC can begin. The Commission will not be responsible for any cost associated with project delays due to the redesign and production of plans, specifications and quantities as needed for implementation of the ATCs or any additional construction cost not foreseen prior to the ATC design completion.

Bidding Requirements

If the successful bidder's pre-approved ATC is abandoned by the contractor or fails to be constructed for any reason, the contractor is obligated to complete the project utilizing the original design at the awarded cost.

Basis of Payment

The proposal documents contain all of the proposed work for the project to be bid as designed by the Commission. Contractors choosing not to participate in the ATC process must bid the base set of plans furnished by the Commission.

Contractors submitting an ATC bid will receive modified bidding documents with separate pay items for the pre-approved ATC and other applicable bid items. If the contractor elects to bid the project with pre-approved ATCs, the contractor shall enter the unit prices in the modified bidding document. If the successful contractor's pre-approved ATC is abandoned by the contractor or fails to be constructed for any reason, a no cost change order will be processed to re-adjust the bid items to the original design quantities. The contractor is obligated to complete the project utilizing the original design at the awarded cost.

No direct payment will be made for any change in quantity of pay items not included in the ATC that are affected by the contractor's decision to use an ATC on this project.

No direct payment will be made for delay of schedule due to the use of an ATC, including but not limited to delay resulting from the design, review, implementation or construction of an ATC. Additionally, if the ATC causes conflicts with utilities that were not previously identified in the original ATC submittal, the contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects they have on delivery of the project shall be a non-compensable, excusable delay as provided in Section 105.7.3 of the Missouri Standard Specifications for Highway Construction. No time delay will be granted for any utility conflicts identified in the original ATC submittal.

The following are requirements and limits that will be placed on the Alternate Technical Concepts for this project.

General Design Specifications – Minimum Requirements

1. Roadway and Structural designs shall be in accordance with any state and all federal requirements, unless otherwise specified elsewhere in these contract documents.
2. Utilities shall not be disturbed except at the contractor's expense.
3. There are many factors that limit the options in altering the horizontal alignment. Prior to investing an extensive amount of time in any Conceptual ATC proposal that would affect the horizontal geometry of the base design; the contractor is strongly encouraged to contact MoDOT to discuss these limitations as noted in Step 1 of submittal process.

4. ATCs proposing changes in maintenance of traffic should maintain traffic as good as or better than the Commission base design. Closures exceeding that of the base plan will be considered depending upon impacts to the traveling public and local input.
5. If a proposed ATC is beyond the limits of the Commission's existing right of way, it is the contractor's responsibility to coordinate with property owner's to obtain the necessary right of way. The contractor shall comply with all applicable federal laws, rules and regulations, including 42 U.S.C. 4601-4655, the Uniform Relocation Assistance and Real Property Acquisition Act, as amended and any regulations promulgated in connection with the Act, and with Chapter 523 of the Revised Statutes of Missouri. MoDOT will audit and review the contractor's right of way acquisition process and will in its sole discretion determine if a right of way acquisition has been obtained in accordance with all applicable federal laws, rules and regulations. If MoDOT determines that right of way was not purchased in accordance with all applicable federal laws, rules and regulations, the contractor is obligated to complete the project per the original design at the awarded cost or complete the approved ATC within the existing right of way.
6. ATCs may not result in a net increase in the acreage of disturbed wetlands.
7. ATCs requiring new Design Exceptions must receive both MoDOT and FHWA approval. Any new design exceptions must be offset by elimination or reduction of existing design exceptions elsewhere in the project. Any combination of existing and new design exceptions must produce a design that is judged to be equal to or better than the existing design as determined by MoDOT and FHWA. MoDOT in its sole discretion may reject any design exception proposal that it feels does not provide a suitable or safe design prior to FHWA's review.
8. Any proposed ATCs requiring modifications to previously approved actions for this project (ie NEPA, Design Exceptions, Conceptual Reports, permits, etc.) must receive MoDOT and FHWA approval. This information is available upon specific request to the MoDOT contact person. MoDOT in its sole discretion may reject any proposal that will require modifications to previous approvals. Any work required for modification of previously approved actions shall be the responsibility of the Commission.

Bridge Design Specifications – Minimum Requirements

1. Alternate bridge designs shall be in accordance with the 2010 - AASHTO LRFD 5th Edition and 2010 Interims, Load and Resistance Factor Design, for Seismic Performance Category A, as modified and interpreted by the MoDOT Engineering Policy Guide (EPG). Bridge deck drainage design shall be in accordance with the 1986 FHWA Report "*Bridge Deck Drainage Guidelines*", and the May 1993 FHWA Report "*Design of Deck Drainage, Hydraulic Engineering Circular No. 21.*"
2. Alternate designs shall meet the following LRFD loading requirements:
 - HL-93
 - 35-lb/sf future wearing surface

3. Drainage spread shall be limited to the shoulder width plus 3 ft. The design storm event shall be a 25-year (8.5" per hour) frequency and five-minute time period. Draining water directly over the edge of the bridge (i.e. curb outlets) is not allowed.
4. Minimum vertical clearance for finished structure shall be 45'-0" clear over normal pool elevation of 660.0 ft. for a minimum distance of 200'.
5. Design life for finished structures shall be 75 years minimum.
6. The minimum number of lanes and shoulder widths for finished structures, as shown on the contract plans, shall not be reduced from the original design.
7. A reinforced concrete overlay is required for prestressed voided slab or prestressed box girder superstructures.
8. If drilled shafts are used for intermediate bents, all requirements in the MoDOT Engineer Policy Guide or equivalent drilled shaft requirements contained in a pre-approved AAS shall be met.

Structural Wall Design Specifications – Minimum Requirements

These minimum Bridge Design Specification requirements apply to alternate wall designs.

1. Alternate wall designs shall be in accordance with the 2002 – AASHTO 17th Edition Load Factor Design, as modified by MoDOT Bridge Design Manual Section 3.6.2.
2. An aggregate shear key shall be used below MSE Walls.

Roadway Design Specifications – Minimum Requirements

1. This project has a Traffic Management Plan (TMP) that has been approved by FHWA. ATCs that impact the Traffic Control Plan or the TMP will require the preparation and approval, by MoDOT and FHWA, of a revised TMP. The revised TMP and Traffic Control Plan shall provide an equivalent impact to traffic during construction when compared to the one described for the base plans. The determination of equivalent impacts or acceptable impacts to traffic shall be at the sole discretion of the Commission and FHWA.
2. Alternate pavement designs must be consistent with the AASHTO Mechanistic-Empirical Design guidelines. Any alternate pavement designs must be determined, by the Commission, to provide an equivalent design and performance to the design included in the base Commission plans.