

KAJAKI DAM – IRRIGATION TUNNEL WORKS

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 33 16

DESIGN-BUILD: DESIGN AFTER AWARD

TABLE OF CONTENTS

PART 1.	GENERAL.....	3
1.1	SUMMARY.....	3
1.2	SUBMITTALS.....	3
1.3	CONTRACTOR-ENGINEER RELATIONSHIP.....	4
1.4	DESIGNER OF RECORD.....	4
1.5	DESIGN BASIS.....	4
1.6	SPECIAL CONTRACT REQUIREMENTS FOR DESIGN BUILD.....	4
PART 2.	PRODUCTS.....	5
PART 3.	EXECUTION.....	5
3.1	PRE-WORK ACTIVITIES AND CONFERENCES.....	5
3.2	DESIGN BUILD PROCESS.....	5
3.3	DESIGN SUBMITTALS.....	7
3.4	DESIGN CONFIGURATION MANAGEMENT.....	10
3.5	INTERIM DESIGN REQUIREMENTS.....	10
3.6	FINAL DESIGN REQUIREMENTS.....	12
3.7	DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS.....	14
3.8	TRANSMITTAL FORM (ENG FORM 4025).....	14
3.9	TRACKING COMMENTS IN DRCHECKS _{SM}	14
3.10	PROJECT SCHEDULE.....	17

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PART 1. GENERAL

1.1 SUMMARY

The information contained in this section applies to the design required after award. After award, the Contractor shall develop the accepted proposal into the completed design, as described herein.

1.1.1 References

Referenced Sections

- Section 01 32 01, PROJECT SCHEDULE
- Section 01 33 15 SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECTS
- Section 01 35 26 GOVERNMENTAL SAFETY REQUIREMENTS
- Section 01 45 00, QUALITY CONTROL
- Section 01 01 50 TECHNICAL REQUIREMENTS
- Section 00 55 50, DESIGN CONCEPT DOCUMENTS
- Section 01 78 39 PROJECT RECORD DOCUMENTS

FAR Clauses

- Clauses 52.242-14, SUSPENSION OF WORK, and 52.249-10, DEFAULT
- Clause 52.236-23, RESPONSIBILITY OF THE ARCHITECT-ENGINEER CONTRACTOR
- Clause 52.236-25, REQUIREMENTS FOR REGISTRATION OF DESIGNERS

Section 0800 SCR Clauses for Design- Build

- Design Build Contract-Order of Precedence
- Key Personnel, Subcontractors, and Outside Associates or Consultants)
- Responsibility of the Contractor for Design
- Warranty of Construction Work
- Warranty of Design
- Sequence of Design/Construction (Fast Track)
- Constructor's Role During Design
- Recommended Insurance Coverage
- Value Engineering After Award
- Partnering (Highly Recommended)
- Deviating From the Accepted Design

Bulletins

- Engineering and Construction Bulletin No. ECB 2006-15, Subject: Standardizing Computer Aided Design (CAD) and Geographic Information Systems (GIS) Deliverables for all Military Design and Construction Projects

1.2 SUBMITTALS

Government review is required for submittals listed below. Government approval is required for submittals with a "G" designation and Designer of Record (DOR) approval is required for submittals with a "DA" designation:

SD-01 Preconstruction Submittals

Design Quality Control Plan; G

Interim Design Submittals; G

Final Design Submittals; G

Design Complete Submittals; G

Design and Code Checklists; G

1.3 CONTRACTOR-ENGINEER RELATIONSHIP

All items in the scope of work shall be designed and built as one project by a single contractor. The contractor may be a single firm or a team of firms that includes registered Architects and Engineers either employed by or subcontracted to the contractor. Licensing jurisdiction of Architects and Engineers of record shall be verifiable. The contractor shall be the Architect/Engineer-of-Record, regardless of whether the contractor utilizes services of licensed architects and engineers employed by its firm or subcontracts with independent architectural and/or engineering firm(s). The contractor shall be solely liable for design errors and/or omissions and should be insured as the A-E firm against design errors and omissions. For this specification, the term “Government” is defined as the Contracting Officer for the US Army Corps of Engineers, Afghanistan Engineering District South (AES).

1.4 DESIGNER OF RECORD

The Design-Build Contractor (Design-Builder, D-B, or simply Contractor) shall identify, for approval, the Designer of Record (DOR) who will be responsible for each area of design. One DOR may be responsible for more than one area. All areas of design disciplines shall be accounted for by a listed, Professional Registered, DOR. The DOR(s) shall stamp, sign, and date each design drawing and other design deliverables under their responsible discipline at each design submittal stage (see Section, Contract Clause 52.236-25, REQUIREMENTS FOR REGISTRATION OF DESIGNERS).

The DOR(s) shall also be responsible for maintaining the integrity of the design and for compliance with the contract requirements through construction and documentation of the as-constructed condition by coordination, review and approval of extensions of design, material, equipment and other construction submittals, review and approval or disapproval of requested deviations to the accepted design or to the contract, coordination with the Government of the above activities, and by performing other typical professional designer responsibilities.

Section 01 45 00 Contractor Quality Control further specifies experience requirements for the DOR, marking of design submittals, and responsibility for conformance with the submitted Design Quality Control Plan (DQP).

1.5 DESIGN BASIS

Section 00 55 50, DESIGN CONCEPT DOCUMENTS identifies project documents furnished herewith to be used as the basis for the project design. The Contractor shall be required to use the concept documents as a starting point and then “extend” the design to completion, and ultimately produce the final plans and construction specifications. Section 00 55 00 also provides the results of Government review and assumptions on existing conditions. In preparing this request for proposal, the Government has effectively produced conceptual level designs from these documents and produced working estimates of cost. A qualified Contractor should be able to review the same documents, perform independent research as may be appropriate, and prepare an adequate response to this request for proposal.

1.6 SPECIAL CONTRACT REQUIREMENTS FOR DESIGN BUILD

Section 0800 of this contract include the Special Contract Requirements (SCR) for the design build process that are not otherwise in the Federal Acquisition Regulations (FAR). The following SCRs for this design-build project are included:

- Design Build Contract-Order of Precedence

- Key Personnel, Subcontractors, and Outside Associates or Consultants)
- Responsibility of the Contractor for Design
- Warranty of Construction Work
- Warranty of Design
- Sequence of Design/Construction (Fast Track)
- Constructor’s Role During Design
- Recommended Insurance Coverage
- Value Engineering After Award
- Partnering
- Deviating From the Accepted Design

PART 2. PRODUCTS

Design products are further specified in Section 01 33 15 SUBMITTAL PROCEDURES – PART 2 PRODUCTS.

PART 3. EXECUTION

3.1 PRE-WORK ACTIVITIES AND CONFERENCES

3.1.1 Design Quality Control Plan

The D-B Contractor shall submit for Government Approval, a Design Quality Control Plan in accordance with Section 014500, QUALITY CONTROL, before design may proceed.

3.1.2 Post Award Conference

The Government will conduct a post award contract administration conference at the project site, as soon as possible after contract award. This will be coordinated with issuance of the contract notice to proceed (NTP). The Contractor, lead DOR and major sub-contractor representatives shall participate. Government representatives will include Government Project Engineer/COR , facility users, facility command representatives, and installation representatives. Prior to the meeting, the Government will provide an agenda, goals, meeting place and time.

The post award conference shall include determination and introduction of contact persons, their authorities, contract administration requirements, discussion of expected processes, and coordination of subsequent meetings for quality control. See Section 014500, QUALITY CONTROL, and paragraph titled Initial Design Conference).

3.1.3 USACE Team

The Government will introduce USACE team members, U.S. and Afghan military command, Kajaki Dam Operations personnel, and representatives from other Contracting firms working at the dam. The D-B Contractor shall introduce major subcontractors, and other needed staff. Expectations and duties of each person shall be defined for all participants. A meeting roster shall be developed and distributed by the Government with complete contact information including name, office, project role, phone, mailing and physical address, and email address. Contact information shall include all job site and duty locations.

3.2 DESIGN BUILD PROCESS

3.2.1 Design Development

The Government and Contractor shall establish comprehensive design development processes including conduct of conferences, expectations of design development at conferences, design approval, and project closeout. The Government will explain contract requirements and the D-B Contractor shall review their proposed project schedule and suggest ways to streamline processes.

3.2.2 Design Conference

The initial design conference may be scheduled and conducted at the project installation within 60 days of contract award, although it is recommended that the partnering process be initiated with or before the initial design conference. Any design work conducted after award and prior to this conference should be limited to site work and is discouraged for other items. All Designers of Record shall participate in the conference. The purpose of the meeting is to introduce everyone, to make sure any needs the Contractor has are assigned, establish schedule dates and critical milestones, and determine the informational requirements of all parties. The D-B Contractor shall conduct the initial design conference.

3.2.3 Pre-Construction Conference

Before starting construction activities, the Contractor and Government will jointly conduct a pre-construction administrative conference to discuss any outstanding requirements and to review local requirements for start of construction. It is possible there will be multiple Pre-Construction Conferences based on the content of the design packages selected by the Contractor. The Contractor will provide minutes of this meeting to all participants.

3.2.4 Sequence of Design Build (Fast Track)

The Kajaki Dam - Tunnel Works project requires an expedited design-build sequence that also follows a carefully sequenced construction operation due to the nature of the tunnel operations, limitations on hydro-regulation of the reservoir, and the detailed inspections that cannot physically be performed until construction begins. The spillway explorations and installation of dam safety instrumentation are in general much more independent of operations at the project site and may therefore be executed with more flexibility.

Major items such as the intake tower and the tunnel dominate the operations. Ancillary items (and their design-build sequence) are defined as those that are NOT critical to the operation providing irrigation flows, e.g. structural and mechanical work items of the intake tower or the tunnel valves.

In general, construction will begin with site inspections resulting in preliminary evaluations and reports. Subsequent designs shall be completed progressively at different levels, i.e. Preliminary (35%), Interim (65%), Final (99%), and Design Complete (100%). The tasks defining level of completion is partly specified herein and partly subjective and depends on the DOR.

Designs supported by an inspection and evaluation shall have the report completed by Interim (65%) design stage.

A Commissioning Plan for all items that require functional operation for the intake tower shall be submitted along with the Interim Design (65%) package. Likewise, a Commissioning Plan for all items that require functional operation for the downstream tunnel works shall be submitted along with the Interim Design (65%) package. If there are any deviations from design, the Contractor shall re-submit the Commissioning Plan with subsequent Final Design (99%) packages.

Training Plans, Lesson Plans, and O&M Manuals shall be submitted along with the Final Design (99%) Packages. Video recordings of all hands on training of project personnel shall be submitted no later than the Final Design stage and prior to any class room training. Professional videos shall be produced after the hands on training sessions according to Section 016600 Training and shall be submitted with the Design Complete package.

The sequence is referred to as “Fast-Track” in the sense that the build phase may proceed before final design at the Interim Phase of design, and as separate packages, subject to the issuance of a Clearance for Construction Letter from the Contracting Officer.

The sequencing shall be completed according to Table 1 below.

KAJAKI DAM – IRRIGATION TUNNEL WORKS

Table 1. General Sequencing for Design and Build by Phase

PHASE	DESIGN	BUILD
Pre-Design & Pre-Build	Plans for security, area use, inspections, and explorations.	<ul style="list-style-type: none"> • None
Tower Phase	Preliminary designs on intake tower and items that are accessible without dewatering the tunnel. Completed inspections on ancillary items (dry items) such as generators, service crane in tunnel Preliminary designs on accessible items with long lead times, e.g. Jet Valves Preliminary designs on options items	<ul style="list-style-type: none"> • Mobilization and site work to get Contractor established at the project • Conduct inspections which are accessible w/o tunnel closure.
Interim Phase	Preliminary designs on Tunnel items Interim designs on intake tower items including completed evaluation reports Final designs on ancillary items Preliminary and/ or Final designs on options items	<ul style="list-style-type: none"> • Construct intake tower items required to dewater tunnel including all commissioning and training • Complete necessary inspections in dewatered areas
Tunnel Phase	Interim designs on downstream tunnel items including completed evaluation reports Final designs on intake tower items including completed evaluation reports Final designs on options items	<ul style="list-style-type: none"> • Construct all downstream tunnel works items in dewatered areas including all commissioning and training • Subsurface explorations completed
Design & Build Complete	Project Closeout and As-built documentation	<ul style="list-style-type: none"> • Demobilization • Site clean up

3.2.5 Design Build Of Features Optional to Contract

Some items listed in Section 01 01 40 Summary of Work are optional to the contract and therefore to be executed at the discretion of the Contracting Officer. In general, these options will be executed as early as possible and in part dictated by the results of some inspections to be completed by the Contractor. The Notice to Proceed (NTP) for design and build of any option item shall be executed by a “no later than date” determined by the date of submission for inspection, plus the Government review period, plus 30 days. For example, the last date for executing a conduit repair would be about 60 days into the Tunnel Phase after the tunnel has been dewatered assuming timely performance of the design build contractor.

3.3 DESIGN SUBMITTALS

3.3.1 General

Contractor furnished design submittals are the various design documents which primarily consist of field investigations, calculations, design analysis, drawings and construction specifications.

In addition, for each design submittal, the contractor shall submit all non-administrative modifications issued for the contract as part of the Design Submittal package to enable TAS to validate that these modifications have been incorporated into this design submittal.

The Contractor shall clearly label and date all design submittals to reflect the current design stage and date of submission to the Government to avoid confusion between current and previous submittals. The Contractor shall not begin construction work until the Government has reviewed and approved the work presented in each Design Submittal, including complete resolution of all comments, and the Contracting Officer has cleared work for construction. Clearance for construction shall not be construed as meaning Government approval. Unless otherwise indicated, the risk for the design is the sole responsibility of the Contractor.

The sole responsibility of ensuring that the design submittals comply with contract documents remains with the Contractor, in accordance with this section of the contract. The Government retains the right to comment on the design at any design stage, and the lack of Government comments at a given review cannot be used as a basis for the Contractor to fail to address the Government's comments on subsequent reviews, regardless of design stage. Furthermore, approval of incomplete designs will not relieve the Contractor of the responsibility for any error which may exist, and which may require rework or other appropriate adjustment to the contract terms, as determined at the sole discretion of the Government. It is the sole responsibility of the Contractor to ensure that submittals do or do not comply with the contract documents. Government review, clearance for construction, or approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract. Government review, clearance for construction, or approval of post design construction submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory.

3.3.2 Total Design Package

A “total design package” is defined as plans, and constructions specifications along with design analyses and inspection reports for all technical disciplines.

3.3.3 Separate Design Package

The Contractor may request a separation of features for design. At the discretion of the COR, the Contractor may sub-divide the design into separate packages for each stage of design. For example, items combined in a single bid item such as “Valve Design” may be designed separately. However, due to potential constraints imposed by the site, operations or the Government, the Contracting Officer may refuse to separate design packages and withhold the CFC letter.

If a separate package is created, the Contractor may proceed with the construction work after the Government has issued a Clearance for Construction (CFC) letter, and review comments have been addressed and resolved to the Government's satisfaction.

3.3.4 Partial Design Submittals

In the interest of expediting construction, the Contracting Officer may approve partial design submittals, procurement of materials and equipment, as well as issue the Cleared for Construction (CFC) Letter. Such partial notices to proceed shall be solely at the discretion of the Contracting Officer. The Contractor must obtain the approval of the Designer of Record (DOR) and the Government’s concurrence for any Contractor proposed revision to the professionally stamped and sealed design reviewed and Cleared for Construction by the Government, before proceeding with the revision. The Government reserves the right to non-concur with any revision to the design, which may impact furniture, furnishings, equipment selections or operations decisions that were made, based on the reviewed and cleared for construction design. Any revision to the design, which deviates from the contract requirements (i.e., the RFP and the accepted proposal), will require a modification, pursuant to the Contract Clause 52.243-4 entitled “CHANGES”, in addition to Government concurrence. The Government reserves the right to disapprove such a revision. Unless the Government initiates a change to the contract requirements, or the Government determines that the Government furnished design criteria are incorrect and must be revised, any Contractor initiated proposed change to the contract requirements, which results in additional cost, shall strictly be at the Contractor's expense. The Contractor shall track all approved revisions to the reviewed and cleared for construction design and shall incorporate them into the As-Built design documentation, in accordance with Section 01 78 00A, CLOSEOUT SUBMITTALS, Paragraphs 1.1 and 1.2, which lists all requirements associated with submission of editable CAD format As-Built's required as part of this contract. The Designer of Record shall

document its professional concurrence on the As-Builts for any revisions by affixing its stamp and seal on the drawings and construction specifications.

3.3.5 Stages of Design

The stages of design submittals described below define Government requirements with respect to process and content. The Contractor shall determine how to best plan and execute the design and review process subject to the minimum required sequencing in the paragraph titled Sequence of Design-Build (Fast Track). As a minimum, the Contractor shall submit the following submittals:

- a. Preliminary Design (35%) Submittal – For Information Only
- b. Interim Design (65%) Submittal – for Government review
- c. Final Design (99%) Submittal – for Government review
- d. Design Complete (100%) Submittal documenting the As-built design. – For Information Only

3.3.6 Interim Design Submittals

The Contractor shall submit a single interim design for review, representing all design disciplines. As required in Section 013201, PROJECT SCHEDULE, the Contractor shall schedule its design and construction packaging plan to meet the contract completion period. This submittal is the Government's primary opportunity to review and approve the design for conformance to the solicitation and to the accepted contract proposal and to the building codes at a point where required revisions may be still made, while minimizing lost design effort to keep the design on track with the contract requirements. The requirements for the interim design review submittals and review conferences are described in paragraph INTERIM DESIGN REQUIREMENTS. This is not necessarily a hold point for the design process; the Contractor may designate the interim design submittal(s) as a snapshot and proceed with design development at its own risk. However, due to the sensitive nature of the project and downstream consequences, the Contractor shall not proceed with any construction until the CFC letter has been issued by the Contracting Officer.

3.3.7 Final Design Submittals

Final Design Submittals are required for each design package prior to Government acceptance of that design package for construction. The requirements for the final design submittal review conferences and the Government's acceptance for start of construction are described in paragraph FINAL DESIGN REQUIREMENTS.

3.3.8 Design Complete Submittals

After the final design submission and review conference for a design package, the Contractor shall revise the design package to incorporate the comments generated and resolved in the final review conferences, perform and document a back-check review and submit the final, design complete documents, which shall represent released for construction documents. The requirements for the design complete submittals are described in paragraph titled DESIGN COMPLETE CONSTRUCTION REQUIREMENTS.

3.3.9 Holiday Periods for Government Review or Actions

The Contractor shall not schedule meetings, Government reviews or responses during the last two weeks of December or other designated Government Holidays (including Friday after Thanksgiving) and shall exclude such dates and periods from any durations specified herein for Government actions.

3.3.10 Late Submittals and Reviews

If the Contractor cannot meet its scheduled submittal date for a design package, it must revise the proposed submittal date and notify the Government in writing, at least two weeks prior to the submittal due date, in order to accommodate the Government reviewers' other scheduled activities. If a design submittal is over one (1) day late in accordance with the latest revised design schedule, or if notification of a proposed design schedule change is less than seven (7) days from the anticipated design submittal receipt date, the Government review period may be

extended up to seven (7) days due to reviewers' schedule conflicts. If the Government is late in meeting its review commitment and the delay increases the Contractor's cost or delays completion of the project, Contract Clauses 52.242-14, SUSPENSION OF WORK, and 52.249-10, DEFAULT, provide the respective remedy or relief for the delay.

3.3.11 Government Review And Acceptance Of Design Submittals

Government review and acceptance of design submittals is for contract conformance only and shall not relieve the Contractor from responsibility to fully adhere to the requirements of the contract, including the Contractor's accepted contract proposal, or limit the Contractor's responsibility of design as prescribed under Section , Contract Clause 52.236-23, RESPONSIBILITY OF THE ARCHITECT-ENGINEER CONTRACTOR, or limit the Government's rights under the terms of the contract. The Government reserves the right to rescind inadvertent acceptance of design submittals containing contract deviations not separately and expressly identified in the submittal for Government consideration and approval.

Additional details on the Government review and submittal procedures for design packages are provided in Section 01 33 15 SUBMITTAL PROCEDURES paragraph REVIEW OF CONTRACTOR PREPARED DESIGN DOCUMENTS.

3.4 DESIGN CONFIGURATION MANAGEMENT

3.4.1 Internal Procedures

The Contractor shall develop and maintain effective, acceptable Design Configuration Management (DCM) procedures to control and track all revisions to the design documents after the Interim Design submittal through submission of the As-Constructed documents. During the design process, this will facilitate and help streamline the design and review schedule. After the final design is accepted, this process provides control of and documents revisions to the accepted design. The system shall include appropriate authorities and concurrences to authorize revisions, including documentation as to why the revision must be made. The DCM data shall be available to the Government reviewers at all times. The Contractor may use its own internal system with interactive Government concurrences, where necessary or may use the Government's "DrChecks Design Review and Checking System."

3.4.2 Tracking Design Review Comments

Although the Contractor may use its own internal system for overall design configuration management, the Government and the Contractor shall use the DrChecks Design Review and Checking System to initiate, respond to, resolve and track Government design compliance review comments. This system may be useful for other data which needs to be interactive or otherwise available for shared use and retrieval. See paragraph TRACKING COMMENTS IN DRCHECKS, for details on how to establish an account and set-up the DrChecks system for use on the project.

3.4.3 Design and Code Checklists

The Contractor shall develop and complete various discipline-specific checklists to be used during the design and quality control of each submittal. These completed checklists shall be submitted with each design submittal, as applicable, as part of the project documentation. See Section 014500, QUALITY CONTROL.

3.5 INTERIM DESIGN REQUIREMENTS

3.5.1 General

At least one interim design submittal, review and conference is required for each design package. The D-B Contractor may include additional interim design conferences or over-the-shoulder reviews, as needed, to assure continued Government concurrence with the design work. The interim submittal review periods and conferences shall be included in the project schedule and shall indicate what part of the design work is at what percentage of completion, per Section 013201, PROJECT SCHEDULE, subparagraph entitled Design and Permit Activities. The

required interim design conferences shall be held when interim design requirements are reached per paragraph entitled Interim Design Deliverables.

3.5.2 Interim Design Deliverables

Interim design deliverables shall include drawings, construction specifications, submittal register, and design analysis for the part of design that the D-B Contractor considers ready for review at 65% level of completion. Inspection reports specified in Section 01 01 50 TECHNICAL REQUIREMENTS shall also be provided to facilitate conference and subsequent direction from the government on design selections. The inspection and evaluation reports shall be “final” and stamped by the DOR.

3.5.2.1 *Design Analyses*

The designers of record shall prepare and present design analyses with calculations necessary to substantiate and support all design documents submitted. For parts including sitework, site specific civil calculations shall be included. For parts including structural work, structural calculations shall be included. For parts including mechanical work, mechanical calculations shall be included. For parts including electrical work, lighting calculations to determine maintained foot-candle levels, electrical load analysis and calculations, electrical short circuit and protective device coordination analysis and calculations and arc fault calculations shall be included. The Contractor shall submit the geotechnical evaluation report, reports of soil and rock borings and logs, as well as any other investigations performed.

3.5.2.2 *Drawings and Construction Specifications*

Specifications shall conform to the requirements outlined in Section 01 33 15 SUBMITTAL PROCEDURES – see paragraph CONSTRUCTION SPECIFICATIONS. Drawings shall also conform to the requirements outlined in Section 01 33 15 SUBMITTAL PROCEDURES – see paragraph DRAWINGS.

3.5.3 Procedures

- a. After receipt of an Interim Design submittal, the Government will be allowed up to eighteen (18) calendar days after receipt of the submittal to review and comment on the interim design submittal. For smaller design packages, especially those that involve only one or a few separate design disciplines, the parties may agree on a shorter review period or alternative review methods (e.g., over-the-shoulder or electronic file sharing). For each interim design review submittal, the COR will furnish to the Contractor, a single consolidated, validated listing of all comments from the various design sections and from other concerned agencies involved in the review process using the DrChecks Design Review and Checking System. The review will be for conformance with the technical requirements of the solicitation and the Contractor's RFP proposal. The Contractor shall furnish disposition of all comments, in writing, through DrChecks. If the Contractor disagrees technically with any comment or comments and does not intend to comply with the comment, the Contractor shall clearly outline, with ample justification, the reasons for noncompliance prior to the closure of the review period in order to provide ample time for the comment to be resolved. The Contractor is cautioned that if it believes the action required by any comment exceeds the requirements of this contract, that it should take no action and notify the COR in writing immediately.
- b. In order to facilitate and accelerate the Government code and contract conformance reviews, the Contractor shall identify, track resolution of and maintain all comments and action items generated during the design process and make this available to the designers and reviewers prior to the Interim and subsequent design reviews.
- c. The Interim Review Conference will be held for each design submittal at a location determined by the COR. The Contractor shall bring the personnel that developed the design submittal to the review conference. The conference will take place the week after the Contractor receives the Government's comments. For smaller fast-track packages that involve only a few reviewers, the parties may agree to alternative conferencing methods, such as teleconferencing or televideo.

3.5.4 Interim Review Conference Documentation

The D-B Contractor shall prepare meeting minutes and shall enter final resolution of all comments into DrChecks. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the conference adjourns. Unresolved problems will be resolved by immediate follow-up action at the end of conferences. Valid comments shall be incorporated. The Government reserves the right to reject design document submittals if comments are significant. Participants shall determine if any comments are critical enough to require further design development prior to Government concurrence. Participants shall also determine how to proceed in order to obtain Government concurrence with the design work presented.

3.5.5 Government Review of Interim Design Package

The government will review a “total” Interim Design Package that includes all Plans and Specifications at 65% level of completion, design analyses, final inspection and evaluation reports (if any specified) used to support the design. The Government will check the basis for design and determine if the design has been “extended” according to the performance criteria provided. The government will review the package to determine if design is in conformance to specified codes and criteria. In general, the prescribed specifications provided in Section 01 01 50 Technical Requirements are limited to that necessary to form a design basis at the conceptual level. Therefore, the government will also perform a check on any prescribed specifications. It will be the responsibility of the DOR to demonstrate that any deviation from the prescribed specifications is necessary and this must be documented in the submittal. The Contracting Officer must approve any deviation before issuing CFC Letter.

The full and comprehensive details in the plans and specifications required for Final Design may not be necessary to determine conformance to specified codes and criteria, and therefore not necessarily be a barrier to issuing a CFC letter. Upon received the CFC letter, the Contactor may further extend design and/or initiate construction at risk.

3.6 FINAL DESIGN REQUIREMENTS

3.6.1 General

A final design review and review conference will be held upon completion of final design at the project installation, or - where equipment is available - by video teleconference or a combination thereof, for any design package to receive Government acceptance to allow release of the design package for construction. For smaller separate design packages, the parties may agree on alternative reviews and conferences (e.g., conference calls and electronic file sharing, etc.). The Contractor shall include the final design conference in the project schedule and shall indicate what part of the design work is at 100 percent completion. The final design conference will be held after the Government has had up to eighteen (18) calendar days, after receipt of the submittal, to review the final design package and supporting data. For smaller packages, especially those involving only one or a few design disciplines the parties may agree on a shorter review period.

3.6.2 Final Design Deliverables

Final design deliverables shall include drawings, specifications, submittal register, and design analysis for the part of design that the D-B Contractor considers ready for review at 99% level of completion.

3.6.2.1 *Design Analyses*

Further to the requirements for Interim Design Analyses the contractor shall update analyses for any required changes. The DOR shall specifically draw attention to any changes and that those changes do not deviate from the contract and code requirements.

3.6.2.2 *Final Design Review Conference Documentation*

The D-B Contractor shall prepare meeting minutes and shall enter final resolution of all comments into DrChecks. Copies of comments, annotated with comment action agreed on, will be made available to all parties before the

conference adjourns. Unresolved problems will be resolved by immediate follow-up action at the end of conferences. Valid comments shall be incorporated. The Government reserves the right to reject design document submittals if comments are significant. Participants shall determine if any comments are critical enough to require further design development prior to Government concurrence.

3.6.2.3 Government Review of Final Design Package

The government will review a “total” Final Design Package that includes all updated Plans and Specifications at 99% level of completion, and updated design analyses. The government will review the package to determine if the package still meets the contract requirements especially if there has been any deviation from the interim design (65%). In general, the specific details for the updated plans and specifications, and updated design analyses must meet the code and professional standards for As-Built design.

3.6.3 FINAL DESIGN DELIVERABLES

3.6.3.1 General

Final design deliverables of a design package for Government review and acceptance shall consist of: 100-percent complete drawings, 100-percent Division 02-49 specifications, submittal register, design analysis, and any permits required by the contract for each package submitted. Prior to the final design conference, the Contractor shall ensure that the Design Configuration Management (DCM) data and all review comment resolutions are up-to-date. The Contractor shall also have performed independent technical reviews (ITR) and back-checks of previous comment resolutions, as required by Section 014500 QUALITY CONTROL, paragraph Additional Requirements for Design Quality Control (DQC) Plan.

3.6.3.2 Drawings

- a. Submit drawings complete with all contract requirements incorporated into the documents to provide a 100 percent design for each package submitted. Prepare all drawings with the Computer-Aided Design and Drafting (CADD) system, organized and easily referenced electronically, presenting complete construction information (see paragraph 3.6.3.3, CADD System).
- b. The design documents shall be in compliance with Section 01 33 15, SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECTS. The D-B Contractor shall use approved vertical Corps of Engineers title blocks and borders on all drawings with the appropriate firm name included within the title block area.
- c. The Contractor shall provide complete, detailed drawings that illustrate conformance with the contract. The Contractor is encouraged to utilize graphics, views, notes, and details which make the drawings easier to review or to construct but is also encouraged to keep such materials to those that are necessary.

3.6.3.3 CADD System

Use of CADD is mandatory. A complete set of computerized drawing files shall be submitted. Additionally, all plans and shop drawings shall be published to Adobe PDF. All computerized drawing files shall be submitted in MicroStation file format in the same model and sheet space as the design drawings. If the drawing files are to be created in other than MicroStation (versions 8 or newer), then the proposed CADD software and the conversion software shall be submitted for approval. All conversions shall be made prior to delivery.

3.6.3.4 Paper Copies

A complete set of paper copies of the drawings, printed as standard full-size drawings, per Section 01 33 15, SUBMITTAL PROCEDURES FOR DESIGN-BUILD CONTRACTS shall be submitted. The Designers of Record shall stamp and sign original hard copy sheets as Released For Construction, and provide copies for distribution from this set.

3.6.3.5 *Design Analysis*

The designers of record shall prepare a design analysis with calculations necessary to validate and support all design work submitted. The responsible DOR shall stamp, sign and date the design analysis. Identify the software used where applicable (name, version, vendor). Generally, provide design analyses individually, in an original (file copy) and one copy for the assigned Government reviewer. Do not combine multi-disciplined volumes of design-analysis, unless multiple copies are provided to facilitate multiple reviewers (one copy per each separate design analysis included in a volume).

3.6.3.6 *Specifications*

Further to the Interim Design Requirements, specifications shall be 100 percent complete and in final form. Prepare and submit specification sections (Division 02-49) as required to define project design requirements, materials, and workmanship; to coordinate with design drawings; to obtain accurate subcontractor bids; and to permit construction of the project features.

3.6.3.7 *Submittal Register*

The D-B Contractor shall prepare and update the Submittal Register and submit it with each design package. The Contracting Officer or Contracting Officer's Representative may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections.

3.6.3.8 *Acceptance and Clearance for Construction*

At the conclusion of the Final Design Review (after resolutions to the comments have been agreed upon between DOR and Government reviewers), the Contracting Officer or the Contracting Officers Representative (COR) will accept the Final Design submittal for the design package in writing and allow construction to start for that design package. The Government may withhold acceptance until all major corrections have been made or if the final design submittal requires so many corrections, even though minor, that it isn't considered acceptably complete.

3.7 DESIGN COMPLETE CONSTRUCTION DOCUMENT REQUIREMENTS

After the Final Design submittal and Review Conference and after Government acceptance of the Final Design, the Contractor shall revise the design documents for the design package to incorporate the comments generated and resolved in the final review conference, perform and document a back-check review and submit the final design complete documents. The following deliverables are required for distribution and field use: All documentation and supporting design analysis in final form, as well as the final review comments, disposition, and the back-check. As part of the quality assurance process, the Government may perform a back-check of the released for construction documentation. The Contractor shall promptly correct any errors or omissions found during the Government back-check. The Government may withhold retainage from progress payments for work or materials associated with a final design package until this submittal has been received and the Government determines that it is complete.

3.8 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025 - Attachment A2) shall be used for submittals in accordance with the instructions on the reverse side of the form per Section 013315, SUBMITTAL PROCEDURES FOR DESIGN-BUILD PROJECTS.

3.9 TRACKING COMMENTS IN DRCHECKS_{SM}

3.9.1 General

All TAS Design Submittal review comments will be documented using the standard design review tool for the U.S. Army Corps of Engineers, a web-based application called “DrChecks_{SM}”. The web link to DrChecks_{SM} is:

<https://www.projnet.org/projnet/binKornHome/index.cfm>

The D-B Contractor shall enter, track, and back-check comments. Designers of Record shall annotate comments timely and specifically to indicate exactly what action will be taken or why the action is not required. Comments considered critical by the conference participants shall be flagged as such.

3.9.2 DrChecks Review Comments

- a. The D-B Contractor shall monitor DrChecks to assure all comments are annotated and agreed to by the designers and reviewers prior to the next submittal. The DrChecks comments and responses shall be printed and included in the design analysis for record.
- b. Conference participants (reviewers) will expect coordination between Design Analysis calculations and the submitted design. Reviewers will also focus on the design submittal's satisfaction of the contract requirements.
- c. The Designers of Record shall answer each comment in DrChecks with a formal response prior to the next submittal, clearly indicating what action will be taken and what drawing/spec will change. Designers of Record are encouraged to directly contact reviewers to discuss and agree to the formal comment responses rather than relying only on DrChecks and review meetings to discuss comments. With the next design conference, reviewers will back-check answers to the comments against the submittal, in addition to reviewing additional design work.
- d. Comments that, in the D-B Contractor's opinion, require effort outside the scope of the contract shall be clearly indicated as such in DrChecks. The D-B Contractor shall not proceed with work outside the contract until a modification to the contract is properly executed, if one is necessary.

3.9.3 DrChecks Initial Account Set-Up

- a. Upon notification of award, the contractor shall immediately coordinate with the Chief, Quality Assurance Branch, TAS to acquire a vendor identification and a brief tutorial on the use of DrChecks_{SM}. The contractor is responsible for providing their own DrChecks_{SM} Administrator within their own design staff personnel to access and accomplish actions within DrChecks_{SM}.
- b. To initialize an office's use of DrChecks, choose a contact person within the office to call the DrChecks Help Desk at 800-428-HELP, weekdays from 8AM-5PM, United States Central time (Coordinated Universal Time -06). This POC will be given an office password to distribute to others in the office. Individuals can then go to the hyperlink at {<http://www.projnet.org>} and register as a first time user. Upon registration, each user will be given a personal password to the DrChecks system.
- c. Once the office and individuals are registered, the COE's project manager or lead reviewer will assign the individuals and/or offices to the specific project for review. At this point, persons assigned can make comments, annotate comments, and close comments, depending on their particular assignment.

3.9.4 Notification to Contractor

At completion of the government review, a notification will be issued to the Contractor by the Contracting Officer's representative that the particular DrChecks_{SM} file will be opened to the Contractor. Until this time, the Contractor is not able to view any TAS comments for that particular Design Submittal.

3.9.5 DrChecks Reviewer Role

The D-B Contractor shall take the role of the reviewer to enter comments into the DrChecks system that result from each design conference. To enter comments:

- a. Log into DrChecks.
- b. Click on the appropriate project.
- c. Click on the appropriate review conference. An Add comment screen will appear.
- d. Select or fill out the appropriate sections (particularly comment discipline and type of document for sorting) of the comment form and enter the comment in the space provided.

- e. Click the Add Comment button. The comment will be added to the database and a fresh screen will appear for the next comment you have.
- f. Once comments are all entered, exit DrChecks by choosing "My Account" and then Logout.

3.9.6 DrChecks Comment Evaluation

The role of the designers of record is to evaluate and respond to the comments entered by the D-B Contractor. To respond to comments:

- a. Log into DrChecks.
- b. Click on the appropriate project.
- c. Under "Evaluate" click on the number under "Pending."
- d. Locate the comments that require your evaluation. (Note: If you know the comment number you can use the Quick Pick window on your home page in DrChecks; enter the number and click on go.)
- e. Select the appropriate evaluation (concur, non-concur, for information only, or check and resolve) and add the response.
- f. Click on the Add button. The evaluation will be added to the database and a fresh screen will appear with the next comment.
- g. Once evaluations are all entered, exit DrChecks by choosing "My Account" and then Logout.
- h. Collaboration between designer and reviewer regarding clarification of complicated comments is encouraged by direct communication. The resultant agreement is documented in DrChecks by the evaluator.

3.9.7 DrChecks Back-check

At the following design conference, participants will back-check comment annotations against newly presented documents to verify that the designers' responses are acceptable and completed. The D-B Contractor and Government reviewers shall enter additional back-check comments, as necessary or close those that are resolved as a result of the design conferences:

- a. Log into DrChecks.
- b. Click on the appropriate project.
- c. Under "My Backcheck" click on the number under "Pending."
- d. If you agree with the designer's response select "Close Comment" and add a closing response if desired.
- e. If you do not agree with the designer's response or the submittal does not reflect the response given, select "Issue Open," enter additional information.
- f. Click on the Add button. The back-check will be added to the database and a fresh screen will appear with the next comment.
- g. Once back-checks are all entered, exit DrChecks by choosing "My Account" and then Logout. The design is completed and final when there are no pending comments to be evaluated and there are no pending or open comments under back-check.

3.9.8 DrChecks Comment Clarification

If any review comment requires clarification and/or amplification to assure understanding, the Contractor shall notify the Contracting Officer. The Contractor is cautioned in that if he believes the action required by any comment exceeds the requirements of this contract, that he should take no action and notify the COR in writing immediately.

KAJAKI DAM – IRRIGATION TUNNEL WORKS

3.10 PROJECT SCHEDULE

The following is an internal design schedule and is subject to modification by the Offeror to suit their particular method of operation. Overall time constraints are required and cannot be changed except by contract modification. Prospective Offerors shall be required to submit a complete schedule for design and construction that meets or exceeds the overall time goals of the Government for this project.

Written Notice to Proceed (NTP)	Duration	Following Contract Award
Pre-Design Pre-Build	90	90
Tower Phase	180	270
Interim Phase	190	460
Tunnel Phase	180	640
Design Complete & Build Complete	90	730
Warranty Period Inspection (See Section Project Schedule)	120, 270	-

– SECTION END –