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DGS-30-471
(Rev. 06/17)

Design-Build
Procurement Review Submittal Form

General Project Information

Agency Name:	Virginia Polytechnic Institute and State University	
Is the agency a covered institution per §2.2-4379?		Yes
Project Name:	Combined Cooling, Heat and Power (CCHP) Trigeneration System	
Project Number:	209-L00092	

Other Project Information

Advising A/E Name:	Travis Jessee, AIA, NCARB	License Number:	401014776
COV Sections: §2.2-4380.B.2, §2.2-4381.C.2			
Attach written determination for use of Design-Build			
COV Sections: §2.2-4380.C.2, §2.2-4380.B.1; §2.2-4381.D.2, §2.2-4381.C.1			
Is the procurement process proposed a two-step process?			Yes
COV Sections: §2.2-4380.C.2, §2.2-4380.B.7; §2.2-4381.D.2, §2.2-4381.C.7			

Agency Reasons for Use of Design-Build

Construction Cost (COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	No
Building Use(COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	No
Project Timeline(COV Sections: §2.2-4381.B.1, §2.2-4380.C.3, §2.2-4381.D.3)	Yes
Project Complexity (COV Sections: §2.2-4381.B.1, §2.2-4380.C.4, §2.2-4381.D.4)	Yes
Single Point of Contact Desired (COV Sections: §2.2-4380.C.5, §2.2-4381.D.5)	Yes

Supporting Information for Procurement Method Selection

Project Use (i.e. lab, classroom, office, etc.):

Virginia Tech (VT) plans to modernize its electrical, steam, and chilled water generation infrastructure. This will be done by establishing a district-level, steam-driven, absorption chilling system to increase the university's year-round, on-site electrical power generation through a Combined Cooling, Heat, and Power (CCHP) tri-generation model.

To develop this tri-generation model, VT will install steam absorption technology at the district chilled water plant. This will increase the steam demand during the summer months and increase output from the electrical generator at the on-campus steam power plant.

The tri-generation model will be a highly engineered system connected to VT's existing power and cooling systems. The design criteria for the tri-generation model can be clearly and succinctly defined. The equipment and its integration must be carefully designed, procured timely, and installed around peak demand periods.

Key justifications for Design-Build project delivery method include:

- Project timeline
- Project complexity
- Single point of responsibility

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Construction Cost:	$46,200,000			
Project schedule:	Design Start Date	Oct-26	Design Compl. Date	Mar-28
	Const. Start Date	Jan-28	Const. Compl. Date	Jun-29
	Attach bar chart schedule to illustrate fast tracking or other schedule complexities.			

Additional description to highlight key attributes that affect the project complexity (simplicity) and why a single point of contact is desired as indicated by "Yes" answers above:

Per article 3, section 2.2-4381 of the Code of Virginia 2017 Acts of Assembly, competitive sealed bidding is not practicable or fiscally advantageous for the subject project. A Design-Build delivery will facilitate direct access to a single source designer and builder, early procurement of long-lead time equipment, and implementation of a highly engineered system which can be defined through a basic set of performance criteria.

The project schedule must allow proper procurement lead time for the tri-generation equipment, minimize downtown of existing power and chilled water systems during peak demand periods, and allow the new system to be commissioned and operational prior to peak demand periods. For these reasons, procuring a construction contract as early as possible, as is the case with Design-Build delivery, allows for equipment with long lead times to be procured early in the project timeline, minimizing impacts during construction, start-up, and commissioning. Additionally, the criteria documents developed to solicit Design-Build proposals can define peak demand and allowable equipment downtime periods as constraints for the design builders.

Overall, VT seeks to implement the tri-generation model as soon as possible to begin realizing the systems' efficiencies and associated energy cost savings. A Design-Build approach results in the shortest timeline from project initiation to construction and should therefore afford the soonest start-up time as compared to other project delivery methods.

The performance criteria can be easily and succinctly defined. VT, in collaboration with a criteria consultant, will define basic run-time and efficiency metrics within a set of documents to be included in the Design-Build Request for Proposals (RFP), and the design builders will respond with solutions that must perform accordingly. The proposed solution will not contain the array of subjective elements of a building or other vertical structure, thus evaluating proposals for adherence to the technical requirements will be straight forward.

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Key attributes continued:

A single point of responsibility for the designer and builder is preferred because of the project's highly technical requirements. The timeline for material and equipment procurement and installation is heavily constrained, and the proposed system needs to be designed accordingly. Commissioning a system with the complexity of a tri-generation model will require close coordination between the designer, builder, and commissioning agent. Maintaining a single point of responsibility with the designer and builder streamlines technical communications and general information sharing. Additionally, through Design-Build delivery, any design errors or omissions the owner would typically pay for as a construction change order becomes the responsibility of the design builder.

Ultimately, Design-Build is the most streamlined method for delivering a project like the tri-generation system, which is technically challenging to design and build but simple to define in terms of its performance criteria and construction constraints.

In accordance with §2.2-4380.B.1 and §2.2-4381.C.1.

Submitted by: G.E. "Dwyn" Taylor Date: 8/24/2026

Signature: DocuSigned by: Dwyn Taylor 34B162D381864D8...

Title: Vice President for Facilities

(Agency Head or Authorized Representative)

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Based upon the information provided by the Agency, the use of Design-Build

IS APPROVED ~~recommended~~ for this project.

Recommended by: DocuSigned by: W. M. Coppa C2C8454B56A44EF...

W. Michael Coppa, RA

Acting Director, Division of Engineering and Builidngs