

DOCKETED

Docket Number:	01-AFC-19C
Project Title:	SMUD Cosumnes Power Plant - Compliance
TN #:	244288-52
Document Title:	Civil Engineering Design Criteria - Appendix 10A
Description:	N/A
Filer:	Patty Paul
Organization:	Ch2mhill/Carrier
Submitter Role:	Applicant Consultant
Submission Date:	8/1/2022 5:08:59 PM
Docketed Date:	8/1/2022

APPENDIX 10A

Civil Engineering Design Criteria

Civil Engineering Design Criteria

10A1 Introduction

This appendix summarizes the codes, standards, criteria and practices that will be generally used in the design and construction of civil engineering systems for CPP. More specific project information will be developed during execution of the project to support detailed design, engineering, material procurement specification and construction specifications as required by the California Energy Commission.

10A2 Codes and Standards

The design of civil engineering systems for CPP will be in accordance with the laws and regulations of the federal government, the State of California, the County of Sacramento and industry standards. The current issue or edition of the documents at the time of filing of this Application for Certification (AFC) will apply, unless otherwise noted. In cases where conflicts between the cited documents exist, requirements of the more conservative document will be used.

10A2.1 Civil Engineering Codes and Standards

The following codes and standards have been identified as applicable, in whole or in part, to civil engineering design and construction of power plants.

- American Association of State Highway and Transportation Officials (AASHTO) - Standards and Specifications
- American Concrete Institute (ACI) - Standards and Recommended Practices
- American Institute of Steel Construction (AISC) - Standards and Specifications
- American National Standards Institute (ANSI) - Standards
- American Society of Testing and Materials (ASTM) - Standards, Specifications and Recommended Practices
- American Water Works Association (AWWA) - Standards and Specifications
- American Welding Society (AWS) - Codes and Standards
- Asphalt Institute (AI) - Asphalt Handbook
- California Energy Commission - Recommended Seismic Design Criteria for Non-Nuclear Generating Facilities in California, 1989
- Concrete Reinforcing Steel Institute (CRSI) - Standards

- Factory Mutual (FM) – Standards
- National Association of Corrosion Engineers (NACE)
- National Fire Protection Association (NFPA) – Standards
- International Conference of Building Officials (ICBO) Uniform Building Code (UBC), 1997
- Sacramento County Hydrology Standards
- Steel Structures Painting Council (SSPC) - Standards and Specifications

10A2.2 Engineering Geology Codes, Standards and Certifications

Engineering geology activities will conform to the applicable federal, state and local laws, regulations, ordinances and industry codes and standards.

10A2.2.1 Federal

None are applicable.

10A2.2.2 State

The Warren-Alquist Act, PRC, Section 25000 et seq. and the California Energy Commission (CEC), Siting Regulations, Title 20 CCR, Chapter 2, require that Application for Certification (AFC) address the geologic and seismic aspects of CPP.

The California Environmental Quality Act (CEQA), PRC 21000 et seq. and the CEQA Guidelines require that potentially significant effects, including geologic hazards, be identified and a determination made as to whether they can be substantially reduced.

10A2.2.3 County

California State Planning Law, Government Code Section 65302, requires each county to adopt a general plan, consisting of nine mandatory elements, to guide its physical development. Section 65302(f) requires that a seismic safety element be included in the general plan.

CPP development activities will require certification by a Professional Geotechnical Engineer or a Certified Engineering Geologist during and following construction, in accordance with the Uniform Building Code UBC, Appendix Chapter 33. The Professional Geotechnical Engineer or the Certified Engineering Geologist will certify the placement of earthen fills and the adequacy of the site for structural improvements, as follows:

- Either the Professional Geotechnical Engineer or the Professional Engineer will address UBC Appendix Chapter 33 Sections 3309 (Grading Permit Requirements), 3312 (Cuts), 3315 (Drainage and Terracing), 3316 (Erosion Control), and 3318 (Completion of Work).
- The Professional Geotechnical Engineer will also address UBC Appendix Chapter 33, Sections 3312 (Cuts) and 3315 (Drainage and Terracing).

Additionally, the Certified Engineering Geologist will present findings and conclusions pursuant to PRC, Section 25523 (a) and (c); and 20 CCR, Section 1752 (b) and (c).