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DEPARTMENT OF ENERGY
Federal Energy Regulatory Commission

18 CFR Parts 153 and 380

[Docket No. RM22-8-000]

Updating Regulations for Engineering and Design Materials for Liquefied Natural Gas Facilities Related to Potential Impacts Caused by Natural Hazards

AGENCY: Federal Energy Regulatory Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Federal Energy Regulatory Commission (Commission) proposes to revise its regulations governing liquefied natural gas (LNG) facilities subject to sections 3 and 7 of the Natural Gas Act (NGA) by removing outdated references for seismic hazard evaluations and seismic design criteria for LNG facilities. In their place, the Commission proposes to codify its existing practice of evaluating seismic and other natural hazards and design criteria for LNG facilities under its jurisdiction. These revisions are intended to reduce confusion about applicable technical requirements and clarify the information required in applications filed before the Commission to ensure the public is protected from potential catastrophic impacts caused by natural hazards.

DATES: Comments are due **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

ADDRESSES: Comments, identified by docket number, may be filed in the following ways. Electronic filing through http://www.ferc.gov, is preferred.

- Electronic Filing: Documents must be filed in acceptable native applications and print-to-PDF, but not in scanned or picture format.

- For those unable to file electronically, comments may be filed by U.S. Postal Service mail or by hand (including courier) delivery.
    - Mail via U.S. Postal Service Only: Addressed to: Federal Energy Regulatory Commission, Secretary of the Commission, 888 First Street, N.E., Washington, DC 20426.
    - For delivery via any other carrier (including courier): Deliver to: Federal Energy Regulatory Commission, Office of the Secretary, 12225 Wilkins Avenue, Rockville, MD 20852.

The Comment Procedures Section of this document contains more detailed filing procedures.

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SUPPLEMENTARY INFORMATION:

1. The Federal Energy Regulatory Commission (Commission or FERC) proposes to revise its regulations under 18 CFR Parts 153 and 380 governing liquefied natural gas (LNG) facilities subject to sections 3 and 7 of the Natural Gas Act (NGA) by removing references to a legacy agency (the National Bureau of Standards) that has been renamed and two technical standards[1] related to seismic hazard evaluation and seismic design criteria for LNG facilities (Uniform Building Code's (UBC) Seismic Risk Map of the United States (Map) and National Bureau of Standards Information Report 84-2833, *Data Requirements for the Seismic Review of LNG Facilities* (NBSIR 84-2833)) that have become outdated. Consistent with the Commission's previous rulemakings to update outdated regulations,[2] this notice of proposed rulemaking (NOPR) proposes to codify the

[1] The National Technology Transfer and Advancement Act of 1995 defines "technical standards" as "performance-based or design-specific technical specifications and related management systems practices." 15 U.S.C. 272 note. The Office of Management and Budget clarifies that the definition of technical standard includes, among other things, the definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; formats for information and communication exchange; or descriptions of fit and measurements of size or strength. Office of Management and Budget, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*, OMB Circular A-119, Revised (Jan. 27, 2016).

[2] *See, e.g.*, *Revisions to Reguls. Governing Authorization for Constr. of Nat. Gas Pipeline Facilities*, Order No. 555, 56 FR 52330 (Oct. 18, 1991), FERC Stats. & Regs. ¶ 30,928 (1991) (cross-referenced at 56 FERC ¶ 61,414), *withdrawn*, 58 FR 15418 (Mar. 23, 1993), FERC Stats & Regs. ¶ 30,965 (cross-referenced 62 FERC ¶ 61,249) (before withdrawing the final rule, the Commission attempted to update and codify the Commission's practice of processing environmental data in Part 380 by formalizing the use of resource reports); *Applications for Authorization to Construct, Operate, or Modify Facilities Used for the Exp. or Imp. of Nat. Gas*, Order No. 595, 62 FR 30435 (Aug. 4, 1997), FERC Stats. & Regs. ¶ 31,054 (1997) (cross- referenced at 79 FERC ¶ 61,245) (codifying the Commission's practice of requiring engineering-related information and seismic information in NBSIR 84-2833); *Revision of Existing Reguls. Governing the*

Commission's current practice for reviewing seismic and other natural hazard evaluation and design materials related to NGA section 3 and 7 applications for LNG facilities, as memorialized in the Commission's *Guidance Manual for Environmental Report Preparation for Applications Filed Under the Natural Gas Act, Volume II, Liquefied Natural Gas Project Resource Reports 11 and 13 Supplemental Guidance* (2017 Guidance).[3] The purpose of the rulemaking is to reduce confusion about the Commission's informational requirements under Parts 153, 157, and 380 of the Commission's regulations.

I. Background

A. The Commission's Authority and Requirements

2. Under section 3(e) of the NGA, the Commission exercises exclusive jurisdiction over authorizing the siting, construction, expansion, and operation of LNG terminals onshore and in state waters.[4] Additionally, section 3(a) of the NGA provides for federal jurisdiction over the authorization, with or without conditions or modifications, or denial of the siting, construction, and operation of facilities used to import or export gas.[5] The

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Filing of Applications for the Constr. & Operation of Facilities to Provide Serv. or to Abandon or Serv. Under Section 7 of the Nat. Gas Act, Order No. 603, 64 FR 37037 (July 9,1999) FERC Stats. & Regs. ¶ 31,073 (1999) (cross-referenced at 87 FERC ¶ 61,125) (codifying the Commission's practice of allowing applicants to prepare environmental reports in the form of resource reports).

[3] *Notice of Availability of the Final Guidance Manual for Env'l Preparation*, 82 FR 12,088 (Feb. 28, 2017).

[4] 15 U.S.C. 717b(e)(1).

[5] 15 U.S.C. 717b(a). The 1977 Department of Energy (DOE) Organization Act (42 U.S.C. 7151(b)) placed all section 3 jurisdiction under DOE. The Secretary of Energy subsequently delegated authority to the Commission to "[a]pprove or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the construction of new domestic

Commission also issues certificates of public convenience and necessity for LNG and other facilities used for the transportation of natural gas in interstate commerce under section 7 of the NGA.[6] When acting on applications filed pursuant to these sections of the NGA, the Commission serves as the lead federal agency for satisfying compliance with the National Environmental Policy Act (NEPA).[7] The Commission's regulations implementing these authorities are codified in 18 CFR Parts 153, 157, and 380, and direct prospective applicants[8] and applicants to provide information necessary for the Commission to process their applications.[9]

3. In Part 153 of the Commission's regulations, which pertains to applications for authorization to site, construct, or operate facilities used to export or import natural gas under section 3 of the NGA, § 153.8(a) sets forth exhibits that must accompany an application. As pertinent to this rulemaking, paragraph (a)(5) requires applicants to file an Exhibit E, which includes a report containing detailed engineering and design information and references the Commission's *Guidance Manual for Environmental*

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facilities, the place of entry for imports or exit for exports." DOE Delegation Order No. S1-DEL-FERC-2006, section 1.21A (May 16, 2006).

[6] 15 U.S.C. 717f(c).

[7] 42 U.S.C. 4321 *et seq*; 15 U.S.C. 717n(b)(1).

[8] Applicants to construct LNG terminals are required to comply with the Commission's pre-filing process prior to filing an application with the Commission. 15 U.S.C. 717b-1(a); 18 CFR 157.21.

[9] *See* 18 CFR 153.8(a)(5), 153.8(a)(6), 153.8(a)(7)(i), 157.14(a)(7), 157.21, 380.3, 380.12. 18 CFR 153.8(a)(7) contains an errant subparagraph (i), which this NOPR proposes to remove.

Report Preparation.[10] Paragraph (a)(6) requires applicants of LNG import or export facilities to file an Exhibit E-1, which includes a report on earthquake hazards and engineering,[11] and paragraph (a)(7) requires applicants to file an Exhibit F, an environmental report that complies with §§ 380.3 and 380.12 of the Commission's regulations.[12]

4. Similarly, in Part 157 of the Commission's regulations, which pertains to applications for certificates of public convenience and necessity for the construction and operation of facilities to provide interstate natural gas transportation service under section 7 of the NGA, § 157.14(a) sets forth the exhibits that must accompany an application. As pertinent to this rulemaking, paragraph (a)(7) requires the applicant to file an Exhibit F-1, an environmental report that complies with §§ 380.3 and 380.12 of the Commission's regulations.[13]

5. Section 380.3 establishes the information that an applicant must file, including information identified in § 380.12 and Appendix A to Part 380.[14] Section 380.12

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[10] 18 CFR 153.8(a)(5).

[11] 18 CFR 153.8(a)(6).

[12] 18 CFR 153.8(a)(7)(i). *See also* 18 CFR 157.14(a)(7) (containing the same requirement as section 153.8(a)(7)(i) to file an environmental report (Exhibit F-1) that complies with sections 380.3 and 380.12); 18 CFR 157.21 (requiring a prospective applicants of LNG import or export facilities to prepare an application that contain the environmental information prescribed in Part 380).

[13] 18 CFR 157.14(a)(7).

[14] 18 CFR 380.3(c)(2). Section 380.3(b) also requires applicants to provide all necessary or relevant information to the Commission and conduct studies that the Commission staff has considered necessary or relevant to determine the impact of the proposal on the environment. 18 CFR 380.3(b)(1), (b)(2).

identifies the content requirements for the environmental report outlined in 13 resource reports.[15] Specifically, § 380.12(h)(5) requires a report, in Resource Report 6 (Geological Resources), on earthquake hazards and engineering that conforms to NBSIR 84–2833 if the applicant proposes to construct and operate LNG facilities located in zones 2, 3, or 4 of the UBC map, or where there is potential for surface faulting or liquefaction.[16]

6. Under § 380.12(o), applicants must also prepare a report, Resource Report 13, that contains engineering and design material for the proposed LNG facility.[17] Section 380.12(o)(14) requires an applicant to identify how it will comply with the applicable U.S. Department of Transportation (DOT) regulations,[18] including its siting requirements, the National Fire Protection Association 59A LNG Standards (NFPA 59A), and, if applicable, U.S. Coast Guard's regulations[19] pertaining to vapor dispersion calculations from LNG spills over water.[20] Like for Resource Report 6, applicants must provide seismic information specified in NBSIR 84-2833 for LNG facilities that would be located in zone 2, 3, or 4 of the UBC map when preparing Resource Report 13.[21] Appendix A to

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[15] 18 CFR 380.12.

[16] 18 CFR 380.12(h)(5).

[17] 18 CFR 380.12(o).

[18] 49 CFR pt. 193.

[19] 33 CFR pt. 127.

[20] 18 CFR 380.12(o)(14).

[21] 18 CFR 380.12(o)(15).

Part 380 summarizes the minimum filing requirements for these resource reports.[22] Failure to comply with these minimum filing requirements would result in the issuance of a data request by Commission staff to obtain the information or rejection of the application.[23]

7. As described above, both Resource Reports 6 and 13 require information based on the UBC map and NBSIR 84-2833. The UBC map groups the country into seismic risk classifications and formalizes construction standards based on those classifications. The last version of the UBC was published in 1997[24] and was subsequently replaced by the International Code Council (ICC)'s International Building Code (IBC), which was first published in 2000.[25] The IBC incorporates the Structural Engineering Institute (SEI) of the American Society of Civil Engineers (ASCE) 7, *Minimum Design Loads and Associated Criteria for Buildings and Other Structures* (ASCE/SEI 7),[26] which provides a

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[22] 18 CFR pt 380, app. A.

[23] 18 CFR 153.21, 157.8.

[24] INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS, DWELLING CONSTRUCTION UNDER THE UNIFORM BUILDING CODE (1997 ed.).

[25] The IBC was most recently revised in 2021 and various editions are in use or have been adopted by states, territories, and municipalities. *See* International Code Council, International Codes, https://codes.iccsafe.org/codes/i-codes; International Code Council, International Building Code Adoption Map, https://www.iccsafe.org/wp-content/uploads/Code_Adoption_Maps.pdf (published Oct. 19, 2000); *see also* ROSSBERG, J., Leon, R.T., EVOLUTION OF CODES IN THE USA, https://www.nehrp.gov/pdf/ UJNR_2013_Rossberg_Manuscript.pdf.

[26] American Society of Civil Engineers, *Release of ASCE/SEI 7-22 brings important changes to structural loading standard*, Building Safety Journal, International Code Council (Dec. 9, 2021), https://www.iccsafe.org/building-safety-journal/bsj-technical/release-of-asce-sei-7-22-brings-important-changes-to-structural-loading-standard/.

Seismic Risk Map of Ground Motions for the United States and seismic design categories.[27] ASCE/SEI 7 also provides additional maps for other natural hazard load considerations.

8. Published in 1984, NBSIR 84-2833 provides guidance for applicants requesting authorization to construct LNG facilities on how to investigate a site to obtain geologic and seismic data for the Commission's seismic review of proposed LNG facilities.[28] It also standardizes the format for reporting this data to the Commission.[29]

9. The Commission has long recognized that both the UBC map and NBSIR 84-2833 have become outdated and are no longer widely used in the engineering and design of LNG facilities despite still being referenced in the Commission's regulations. On January 23, 2007, the Commission attempted to address the confusion caused by these two outdated standards by issuing a draft *Seismic Design Guidelines and Data Submittal Requirements for LNG Facilities* to update and replace the information in NBSIR 84-2833.[30] The Commission, however, never issued those finalized guidelines.

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[27] Additionally, we note that the National Earthquake Hazards Reduction Program (NEHRP), a Congressionally-mandated, multi-agency partnership, is actively engaged in revisions to ASCE/SEI 7 and the IBC. NEHRP's *Recommended Seismic Provisions for New Buildings and Other Structures* often serves as the basis for changes to ASCE/SEI 7 and the IBC.

[28] National Bureau of Standards, NBSIR 84-2833: DATA REQUIREMENTS FOR THE SEISMIC REVIEW OF LNG FACILITIES 1 (June 1984), https://nvlpubs.nist.gov/nistpubs/Legacy/IR/nbsir84-2833.pdf.

[29] *Id.*

[30] *Seismic Design Guidelines & Data Submittal Requirements for LNG Facilities* at ii (Jan. 23, 2007).

10. On February 22, 2017, as part of its larger effort to update its environmental reporting guidance, the Commission issued the 2017 Guidance, which provides information to assist applicants in preparing their seismic evaluation and design materials. The 2017 Guidance updates and clarifies the level of detail and format of the information needed for the Commission's evaluation of hazards associated with proposed LNG facilities.[31] For example, the guidance identifies the types of natural hazards that should be analyzed, the natural hazard design investigations and design forces that should be referenced, the types of structures, systems, and components that should be described, and the types of diagrams and maps that should be included. The 2017 Guidance also recommends that applicants design certain LNG structures, systems, and components to be consistent with the seismic requirements of the 2005 version of ASCE/SEI 7 to demonstrate that their proposed project would not have a significant impact on public safety.[32] The 2017 Guidance recommends other evaluation and design measures for other natural hazards based on the regulatory requirements in § 380.12, DOT's regulations in Part 193, and other best practices.[33]

B. Governmental Accountability Office's Report

11. On August 6, 2020, the U.S. Government Accountability Office (GAO) issued a report recommending that the Commission update part 153 of its regulations because it incorporates the outdated technical standard NBSIR 84-2833.[34] The GAO noted that the

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[31] *See* Background Section of the 2017 Guidance.

[32] *Id.*

[33] *Id.*

[34] *See* U.S. GOV'T ACCOUNTABILITY OFFICE, NATURAL GAS EXPORTS: UPDATED

Commission issued the 2017 Guidance and the draft 2007 Guidelines to address applicants' confusion about the applicability of the outdated NBSIR 84-2833 and the UBC.[35] However, because guidance documents are not binding, it recommended that the Commission review its regulations for outdated technical standards and update its regulations accordingly so as to avoid confusing the public about current regulatory requirements.[36]

II. Discussion

12. In accordance with GAO's recommendation, the Commission reviewed its regulations for outdated technical standards and identified an outdated reference to a legacy federal agency, the National Bureau of Standards, in addition to the two standards that the Commission has historically known as being outdated: NBSIR 84-2833 and the UBC map. Accordingly, as discussed below, this NOPR proposes to revise the Commission's regulations to remove references to the National Bureau of Standards and the two outdated technical standards to avoid confusion about the information that the Commission reviews when processing applications to construct and operate LNG facilities. To replace the engineering and design information that NBSIR 84-2833 provides, the NOPR proposes to codify a substantial amount of the engineering and design informational materials identified in the 2017 Guidance regarding seismic and other natural hazards.

GUIDANCE AND REGULATIONS COULD IMPROVE FACILITY PERMITTING PROCESSES 28 and Appendix II (Aug. 2020) (GAO Report), https://www.gao.gov/products/gao-20-619.

[35] *Id.*

[36] *Id.* at 28-29, n.47.

13. Specifically, the references to the National Bureau of Standards, NBSIR 84-2833, and the UBC map contained in §§ 153.2(b), 153.8(a)(6), and 380.12(h)(5) will be removed, and §§ 380.12(o)(14) and 380.12(o)(15) will be revised by adding new regulatory text. First, with regard to § 153.2(b), the National Bureau of Standards has been renamed the National Institute of Standards and Technology (NIST). Because National Bureau of Standards no longer exists, the definition of NBSIR or the National Bureau of Standards Information Report in § 153.2(b) is outdated and will be deleted from the Commission's regulations pending issuance of the final rule.[37]

14. Second, §§ 153.8(a)(6), 380.12(h)(5), and 380.12(o)(15) reference the UBC map, which, as noted above, was last published in 1997, and has been replaced by the IBC, which incorporates ASCE/SEI 7, and NEHRP's *Recommended Seismic Provisions for New Buildings and Other Structures*.[38]

15. Sections 153.8(a)(6), 380.12(h)(5), and 380.12(o)(15) also refer to NBSIR 84-2833. In light of multiple revisions to DOT's minimum safety standards and NFPA 59A since the publication of the NBSIR 84-2833 in 1984, NBSIR 84-2833 no longer serves as the most appropriate guidance to help applicants prepare resource reports for the Commission's review. Instead, applicants have generally disregarded the references in

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[37] NIST did not publish an update to NBSIR 84-2833. For this reason, the NOPR proposes a deletion rather than an update.

[38] The Commission has previously noted the importance of referencing the IBC and ASCE/SEI 7 because engineers must be knowledgeable of both the IBC and ASCE/SEI 7 to qualify as an engineer of record under state professional engineering requirements. *See* Background Section of the 2017 Guidance.

the Commission's regulations and prepared their resource reports in accordance with the Commission's practice, as memorialized in the 2017 Guidance.

16. Therefore, to eliminate confusion caused by codified references to the UBC map and NBSIR 84-2833, the Commission proposes to replace the existing language in § 380.12(o)(15) with new regulatory text that requires applicants to provide the engineering and design information that they have typically provided in accordance with the 2017 Guidance. In addition, the NOPR proposes to codify the Commission's practice of reviewing engineering and design materials related to other natural hazards, as recommended in 2017 Guidance.

17. Specifically, § 380.12(o)(15)(i) would require applicants to provide general site-specific engineering information used in the geotechnical and structural design of all structures, systems, and components. This information would: (1) address occupancy and risk categorization; (2) clarify applicants' interpretation of risk and reliability tolerances; (3) ensure an application discusses how the project design would withstand load combinations; and (4) ensure that an applicant's selection of risk categorizations and associated mean recurrence intervals to withstand natural hazards adequately address public safety impacts. Similarly, § 380.12(o)(15)(ii) would require applicants to provide geotechnical information needed to address the subsurface behavior from loads induced by structures, systems, and components for LNG projects. This section addresses the scope of investigations needed to identify safety concerns and mitigative measures, and replaces the scope of information that was previously required by the now outdated standards. Finally, § 380.12(o)(15)(iii) would require applicants to provide information related to the facility's ability to withstand certain natural hazards, such as seismic

events, floods, and hurricanes, and would align with Commission staff's current guidance to applicants as well as those adopted in certain federal regulations, and applicable codes and standards such as NFPA 59A, ASCE/SEI 7, and the IBC. Together, these sections will allow Commission staff to evaluate whether a facility is appropriately designed to withstand natural hazards commensurate with the public safety and reliability.

18. Because the revised § 380.12(o)(15) will make §§ 153.8(a)(6) and 380(h)(5) obsolete, the NOPR proposes to delete these sections. Paragraph 4 of the section entitled Resource Report 6 – Geological Resources in Appendix A to Part 380 – Minimum Filing Requirements for Environmental Reports Under the NGA, which references obsolete § 153.8(a)(6) will also be deleted.

19. With respect to § 380.12(o)(14), it currently requires applicants to identify how they would comply with an unspecified edition of NFPA 59A, Part 193 of the DOT's regulations, and Part 127 of the Coast Guard's regulations. However, not all LNG facilities under the Commission's jurisdiction will be required to meet the design criteria specified in NFPA 59A, 49 CFR Part 193, or 33 CFR Part 127 and may fall under other federal regulations, such as the Environmental Protection Agency's regulations pertaining to its chemical accidental prevention program (40 CFR Part 68) or the Occupational Safety and Health Administration's regulations regarding the safe management of highly hazardous chemicals (29 CFR 1910.119). To prevent confusion about the informational requirements that the Commission applies to its review of applications for the construction and operation of LNG facilities, the NOPR proposes to modify § 380.12(o)(14) and require applicants to identify all federal, state, and local regulations and requirements that apply to the siting, design, construction, testing, monitoring,

operation, and maintenance of the proposed project and demonstrate how the proposed project will at a minimum comply with all applicable federal requirements and applicable codes and standards.[39]

20. This proposal is consistent with the Commission's practice of clarifying and updating the informational requirements in its regulations by codifying its current practice of processing applications under the NGA.[40] As the Commission has previously explained, applications that followed the same format would result in a more expeditious Commission review and processing of applications.[41] When an application lacks the information necessary for the Commission to review a proposal's potential impacts on the environment or public safety, the Commission customarily issues data requests to obtain the missing information or rejects the application, both of which cause unnecessary delays.[42] However, when applicants are uncertain about what information is necessary

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[39] Additionally, we note that sections 380.12(o)(12) and (13) require applicants to: (1) identify all codes and standards under which the plant (and marine terminal, if applicable) will be designed, and any special considerations or safety provisions that were applied to the design of plant components; and (2) provide a list of all permits or approvals from local, state, federal, or Native American groups or Indian agencies required prior to and during construction of the plant, and the status of each, including the date filed, the date issued, and any known obstacles to approval. 18 CFR 380.12(o)(12), (13).

[40] *See supra* n.2.

[41] *See Revision of the Commission's Reguls. Under the Nat. Gas Act*, 63 FR 55682 (Oct.16, 1998), FERC Stats. & Regs. ¶ 32,535, at 33,524 (1998) (cross-referenced at 84 FERC ¶ 61,345) (Order No. 603 NOPR) 55,685-86. Although Order No. 603 focused on NGA section 7 applications, the order changed the informational requirements for environmental reports in Part 153 so that they comport with the requirements in Part 157. *Id.* at 33,527-28.

[42] *See id.* at 33,525 (stating "[a]n incomplete filing necessitates time consuming staff data requests. However, the more complete the environmental information is at the time of filing, the more expeditiously the Commission can process the application."). *See*

because the Commission's regulations are outdated or have been replaced by a current practice that has not been codified, the Commission takes steps to clarify its regulations to reduce the uncertainty, as in this proposed rulemaking.[43] Consistent with its previous rulemaking, the purpose of codifying an existing practice is "to provide better guidance to the regulated industry on what the Commission needs for its environmental analysis" and "when the information should be provided."[44] As a result, the Commission would be able "to quickly process applications in a way that protects the environment and ensures the procedural requirements of NEPA are met."[45]

III. Regulatory Requirements

A. Information Collection Statement

21. The information collection requirements contained in this NOPR are subject to review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995.[46] OMB's regulations require approval of certain information collection

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also 18 CFR 153.21(b) (rejection of applications filed under Part 153); 18 CFR 157.8 (rejection of applications filed under Part 157).

[43] *See id.* (explaining that "conducting the environmental review is the most time consuming part of the certificate process. The Commission believes this is the result of several factors. First, too often pipelines are filing minimal information with the intention of filing the missing information at some later date. . . Further, applicants may be unsure of what is needed because many of the Commission's environmental regulations dealing with pipeline projects are either outdated, found in several parts of the CFR, or, in the case of the environmental report, as stated, replaced in current practice by a preferred format that does not appear anywhere in the regulations.").

[44] *Id.*

[45] *Id.*

[46] 44 U.S.C. 3507(d).

requirements imposed by agency rules.[47] Upon approval of a collection of information, OMB will assign an OMB control number and an expiration date. Respondents subject to the filing requirements of a rule will not be penalized for failing to respond to the collection of information unless the collection of information displays a valid OMB control number.

22. This NOPR would remove references to a legacy agency and two outdated technical standards for seismic hazard evaluations and seismic design criteria for LNG facilities and codify certain existing practices concerning natural hazard evaluations and design for LNG facilities contained in the Commission's 2017 guidance document. The proposed rule would modify certain reporting and recordkeeping requirements included in FERC-537 (OMB Control No. 0060), FERC-539A (OMB Control No. 1902-NEW), and FERC-577A (OMB Control No. 1902-NEW).[48]

23. Interested persons may obtain information on the reporting requirements by contacting Ellen Brown, Office of the Executive Director, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426 by email (DataClearance@ferc.gov) or phone ((202) 502-8663).

24. The Commission solicits comments on this collection of information within 60 days of the publication of this NOPR in the Federal Register. Public comments may include, but are not limited to, following topics: the Commission's need for this

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[47] 5 CFR 1320.11.

[48] FERC-539A & FERC-577A are temporary placeholder designations for the purposes of this rulemaking. The permanent designations (i.e., FERC-539 and FERC-577) are pending renewal at OMB, and no more than one information collection may be pending at OMB at one time.

information, whether the information will have practical utility, the accuracy of the burden estimates, ways to enhance the quality, utility, and clarity of the information to be collected or retained, and any suggested methods for minimizing respondents' burden, including the use of automated information techniques.

25. Please send comments concerning the collection of information and the associated burden estimates to: OMB through www.reginfo.gov/public/do/PRAMain, Attention: Federal Energy Regulatory Commission Desk Officer. Please identify FERC-537 (OMB Control No. 0060), FERC-539A (OMB Control No. 1902-NEW), and FERC-577A (OMB Control No 1902-NEW) in the subject line.

26. *Instructions*: OMB submissions must be formatted and filed in accordance with submission guidelines at: www.reginfo.gov/public/do/PRAMain; using the search function under the "Currently Under Review field," select Federal Energy Regulatory Commission, click "submit," and select "comment" to the right of the subject collection.

27. Title: FERC-537 (Gas Pipeline Certificates: Construction, Acquisition, and Abandonment)

28. Action: Proposed revisions to information collection FERC-537.

29. OMB Control No.: 1902-0060.

30. Respondents: Natural gas companies

31. Frequency of Information Collection**:** Ongoing.

32. Abstract: The NOPR would require prospective applicants and applicants to provide engineering and design materials related to natural hazards to comport with the Commission's current practice of processing section 7 applications related to LNG facilities.

33. Necessity of Information: The revisions are intended to update the currency of the Commission's regulations and reduce confusion related the preparation and filing of applications to site, design, construct, operate, or modify LNG facilities used in interstate commerce. The revised regulations would affect only entities that file applications with the Commission for LNG facilities and would not increase or decrease the recently approved burden on respondents since the NOPR would codify the Commission's existing practices.[49]

34. Title: FERC-539A (Gas Pipeline Certificate: Import/Export of LNG).

35. Action: New information collection.

36. OMB Control No.: 1902-NEW.

37. Respondents: Natural gas companies seeking to import and/or export LNG.

38. Frequency of Information Collection**:** Ongoing.

39. Abstract: The NOPR would require prospective applicants and applicants to provide engineering and design materials related to natural hazards to comport with the Commission's current practice of processing section 3 applications related to LNG facilities.

40. Necessity of Information: The revisions are intended to update the currency of the Commission's regulations and reduce confusion related the preparation and filing of applications to site, design, construct, operate, or modify facilities for the import or

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[49] *See* Order No. 603 NOPR, FERC Stats. & Regs. ¶ 32,535 at 33,526 (in a similar rulemaking in which the Commission codified existing practice for reviewing environmental reports, the Commission noted "that the proposed changes to the environmental regulations discussed above do not change the filing requirements burden on the pipeline. They simply codify existing standard practice to help expedite the environmental review process.").

export of LNG. The revised regulations would affect only entities that file applications with the Commission for LNG facilities.

41. The estimated burdens for FERC-539A, as a result of the NOPR in RM22-8-000, would be as follows:

Number of Respondents (1)	Number of Responses Per Respondent (2)	Total Number of Responses (1) * (2) = (3)	Average Burden Hours & Average Cost[50] per Response ($) (4)	Total Annual Burden Hours & Total Annual Cost ($) (3) * (4) = (5)	Cost per Respondent ($) (5) ÷ (1) = (6)
6	2	12	15 hours; $1,305	180 hours; $28,800	$2,610

42. Title: FERC-577A (LNG Facilities: Environmental Review and Compliance).

43. Action: New information collection.

44. OMB Control No.: 1902-NEW.

45. Respondents: Natural gas companies seeking authorization to site, design, construct, operate, or modify LNG facilities.

46. Frequency of Information: Ongoing.

47. Abstract: The NOPR would require prospective applicants and applicants, filing an application pursuant to sections 3 or 7 of the NGA, to provide engineering and design materials related to natural hazards to comport with the Commission's current practice of

[50] The Commission staff estimates that industry is similarly situated in terms of hourly cost (for wages plus benefits). Based on the Commission's FY (Fiscal Year) 2021 average cost (for wages plus benefits), $87.00/hour is used.

processing environmental reports filed pursuant to Part 380 of the Commission's regulations.

48. Necessity of Information: The revisions are intended to update the currency of the Commission's regulations and reduce confusion related the preparation and filing of applications to site, design, construct, operate, or modify LNG facilities. To facilitate the Commission's review of these applications, applicants are required to also file resource reports detailing engineering and design materials to assist the Commission's understanding of the LNG facility's impact on the environment, safety, security, and reliability. The revised regulations would affect only entities that would file applications with the Commission for LNG facilities.

49. The estimated burdens for FERC-577A, as a result of the NOPR in RM22-8-000, would be as follows:

Number of Respondents (1)	Number of Responses Per Respondent (2)	Total Number of Responses (1) * (2) = (3)	Average Burden Hours & Average Cost per Response ($) (rounded) (4)	Total Annual Burden Hours & Total Annual Cost ($) (rounded) (3) * (4) = (5)	Cost per Respondent ($) (rounded) (5) ÷ (1) = (6)
6	16	96	193.52 hours; $17,610.32	18,578 hours; $1,690,591	$281,765

50. Internal Review: The Commission has reviewed the proposed revisions and has determined that they are necessary. These requirements conform to the Commission's need to ensure public safety, secure jurisdictional infrastructure, and enhance efficient information collection, communication, and management within the energy industry. The Commission has assured itself, by means of internal review, that there is specific,

objective support for the burden estimates associated with the information collection requirements for FERC-537, FERC-539A, and FERC-577A.

B. Environmental Analysis

51. The Commission is required to prepare an Environmental Assessment or an Environmental Impact Statement for any action that may have a significant effect on the human environment.[51] Excluded from this requirement are rules that are clarifying, corrective, or procedural, or that do not substantially change the effect of legislation or the regulations being amended.[52] This proposed rule proposes to revise the filing requirements for LNG facilities by deleting references to a legacy agency and two outdated technical standards. Because this proposed rule is corrective, aligns the Commission's regulations with the Commission's current practice, and does not substantially change the effect of the regulations being amended, preparation of an Environmental Assessment or Environmental Impact Statement is not required.

C. Regulatory Flexibility Act Certification

52. The Regulatory Flexibility Act of 1980 (RFA)[53] generally requires a description and analysis of proposed rules that will have significant economic impact on a substantial number of small entities. The RFA mandates consideration of regulatory alternatives that accomplish the stated objectives of a proposed rule and minimize any significant

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[51] *Reguls. Implementing the Nat'l Env'l Policy Act of 1969*, Order No. 486, 52 FR 47897 (Dec. 17, 1987), FERC Stats. & Regs. ¶ 30,783 (1987) (cross-referenced at 41 FERC ¶ 61,284).

[52] 18 CFR 380.4(a)(2)(ii).

[53] 5 U.S.C. 601-612.

economic impact on a substantial number of small entities.[54] In lieu of preparing a regulatory flexibility analysis, an agency may certify that a proposed rule will not have a significant economic impact on a substantial number of small entities.[55]

53. The Small Business Administration's (SBA) Office of Size Standards develops the numerical definition of a small business.[56] SBA regulations designate natural gas pipelines (i.e., NAICS 4865210) as small entities if they do not exceed the size standard of $36.5 million.[57] For the past five years, one company not affiliated with larger companies had annual revenues in combination with its affiliates of $36.5 million or less and therefore could be considered a small entity under the RFA. This represents about five percent of the total potential respondents that may have a significant burden imposed on them.

54. As noted earlier, the proposed rule, as currently contemplated, will only affect entities filing new applications to site, construct, operate, or expand an LNG facility pursuant to sections 3 or 7 of the NGA once the final rule becomes effective. If enacted, the proposed revisions would remove references to a legacy agency and two outdated technical standards, and codify the Commission's current environmental information practices, thereby aligning the Commission's regulations with the Commission's current process of reviewing applications to construct and operate LNG facilities. As a result, the

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[54] *Id*. 603(c).

[55] *Id*. 605(b).

[56] 13 CFR 121.101.

[57] *Id*.

NOPR would reduce confusion about the Commission's requirements, which would necessitate the issuance of fewer data requests to obtain a complete application that better reflects safe design, construction, maintenance, and operation of proposed LNG facilities.

55. Accordingly, pursuant to section 605(b) of the RFA, the Commission certifies that this proposed rule would not have a significant economic impact on a substantial number of small entities.

D. Comment Procedures

56. The Commission invites interested persons to submit comments on the matters and issues proposed in this notice to be adopted, including any related matters or alternative proposals that commenters may wish to discuss. Comments are due **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Comments must refer to Docket No. RM22-8-000, and must include the commenter's name, the organization they represent, if applicable, and their address in their comments. All comments will be placed in the Commission's public files and may be viewed, printed, or downloaded remotely as described in the Document Availability section below. Commenters on this proposal are not required to serve copies of their comments on other commenters.

57. The Commission encourages comments to be filed electronically via the eFiling link on the Commission's website at http://www.ferc.gov. The Commission accepts most standard word processing formats. Documents created electronically using word processing software must be filed in native applications or print-to-PDF format and not in a scanned format. Commenters filing electronically do not need to make a paper filing.

58. Commenters that are not able to file comments electronically may file an original of their comment by USPS mail or by courier-or other delivery services. For submission sent via USPS only, filings should be mailed to: Federal Energy Regulatory Commission, Office of the Secretary, 888 First Street, NE, Washington, DC 20426. Submission of filings other than by USPS should be delivered to: Federal Energy Regulatory Commission, 12225 Wilkins Avenue, Rockville, MD 20852.

E. Document Availability

59. In addition to publishing the full text of this document in the Federal Register, the Commission provides all interested persons an opportunity to view and/or print the contents of this document via the Internet through the Commission's Home Page (http://www.ferc.gov).

60. From the Commission's Home Page on the Internet, this information is available on eLibrary. The full text of this document is available on eLibrary in PDF and Microsoft Word format for viewing, printing, and/or downloading. To access this document in eLibrary, type the docket number excluding the last three digits of this document in the docket number field.

61. User assistance is available for eLibrary and the Commission's website during normal business hours from the Commission's Online Support at (202) 502-6652 (toll free at 1-866-208-3676) or email at ferconlinesupport@ferc.gov, or the Public Reference Room at (202) 502-8371, TTY (202)502-8659. E-mail the Public Reference Room at public.referenceroom@ferc.gov.

List of Subjects

18 CFR Part 153

Exports, Imports, Natural gas, Reporting and recordkeeping requirements

18 CFR Part 380

Environmental impact statements, Reporting and recordkeeping requirements

By direction of the Commission.

Issued: November 17, 2022.

Debbie-Anne A. Reese,
Deputy Secretary.

In consideration of the foregoing, the Commission proposes to amend parts 153 and 380, chapter I, title 18, Code of Federal Regulations, as follows.

PART 153—APPLICATIONS FOR AUTHORIZATION TO CONSTRUCT, OPERATE, OR MODIFY FACILITIES USED FOR THE EXPORT OR IMPORT OF NATURAL GAS

1. The authority citation for part 153 is revised to read as follows:

Authority: 15 U.S.C. 717b, 717o; E.O. 10485, 3 CFR, 1949-1953 Comp., p. 970, as amended by E.O. 12038, 3 CFR, 1978 Comp., p. 136, DOE Delegation Order No. S1-DEL-FERC-206 (May 16, 2006).

§ 153.2 [Amended]

2. Amend § 153.2 by:
a. Removing paragraph (b); and
b. Redesignating paragraphs (c) through (f) as paragraphs (b) through (e).

§ 153.8 [Amended]

3. Amend § 153.8 by:
a. Redesignating paragraph (a)(7)(i) as paragraph (a)(7);
b. Removing paragraph (a)(6); and
c. Redesignating paragraphs (a)(7) through (a)(9) as paragraphs (a)(6) through (a)(8).

PART 380—REGULATIONS IMPLEMENTING THE NATIONAL ENVIRONMENTAL POLICY ACT

4. The authority citation for Part 380 continues to read as follows:

Authority: 42 U.S.C. 4321-4370h, 7101-7352, E.O. 12009, 3 CFR 1978 Comp., p.142.

5. Amend § 380.12 by:
a. Removing paragraph (h)(5);
b. Redesignating paragraph (h)(6) as paragraph (h)(5); and
c. Revising paragraph (o) to read as follows:

§ 380.12 Environmental reports for Natural Gas Act applications.

* * * * *

(o) * * *

(14) Identify all federal, state, and local regulations and requirements that apply to the siting, design, construction, testing, monitoring, operation, and maintenance of the proposed project and explain how the proposed project will comply with the applicable federal regulations, including codes and standards incorporated by reference into federal regulations.

(15) Provide information to demonstrate that the proposed LNG facilities are sited, designed, constructed, and operated to maintain reliability and not significantly impact public safety given geotechnical conditions and the occurrence of a natural hazard identified below. Site information must provide geotechnical studies and natural hazard studies based on the site location, which must provide impacts and magnitude of historical events and projected impacts and magnitude of events based on projected prescriptive/deterministic events and projected probabilistic events corresponding to mean recurrence intervals. Design information must provide the basis of design supported by site information, including design parameters and criteria and preliminary resultant design loads used in the geotechnical and structural design of LNG facilities. Construction and operation information must also include discussion of quality assurance and quality control plans, monitoring programs, and action programs developed in preparation of and response to geotechnical and natural hazards. All information provided must at a minimum demonstrate compliance with all applicable federal requirements and applicable codes and standards, and identify any applicable state and local requirements for the siting, design, construction, testing, monitoring, operation, and maintenance used to safeguard against significant impacts caused by geotechnical conditions and natural hazards.

(i) *General Information*. Provide site information that includes:

(A) A description of all structures, systems, and components, including at a minimum the layout of all proposed above ground and below ground structures, systems, and components including temporary access roads during construction and permanent roads.
(B) The design classification for each structure, system, and component in accordance with at a minimum all applicable federal requirements and applicable codes and standards.
(C) The derivation and values for risk category and mean recurrence intervals that are at a minimum in accordance with all applicable federal requirements and applicable codes and standards.
(D) A description of all load combinations for each design classification for all structures, systems, and components that are at a minimum in accordance with design methods and all applicable federal requirements and applicable codes and standards.
(E) A description of all preliminary dead loads that are at a minimum in accordance with all applicable federal requirements, and applicable codes and standards, and at a minimum include weight of materials of construction of structures, systems, and components; weight of any hydrostatic test fluid service within structures, systems, and components

during commissioning; weight of fluid services within structures, systems, and components during startup, normal operation, abnormal operation, and shutdown; and soil and hydrostatic pressure loads and potential uplift of below ground structures, systems, and components.

(F) A description of all preliminary live loads that are at a minimum in accordance with all applicable federal requirements and applicable codes and standards and include at a minimum dynamic loads from movement during transportation of structures, systems, and components; induced loads from construction equipment atop of below ground structures, systems, and components; uniform and concentrated loads from construction and operation personnel and equipment on structures, systems, and components; and crane loads for structures, systems, and components.

(G) A description of all preliminary loads induced from natural hazards for all structures, systems, and components that are at a minimum in accordance with all applicable federal requirements, and applicable codes and standards as described in paragraph 18 CFR 380.12(o)(15)(iii).

(H) A description of all mitigation measures to protect against natural hazards including at a minimum a discussion of the proposed site elevation and design of any storm walls or barriers relative to information described in paragraphs 18 CFR 380.12(o)(15)(ii) and (iii).

(I) A description of a natural hazard preparedness and action program, which includes facilitating timely decisions concerning the present or future state of the LNG facility that address at a minimum the natural hazards described in 18 CFR 380.12(o)(15)(iii).

(ii) *Geotechnical Information*. Provide a geotechnical investigation that includes:

(A) A summary of the site investigation that lists the applicant's exploratory program for the site and the types of subsurface investigations performed and planned to be performed for the site.

(B) A list and description of all in situ tests performed, standards used for tests, and their results including all standard penetration tests, cone penetration tests (static and dynamic), test pits, trenches, borings, rock coring, soil sampling, plate load tests, and in situ shear strength tests.

(C) A plot plan that identifies the number, location, spacing, cross-sections, and depths of each in situ test.

(D) A description of completed surveys, standards used for surveys, and their results that were conducted to obtain continuous lateral and depth information for the evaluation of subsurface conditions including all seismic refraction and reflection surveys.

(E) A description of the applicant's laboratory testing program that includes the treatment of samples, the preparation of the soil specimen for testing, the techniques to detect sample disturbance, and the laboratory testing specifications.

(F) A list and description of all laboratory tests performed, standards used for tests, and their results including all soil classification tests, index tests, strength and compressibility tests, permeability tests, and soil corrosivity

tests.

(G) A description of proposed mitigation measures for soil improvement or other mitigation.

(H) A discussion of subsurface conditions and profiles based on the result of the subsurface exploration and field test results conducted at the site. Subsurface profiles must identify groundwater conditions and the physicochemical properties of the groundwater, soil/rock layers and parameters, and various soil strata in various cross-section drawings spanning across the site including the LNG storage tank areas.

(I) A description of soil conditions that indicate compressible or expansive soils, corrosive soils, collapsible soils, erodible soils, liquefaction-susceptible soils, frost-heave susceptible soils, frozen soils, sanitary landfill, or contaminated soils.

(J) An analysis of actual or potential hazards (e.g., landslides, subsidence, uplift, capable faults, or collapse resulting from natural features such as tectonic depressions and cavernous or karst terrains) to the site.

(K) A discussion of the relationship between the regional and local geology and the site location.

(L) An evaluation and discussion of surface displacement caused by faulting or seismically induced lateral spreading or lateral flow, regional subsidence, local subsidence, and heave.

(M) Drawings of existing and proposed site elevation contours.

(N) A slope-stability analysis, including slope stabilization methods, sloping topography for the site, recommendations for slope stability, static and seismic stability, and factor of safety.

(O) Recommendations for site improvement to increase bearing capacity, reduce the potential of liquefaction and lateral spreading, and mitigate poor or unusual soil conditions.

(P) Recommendations for site improvement to mitigate soil contaminants and shoreline erosion control.

(Q) An evaluation and discussion of the expected total settlement over the design life of the facilities that considers soil conditions, regional subsidence, and local subsidence.

(R) Recommendations for shallow foundations, including at a minimum ultimate bearing capacity, factor of safety, allowable bearing capacity, total and differential settlement criteria, liquefaction settlements, settlement monitoring, and lateral resistance.

(S) Recommendations for deep foundations, including at a minimum acceptable foundation type, bearing capacity, total pile capacities, axial capacity, lateral capacity, group effects, down-drag, factor of safety, settlement of single pile and pile groups, lateral movement of pile groups, pile installation, pile cap, indicator piles and pile load test programs, static axial pile load test, lateral load test, and dynamic pile load test.

(T) A summary of information needed to establish broad design parameters and conclusions used to determine the proposed layout and design of buildings, structures, and support facilities.

(U) A description of the implementation of the geotechnical monitoring system for the site and structures, including inclinometer, extensometers, piezometer, tiltmeter, settlement monuments or cells, pressure and load cells, and crack monitoring devices.

(iii) *Natural Hazard Information.* Provide studies, basis of design, and plans for all natural hazards, including for each natural hazard below:

(A) *Seismic Information*. Provide a discussion of seismic design and hazards analysis that includes:

(1) The seismic design basis and criteria that are at a minimum in accordance with all applicable federal requirements, and applicable codes, standards, and specifications used as basis of design.

(2) A description of seismic setting and seismic hazard investigation.

(3) A description of seismological characteristics of the geographical region within 100 miles of the site.

(4) A description of capable faults, including any part of a fault within 5 miles of the site, the fault characteristics in the site vicinity, the methods and techniques used for fault analysis and investigations, and the potential effect of fault displacement on structures, systems, and components.

(5) Derivation of the site class describing the soil conditions and supportive geotechnical studies that are at a minimum in accordance with all applicable federal requirements and applicable codes and standards.

(6) Criteria used to determine potential soil liquefaction, subsidence, fault rupture, seismic slope stability, and lateral spreading.

(7) A historical ground motion analysis, including a description of past seismic events of Modified Mercalli Intensity greater than IV or magnitude greater than 3.0 within 100 miles of the site, including date of seismic events, magnitude of seismic events, distance from site to epicenter of seismic events, depth of seismic events, and resultant ground motions recorded or estimated at site location.

(8) A site-specific ground motion analysis, based ground motions projected from the U.S. Geological Survey national seismic maps and any deterministic seismic hazard analyses (DSHA) and probabilistic seismic hazard analyses (PSHA).

(9) Derivation of all ground motions used for the Operating Basis Earthquake (OBE), Safe Shutdown Earthquake (SSE), site-specific design earthquake (DE), site-specific peak ground motion (PGA), and aftershock level earthquake (ALE) that are at a minimum in accordance with all applicable federal requirements regulations and applicable codes and standards.

(10) A list of OBE, SSE, and ALE site-specific ground motion spectral values for 0.5%, 1%, 2%, 5%, 7%, 10%, 15%, and 20% damping during all periods range.

(11) The DE seismic coefficients and seismic design parameters, including the spectral response acceleration, 5% damped design spectral response acceleration parameters at a short-period and at a period of 1 second, and at other periods, short-period site coefficient and long-period site coefficient, importance factor, component importance factor, fundamental period of the

structure, long-period transition period, response modification coefficient that are at a minimum in accordance with all applicable federal requirements regulations and applicable codes and standards.

(12) A description of site-specific response spectrum analysis method, time history analysis method, or equivalent static load analysis.

(13) A seismic analysis for soil-structure interaction that are at a minimum in accordance with all applicable federal requirements regulations and applicable codes and standards, and at a minimum includes a discussion of the modeling methods, the factors considered in the modeling methods, including the extent of embedment, the layering of the soil/rock strata, and the boundary of soil-structure model.

(14) A comparison of seismic responses used for each design classification for all structures, systems, and components.

(15) A list of seismic hazard curves of spectral accelerations for all periods for the site.

(16) Vertical response spectra for seismic design and ratio to horizontal response spectra.

(17) Natural frequencies and responses for each LNG tank system and associated safety systems and associated structures, systems, and components.

(18) A description of procedures used for structural analyses, including consideration of incorporating the stiffness, mass, and damping characteristics of the structural systems into the analytical models.

(19) A description of determination of seismic overturning moments and sliding forces for each LNG tank system and associated safety related structures, systems, and components, including consideration of three components of input motion and the simultaneous action of vertical and horizontal seismic forces.

(20) A description of design procedure for seismically isolated structures, systems, and components.

(21) A description of seismic design basis and criteria for the LNG storage tank and foundation. The seismic design basis and criteria must include the flexibility of the tank shell and its influence on the natural frequencies of the tank, liquid level, effects of liquid motion or pressure changes; minimum design freeboard; sloshing and impulsive loads; seismic coefficients; importance factor; reduction factor; slosh height; sloshing periods of LNG storage tank; global stability of the tank in terms of the potential for overturning and sliding; differential displacement between the tank and the first support; and total settlement monitoring program for the tank foundation.

(22) A description of seismic monitoring system in accordance with at a minimum all applicable federal requirements and applicable codes and standards, including a minimum of one triaxial ground motion recorder installed to register the free-field ground motion and additional triaxial ground motion recorders on each LNG tank system foundation, LNG tank roof, and associated safety related structures, systems, and components.

The proposed seismic monitoring must include the installation locations on a plot plan; description of the triaxial strong motion recorders or other seismic instrumentation; the proposed alarm set points, and operating procedures (including emergency operating procedures) for control room operators in response to such alarms/data obtained from seismic instrumentation; and maintenance procedures.

(23) A cross reference to potential for earthquake generated tsunamis and seiches provided in 18 CFR 380.12(o)(15)(iii)(B), earthquake generated floods in 18 CFR 380.12(o)(15)(iii)(C), earthquake generated landslides in 18 CFR 380.12(o)(15)(iii)(G), and earthquake generated releases and fires in 18 CFR 380.12(m).

(B) *Tsunami and Seiche Information*. Provide a discussion of tsunami and seiche design and hazards that includes:

(1) The tsunami and seismic design basis and criteria with a description of the applicable regulations and guidelines, and generally accepted codes, standards, and specifications used as basis of design.

(2) The seiche design inundation and run-up elevations and corresponding return periods for all structures, systems, and components.

(3) The maximum considered tsunami (MCT) inundation and run-up elevation for the site, including the maximum considered earthquake (MCE) level ground motions at the site if the MCE is the triggering source of the MCT.

(4) A comparison of design loads of seiche water inundation elevations with inundation elevation corresponding to return periods of MCE and MCT for all structures, systems, and components.

(5) The Tsunami Risk Category for the site and a description of potential tsunami generation by seismic sources, and the prevention and mitigation plan for potential tsunami and seiche hazards.

(6) A cross reference to potential tsunami and seiche generated floods in 18 CFR 380.12(o)(15)(iii)(C), tsunami and seiche generated landslides in 18 CFR 380.12(o)(15)(iii)(G), and tsunami and seiche generated releases and fires in 18 CFR 380.12(m).

(C) *Flood Information*. Provide a discussion of flood design criteria and hazards that includes:

(1) The floods design basis and criteria with references to applicable regulations and guidelines, and generally accepted codes, standards, and specifications used as basis of design.

(2) A description of flooding potential in the region surrounding the site due to one or more natural causes such as storm surge, tides, wind generated waves, meteorological tsunamis or seiches, extreme precipitation, or other natural hazard events that have a common cause.

(3) A comparison of flood design loads corresponding to return periods of 10,000-year, 5,000-year, 1,000-year, 500-year, and 100-year for all structures, systems, and components.

(4) A discussion of final designed site elevations and storm surge walls or floodwalls for the site that includes tsunami considerations, flood design considerations, site total settlements, sea level rise, subsidence.

(D) *Hurricane Information*. Provide a discussion of hurricanes and other meteorological events design criteria and hazards that includes

(1) The wind and storm surge design basis and criteria that are at a minimum in accordance with all applicable federal requirements, and applicable codes, standards, and specifications used as basis of design.

(2) A comparison of design wind loads for both sustained and 3-second gusts and storm surge elevations, including consideration for still water, wind/wave run-up effects, and crest elevations, with hurricanes, and other meteorological events at the site location corresponding to return periods of 10,000-year, 5,000-year, 1,000-year, 500-year, and 100-year for all structures, systems, and components.

(3) A discussion of historic hurricane frequencies and hurricane categories equivalent on the Saffir-Simpson Hurricane Wind Scale at the site and associated wind speeds and storm surge.

(4) The design regional subsidence that includes a discussion of the elevation change used to account for regional subsidence for the design life of the facilities at the site.

(E) *Tornado Information*. Provide a discussion of tornado design criteria and hazards that includes:

(1) The tornadoes design basis and criteria that are at a minimum in accordance with all applicable federal requirements, and applicable codes, standards, and specifications used as basis of design.

(2) A comparison of tornado design loads corresponding to return periods of 10,000-year, 5,000-year, 1,000-year, 500-year, and 100-year for all structures, systems, and components.

(3) A discussion of historic tornado frequencies and tornado categories as classified on the Enhanced Fujita (EF) Scale at the site and associated wind speeds.

(4) A discussion of tornado loads determination and design procedure.

(5) A comparison of impact between wind loads and tornado loads for the site.

(F) *Rain, Ice, Snow, and Related Precipitation Information*. Provide a discussion of rain, ice, snow, and related precipitation design criteria and hazards that includes:

(1) The rain, ice, and snow design basis and criteria that are at a minimum in accordance with all applicable federal requirements, and applicable codes, standards, and specifications used as basis of design.

(2) The identification of stormwater flows, outfalls, and stormwater management systems for all surfaces, including spill containment system with sump pumps or other water removal systems.

(3) The comparison of rain, ice, and snow design loads with rainfall rates, snow loads, and ice loads corresponding to return periods of 10,000-year, 5,000-year, 1,000-year, 500-year, and 100-year for all structures, systems, and components.

(4) A discussion of historic ice and blizzard events and frequencies and other ice and snow events at the site and associated loads.

(G) *Landslides, Wildfires, Volcanic Activity, and Geomagnetism Information*.

Provide a discussion of landslides, wildfires, volcanic activity, and geomagnetism design criteria and hazards that includes

(1) The landslides, wildfires, volcanic activity, and geomagnetism design basis and criteria that are at a minimum in accordance with all applicable federal requirements, and applicable codes, standards, and specifications used as basis of design.

(2) A discussion of historic landslide, wildfire, volcano activity, and geomagnetic disturbance risks and intensities at the site.

(3) A description of capable volcanoes, volcanic characteristics of the region, and a discussion of potentially hazardous volcanic phenomena considerations.

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Appendix A to Part 380 [Amended]

6. Amend Appendix A to Part 380, in the section entitled "Resource Report 6 – Geological Resources," by removing paragraph 4 and redesignating paragraph 5 as paragraph 4.

[FR Doc. 2022-25600 Filed: 11/25/2022 8:45 am; Publication Date: 11/28/2022]