

**FINAL STATEMENT OF REASONS
FOR PROPOSED BUILDING STANDARDS
OF THE CALIFORNIA STATE LANDS COMMISSION
REGARDING THE 2019 CALIFORNIA BUILDING CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 2
CHAPTER 31F – MARINE OIL TERMINALS
CHAPTER 35 – REFERENCED STANDARDS
(SLC-01-18)**

The Administrative Procedure Act requires that every agency shall maintain a file of each rulemaking that shall be deemed to be the record for that rulemaking proceeding. The rulemaking file shall include a Final Statement of Reasons. The Final Statement of Reasons shall be available to the public upon request when rulemaking action is being undertaken. The following are the reasons for proposing this particular rulemaking action:

UPDATES TO THE INITIAL STATEMENT OF REASONS:

Government Code Section 11346.9(a)(1) requires an update of the information contained in the Initial Statement of Reasons. If the update identifies any data or any technical, theoretical or empirical study, report, or similar document on which the state agency is relying that was not identified in the Initial Statement of Reasons, the state agency shall comply with Government Code Section 11347.1.

The California State Lands Commission (Commission) is proposing amendments to *Chapter 31F – Marine Oil Terminals* and *Chapter 35 – Referenced Standards* for the 2019 California Code of Regulations (CCR), Title 24, Part 2 (otherwise known as the *California Building Code*). These proposed amendments are intended for publication and effect in the 2019 CCR, Title 24, Part 2, *Chapter 31F – Marine Oil Terminals* and *Chapter 35 – Referenced Standards*. The original amendments to Chapters 31F and 35 proposed in the Initial Statement of Reasons included 169 Express Terms.

These original amendments were the subject of the Initial Public Comment Period (45-Days) held from May 18, 2018, through July 3, 2018, with 12 commenters submitting 115 individual comments. Pursuant to the comments received, changes were made to 19 Express Terms of Chapter 31F, and 1 new Express Term was added (#4.21a); all of these changes were non-substantive and/or sufficiently related to the original proposed Express Terms. However, for public input, promotion of transparency, and validation of the agency's determinations, a 15-Day Public Comment Period was held.

The second Public Comment Period (15-Days) was administered from August 17, 2018, through September 4, 2018, with 15 comments received. Non-substantive changes were made to 2 Express Terms (#1.4 and #4.36), to correct inconsistencies discovered by Commission staff during the 15-Day Public Comment Period; all changes were sufficiently related to the original proposed Express Terms. Note that these subsequent modifications to the proposed language are without legal effect; therefore, recirculation was unnecessary.

Pursuant to Government Code Section 8670.28 (a) and the Public Resources Code Section 8755, the Administrator of Oil Spill Prevention and Response of the California Department of Fish and Wildlife (Administrator) and the United States Coast Guard (USCG) were invited to submit comments on this rulemaking initiative during the 45-Day and 15-Day Public Comment Periods. Commission staff has determined that this regulatory action does not conflict with the Administrator’s or USCG regulations.

The Office of State Fire Marshal also reviewed the amendments proposed by the Commission as part of the 45-Day Comment Period regulatory action, as required pursuant to Health and Safety Code Section 18930(a)(9), “The proposed building standard, if it promotes fire and panic safety as determined by the State Fire Marshal, has the written approval of the State Fire Marshal.” The State Fire Marshal found no conflict in the proposed changes and therefore, approval was granted with no changes required.

Therefore, since issuance of the Initial Statement of Reasons, 21 Express Terms have been updated, and 1 new Express Term added (#4.21a), which are sufficiently related and/or non-substantive, as documented in the Final Express Terms (170 Express Terms total), herein and listed below:

EXPRESS TERMS UPDATED SINCE INITIAL STATEMENT OF REASONS: [21 Express Terms Total]				
Express Term #	Proposed Section, Table or Figure #	Proposed Section Title	Pursuant to Comment Period	Description of Action
1.4	3101F.10	<i>Symbols.</i>	2 nd (15-Day)	Updated
2.8	FIGURE 31F-2-1	<i>[EXAMPLE TERMINAL OPERATING LIMITS DIAGRAM]</i>	1 st (45-Day)	Updated
3.10	3103F.5.1	<i>General.</i>	1 st (45-Day)	Updated
3.15	3103F.5.2.2.2	<i>Survival condition.</i>	1 st (45-Day)	Updated
4.20	3104F.5.1	<i>General.</i>	1 st (45-Day)	Updated
4.21	3104F.5.2	<i>Seismic assessment.</i>	1 st (45-Day)	Updated
4.21a	3104F.5.2.1	<i>Seismic evaluation, strengthening and design.</i>	1 st (45-Day)	Added
4.28	3104F.5.4.1.1	<i>Simplified Procedure.</i>	1 st (45-Day)	Updated
4.31	TABLE 31F-4-4	<i>IMPORTANCE FACTORS FOR NONSTRUCTURAL COMPONENTS AND NONBUILDING STRUCTURES</i>	1 st (45-Day)	Updated
4.32	TABLE 31F-4-5	<i>RESPONSE MODIFICATION FACTORS FOR NONSTRUCTURAL COMPONENTS AND NONBUILDING STRUCTURES</i>	1 st (45-Day)	Updated & Partially Withdrawn
4.36	3104F.6	<i>Symbols.</i>	1 st (45-Day) 2 nd (15-Day)	Updated
5.4	3105F.2	<i>Mooring analyses.</i>	1 st (45-Day)	Updated
5.11	3105F.7	<i>Safety factors for mooring lines.</i>	1 st (45-Day)	Updated
5.18	3105F.9	<i>Symbols.</i>	1 st (45-Day)	Updated
6.1	3106F.10.2	<i>Kinematic loading from lateral spreading.</i>	1 st (45-Day)	Updated
8.2	TABLE 31F-8-3	<i>MINIMUM FIRE SUPPRESSION PROVISIONS (N/E)</i>	1 st (45-Day)	Partially Withdrawn
9.2	3109F.3	<i>Pipeline stress analysis (N/E).</i>	1 st (45-Day)	Updated
9.4	3109F.5.1	<i>Valves and fittings.</i>	1 st (45-Day)	Updated
9.6	3109F.7	<i>Fire piping and pipeline systems.</i>	1 st (45-Day)	Updated
11.5	3111F.8.1	<i>Illumination Locations.</i>	1 st (45-Day)	Updated
11.6	3111F.8.2	<i>Illumination Levels.</i>	1 st (45-Day)	Updated & Partially Withdrawn

The modified regulatory text was submitted and approved by the Commissioners of the State Lands Commission on Thursday, October 18, 2018. There was no testimony made by any interested parties at this Commission Meeting. A copy of the voting record of the Commissioners of the California State Lands Commission adopting these regulatory amendments is enclosed in the rulemaking file, as permanent record.

All of the data and technical, theoretical and empirical studies, reports, and similar documents identified in the Initial Statement of Reasons were made available for public review by the Commission during the entirety of this rulemaking process, including, but not limited to, every public comment period. Therefore, the requirements of Government Code Section 11347.1 are not applicable. Furthermore, there have been no changes in applicable laws or to the effect of the proposed regulations from the laws and effects described in the Notice of Proposed Regulatory Action.

MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS

Pursuant to Government Code Section 11346.9(a)(2), if the determination as to whether the proposed action would impose a mandate, the agency shall state whether the mandate is reimbursable pursuant to Part 7 of Division 4. If the agency finds that the mandate is not reimbursable, it shall state the reasons for the finding(s).

The Commission has determined that the proposed regulatory action **WOULD NOT** impose a mandate on local agencies or school districts.

OBJECTIONS OR RECOMMENDATIONS MADE REGARDING THE PROPOSED REGULATION(S).

Government Code Section 11346.9(a)(3) requires a summary of EACH objection or recommendation regarding the specific adoption, amendment, or repeal proposed, and an explanation of how the proposed action was changed to accommodate each objection or recommendation, or the reasons for making no change. This requirement applies only to objections or recommendations specifically directed at the agency's proposed action or to the procedures followed by the agency in proposing or adopting the action, or reasons for making no change. Irrelevant or repetitive comments may be aggregated and summarized as a group.

The Public Comments and Commission responses are presented below for the 45-Day Public Comment Period and 15-Day Public Comment Period.

Additionally, the Notice of Proposed Rulemaking, Initial Statement of Reasons, 45-Day Express Terms, 45-Day Public Comments received, modified 15-Day Express Terms, 15-Day Public Comments received, and Final Statement of Reasons are posted on the Commission's website (www.slc.ca.gov).

45-DAY PUBLIC COMMENT PERIOD:

One hundred fifteen (115) comments were received during the 45-Day Public Comment Period, which extended from May 18, 2018 through July 3, 2018. A Public Hearing was also held on July 3, 2018 at 9:30 AM at the Port of Long Beach, Board Room. All comments received have been numbered, grouped and summarized for Commission staff response; copies of the comment letters are in the rulemaking file. No commenters gave oral testimony or submitted written comments at the Public Hearing. All comments received have been numbered as shown in the table below.

45-DAY PUBLIC REVIEW COMMENTS				
COMMENTS NUMBER*	TOTAL NUMBER OF COMMENTS*	COMMENTS NAME	COMMENTS AFFILIATION	DATE RECEIVED
1	1	Marcie Miller	[Not Provided]	05/18/2018 @ 1:34 PM
2	1	Ari Konyalian, P.E.	Moffatt & Nichol	05/22/2018 @ 3:55 PM
3	1	Marc Percher, P.E.	Moffatt & Nichol	05/23/2018 @ 11:38 AM
4	3	Arul K. Arulmoli, Ph.D., P.E., G.E.	Earth Mechanics, Inc.	06/11/2018 @ 4:20 PM
5	1	Luis H. Palacios, P.E.	Simpson, Gumpertz & Heger	06/27/2018
6	0	45-Day Public Hearing	No speakers or comments	07/03/2018 @ 10:00 AM to 10:18 AM
7	1	Arul K. Arulmoli, Ph.D., P.E., G.E.	Earth Mechanics, Inc.	07/03/2018 @ 4:59 AM
8	37	James Kearney, P.E. Bernardo Waisman, P.E. Wen Ho Lin, Ph.D., P.E. Andres Espinoza, Ph.D., P.E.	COWI North America, Inc.	07/03/2018 @ 12:11 PM
9	6	Luis H. Palacios, P.E.	Simpson, Gumpertz & Heger	07/03/2018 @ 2:06 PM
10	10	Gayle S. Johnson, P.E.	Simpson, Gumpertz & Heger	07/03/2018 @ 2:11 PM
11	8	Rune Iversen, P.E.	Simpson, Gumpertz & Heger	07/03/2018 @ 4:18 PM
12	45	Omar Jaradat, Ph.D., P.E. & Moffatt & Nichol Associates	Moffatt & Nichol	07/03/2018 @ 4:55 PM
13**	1	Greg Andersen	CAL FIRE – Office of the State Fire Marshal	07/23/2018

* Note: Comment Numbers are assigned in the format “X-Y”, where:

X = Commenter Number (for 45-Day Comment Period), and

Y = Comment Number (each Commenter’s Comments are numbered sequentially starting at 1)

** Pertains to 45-Day Comment Period regulatory action but was received after Comment Period closure on 07/03/2018.

GENERAL – COMMENTS NOT SPECIFICALLY DIRECTED AT PROPOSED ACTION OR PROCEDURES FOLLOWED – COMMENTS 1-1, 2-1, 4-1, 4-3, 5-1 and 8-1.

These comments are not specifically directed at the Commission’s proposed rulemaking action or to the procedures follows by the Commission in proposing or adopting this rulemaking action, including:

(a) Comment 1-1:

Requests clarification if the existing Chapter 31F language and proposed Chapter 31F amendments are applicable to the Rancho LPG bulk storage facility at the Port of Los Angeles.

- (b) Comment 2-1:
Remarks that the commenter will be further distributing this within their affiliated organization.
- (c) Comments 4-1 and 4-3:
Suggest that existing *Figure 31F-6-2 [6.8]* and the associated reference *[6.8]* (Port of Long Beach (POLB), 2012 February 29, "Wharf Design Criteria (WDC)," Version 3.0, Long Beach, CA), respectively, should be updated to the latest POLB "Wharf Design Criteria," Version 4.0.
- (d) Comment 5-1:
Requests clarification on how to provide comments on existing Chapter 31F language for which there are no proposed amendments or Express Terms.
- (e) Comment 8-1:
Remarks that the commenters have provided some general comments that refer to existing Chapter 31F language for which there are no proposed amendments, to bring these issues to the attention of the Commission for future consideration.

CSLC RESPONSE: Commission staff appreciates these comments. However, these comments are not specifically directed at the proposed amendments to or procedures followed for Chapters 31F and 35 of the code. No response is required per Government Code § 11346.9, and these comments are rejected.

GENERAL – INFORMAL COMMENT – COMMENT 3-1.

The commenter (Comment 3-1) suggests that further clarification should be provided regarding the iterative process for the Substitute Structure Method. The commenter also states in part that: *"I'll write this up more formally in an official comment (and don't expect you to respond herein)"*.

CSLC RESPONSE: Commission staff appreciates this comment. This comment may be related to specific section(s) or amendment(s) proposed for Chapter 31F of the code and related Express Terms. However, since the commenter identified this comment as informal, and it appears to be superseded by later comments received by the commenter's affiliated group, Moffatt & Nichol (ref. Commenter No. 12), Commission staff will respond to the later, superseding comments only, and this comment is rejected.

GENERAL – STATE FIRE MARSHAL COMMENT(S) – COMMENT 13-1.

The commenter (Comment 13-1) addresses the compliance of the proposed amendments with Health and Safety Code, Section 18930(a)(9): *"The proposed building standard, if it promotes fire and panic safety as determined by the State Fire Marshal, has the written approval of the State Fire Marshal"*. The comment concludes that the State Fire Marshal finds no conflict in the proposed changes and therefore, approval is granted.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. No changes are necessary or made.

EXPRESS TERM #2.1 – COMMENT 10-1.

The commenter (Comment 10-1) addresses proposed Section 3102F.1.5 *"Baseline assessment"*, and objects to the proposed amendments, stating that facilities maintain the type of information listed in various formats which are not the same as equipment layout diagrams. The commenter also suggests that the proposed addition be rejected.

CSLC RESPONSE: Commission staff appreciates this comment. However, the terminology *"in the equipment layout diagram(s)"* is added for clarity and consistency with the existing regulatory intent and industry practice. Equipment layout diagrams are already standard with submissions under the existing code. Therefore, this comment is rejected.

EXPRESS TERM #2.4 – COMMENT 12-1.

The commenter (Comment 12-1) addresses proposed Table 31F-2-4 “ASSESSMENT RATINGS”, stating that as-builts are not always available.

CSLC RESPONSE: Commission staff appreciates this comment. However, the terminology “original” is updated to “as-built” for clarity and consistency with industry and code terminology. Where “as-built” drawings are not available, existing Section 3102F.1.5 addresses how a baseline assessment shall be performed to gather sufficient detail for adequate evaluation. Therefore, this comment is rejected.

EXPRESS TERM #2.5 – COMMENT 12-2.

The commenter (Comment 12-2) addresses a proposed update to a footnote for Table 31F-2-7C, stating again that as-builts are not always available.

CSLC RESPONSE: Commission staff appreciates this comment. However, the terminology “original” is updated to “as-built” for clarity and consistency with industry and code terminology. Where “as-built” drawings are not available, existing Section 3102F.1.5 addresses how a baseline assessment shall be performed to gather sufficient detail for adequate evaluation. Therefore, this comment is rejected.

EXPRESS TERM #2.6 – COMMENT 12-3.

The commenter (Comment 12-3) addresses proposed Section 3102F.3.6.1 “Terminal operating limits”, and generally asserts that there are often differences between terminal operating limits and monitoring instrumentation output, such as differences in duration, averaging, elevation, depth and distance of readings. The commenter questions if this suggests that conversion tables are required for comparison and suggests this be more explicit.

CSLC RESPONSE: Commission staff appreciates this comment. The proposed language in part states: “The TOLs shall allow for direct comparison of operating limits and output from monitoring systems and instrumentation (i.e., anemometers, current meters, tension monitoring systems, velocity monitoring systems).”. Since conversion tables would require the MOT operator to perform conversion computations or evaluations each time a given parameter was monitored, this practice is not suggested and would contradict the “direct comparison” requirement. As explained in the Initial Statement of Reasons, this paragraph is added to provide a performance-based explanation of how engineering TOLs diagrams shall be prepared and presented by the engineer-of-record to facilitate operational monitoring. Performance-based solutions may include converting the TOL diagrams to be consistent with existing monitoring systems and instrumentation parameters, modifying monitoring systems and instrumentation parameters to be consistent with existing TOL diagrams, or a combination of these approaches. No further explanation or changes are necessary. Therefore, this comment is rejected.

EXPRESS TERM #2.8 – COMMENTS 8-2, 8-3, 11-1 and 11-2.

These comments address proposed Figure 31F-2-1 “EXAMPLE, TERMINAL OPERATING LIMITS” and remark on the following:

- (a) The commenter (Comment 11-1) suggests that the vessel outline be replaced with a shape that resembles a tanker instead of a container vessel.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. To address the commenter’s concern, the vessel hull shape was updated to be more representative of a tanker. Commission staff determined that the shape of the vessel hull shown had no significant impact on regulatory purpose, applicability or intent. This amendment is sufficiently related and non-substantive.

- (b) The commenters (Comments 8-2 and 11-2) assert that the “*TERMINATE PRODUCT TRANSFER*” condition is erroneously applied to the “*OPERATIONAL CONDITION*” wind envelope, in effect allowing for no product transfer at the terminal under any wind condition. Comment 8-2 further suggests adding a new wind zone above “*OPERATIONAL CONDITION*” for “*TERMINATE PRODUCT TRANSFER*”.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. To address the commenters’ concerns, the terminology “*TERMINATE PRODUCT TRANSFER*” is relocated to the “*SURVIVAL CONDITION*” zone in the wind restriction diagram legend, allowing for unrestricted transfer operations within the “*OPERATIONAL CONDITION*” wind envelope, and providing consistency with the proposed Sections 3103F.5.2.2.1 (Express Term #3.14) and 3103F5.2.2.2 (Express Term #3.15) language. In general, the range of the “*SURVIVAL CONDITION*” wind zone is defined by “*TERMINATE PRODUCT TRANSFER*” threshold as the lower bound and “*DEPARTURE CONDITION*” threshold as the upper bound, with “*DISCONNECT PRODUCT LINES*” occurring within the zone. This amendment is sufficiently related and non-substantive.

- (c) The commenter (Comment 11-3) suggests that the Wind Restriction Diagram should be labeled with either “*True*” or “*Magnetic*” for consistency with the proposed Section 3102F3.6.1 language regarding directionality.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The terminology “*True*” is added to the north direction arrow and the terminology “(*True North*)” to the “*WIND RESTRICTION DIAGRAM*” to clarify that units of measurement and directionality shall be specified in Terminal Operating Limits diagrams. This amendment is sufficiently related and non-substantive.

- (d) During the 45-day Comment Period, the Commission staff discovered a graphical error in this Express Term regarding vessel class marking, where a white box was placed around the “*75 KDWT Vessel Class*” marking on the vessel image. Therefore, this white box was removed in the amended language proposed during the 15-Day Comment Period. This amendment is non-substantive.

EXPRESS TERM #3.3 – COMMENT 12-4.

The commenter (Comment 12-4) addresses proposed Section 3103F.4.2.2 “*Earthquake motions from USGS maps*”, requesting confirmation of appropriate USGS site tool to use to determine design spectra.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed language accommodates the development of the US Seismic Design Maps tool, while providing enough specificity for the engineer-of-record to select a conformable tool. Therefore, this comment is rejected.

EXPRESS TERM #3.10 – COMMENTS 8-4, 11-3 and 12-5.

These comments address proposed Section 3103F.5.1 “*General*”. In general, the commenters object to the proposed language, but each commenter provides a different rationale as follows:

- (a) The commenter (Comment 8-4) states that the proposed language cannot be true and appears to focus on the terminology “*expected*”, arguing that we would “expect” high return period combinations of environmental and/or passing vessel conditions to occur at some point for which the vessel should depart or require tug assistance and the mooring capacities are moot. The commenter also provides suggested rewording.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. As indicated by the subsection title, this proposed language is intended to provide general statements regarding mooring loads on vessels, with detailed discussion in later subsections. The terminology “*expected*” is retained from the existing Section 3103F.5.1 language and performance-based. However, to provide clarity, the terminology “(*see Section 3105F*)” is added. This amendment is sufficiently related and non-substantive, seeking only to add clarity in reference.

- (b) The commenter (Comment 11-3) states that the proposed language doesn't make sense as the strength of the mooring lines does not accommodate changes in drift or vessel movements and discusses line tending.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. To address the commenter's concerns and eliminate potential misunderstanding, minor modifications are made to sentence structure, replacing "*to adequately accommodate*" with "*, while adequately accommodating*". Line tending is indirectly covered by the proposed language. These amendments are sufficiently related and non-substantive, seeking only to add clarity in sentence structure.

- (c) The commenter (Comment 12-5) states that the proposed language does not fully explain what the original statement described and appears to focus on the terminology "*long enough*", providing suggested rewording.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. To address the commenter's concerns and eliminate potential misunderstanding, minor modifications are made to sentence structure, replacing "*to adequately accommodate*" with "*, while adequately accommodating*". Line length is indirectly covered by the proposed language. These amendments are sufficiently related and non-substantive, seeking only to add clarity in sentence structure.

EXPRESS TERM #3.12 – COMMENTS 8-5, 8-6, 12-6, 12-7 and 12-8.

These comments address proposed Section 3103F.5.2.1 "*Design wind speed*" and remark on the following:

- (a) The commenter (Comment 8-5) objects to the terminologies "*Design wind speed*" and "*For new MOTs*", stating that this wind speed isn't used anywhere in the design of the terminal and citing the design approach in proposed Section 3105F.8.1.

CSLC RESPONSE: Commission staff appreciates this comment. However, the terminology "*Design wind speed*" is established in the existing Chapter 31F language. Furthermore, it should be noted that proposed Section 3103F.5.2.1 is a subsection of existing Section 3103F.5 "*Mooring loads on vessels*", which generally addresses forces acting on moored vessels (not MOT structures). Wind loads for the design of MOT structures are addressed in existing Section 3103F.7.2. For new MOTs, the designer should consider both the 25-year return period design wind speed specified in Section 3103F.5.2.1 and the quick release hook design standards specified in proposed Section 3105F.8.1 (Express Term #5.14). Therefore, this comment is rejected, and no changes are made.

- (b) The commenters (Comments 8-6 and 12-6) suggest clarifying that the 25-year return period wave should also be applied to mooring analyses, if applicable based on wave period.

CSLC RESPONSE: Commission staff appreciates these comments. However, these comments are not specifically directed at the proposed amendments for Chapter 31F of the code, since proposed Section 3103F.5.2.1 addresses wind loads only (not waves) as identified in the section title. Wave loads are intended to be addressed in existing Section 3103F.5.4 "*Wave loads*". Therefore, no response is required per Government Code § 11346.9, and these comments are rejected.

- (c) The commenter (Comment 12-7) requests that the proposed language be amended to clarify the joint probability requirements for combined 25-year return period winds with current and tidal range.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since proposed Section 3103F.5.2.1 addresses wind loads only (not current and tidal range) as identified in the section title. No response is required per Government Code § 11346.9, and this comment is rejected.

- (d) The commenter (Comment 12-8) states that it is unclear how the design wind speed is to be derived and suggests modified language.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed language that the commenter specifically objects to is presented in the existing Chapter 31F and is simply reorganized with rearrangement of sentence order. Therefore, this comment is rejected.

EXPRESS TERM #3.14 – COMMENTS 8-7 and 8-8.

These comments address proposed Section 3103F.5.2.2.1 “*Operational condition*” and remark as follows:

- (a) The commenter (Comment 8-7) remarks that no definition is provided for what triggers the “*maximum velocity of the envelope*” for operational condition.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since no changes were proposed to the existing “*maximum velocity of the envelope*” language. Therefore, no response is required per Government Code § 11346.9. Furthermore, determination of wind envelope thresholds is performance-based and to be determined by the engineer-of-record. This comment is rejected.

- (b) The commenter (Comment 8-8) suggests that the “*maximum velocity of the envelope*” terminology should be clarified to refer to the maximum velocity from a given direction.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since no changes are proposed to the existing “*maximum velocity of the envelope*” language. Therefore, no response is required per Government Code § 11346.9. This comment is rejected.

EXPRESS TERM #3.15 – COMMENTS 8-9, 8-10, 11-4 and 11-5.

These comments address proposed Section 3103F.5.2.2.2 “*Survival condition*” and remark as follows:

- (a) The commenter (Comment 8-9) remarks that no definition is provided for what triggers the maximum allowable wind speed for the survival condition envelope.

CSLC RESPONSE: Commission staff appreciates this comment. However, determination of wind envelope thresholds is performance-based and to be determined by the engineer-of-record. Therefore, this comment is rejected.

- (b) The commenter (Comment 8-10) questions if existing Section 3110F.3 “*Oil transfer hoses (N/E)*” language (i.e., no proposed Express Term) regarding minimum hose lengths should also be updated for consistency with changes to the proposed Section 3103F.5.2.2.2 “*Survival condition*” language.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since there is no proposed Express Term or language for Section 3110F.3. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

- (c) The commenter (Comment 11-4) questions if once you get to the survival condition, transfer shall cease and loading arms and hoses should be disconnected.

CSLC RESPONSE: Commission staff appreciates this comment. In general, the range of the “*SURVIVAL CONDITION*” wind zone is defined by “*TERMINATE PRODUCT TRANSFER*” threshold as the lower bound and “*DEPARTURE CONDITION*” threshold as the upper bound, with “*DISCONNECT PRODUCT LINES*” occurring within the zone, as presented in proposed Sections 3103F.5.2.2.1 “*Operational condition*”, 3103F.5.2.2.2 “*Survival condition*” and 3103F.5.2.2.3 “*Departure condition*”, and Figure 31F-2-1 (Express Terms #3.14, #3.15, #3.16 and #2.8, respectively). Therefore, no changes are necessary or made, and this comment is rejected.

- (d) The commenter (Comment 11-5) states that the proposed language implies that vessel movements past the limits of the loading equipment is allowed during the survival condition, and this means that if you get to the survival condition it would be too late.

CSLC RESPONSE: Commission staff appreciates this comment. In general, the range of the “*SURVIVAL CONDITION*” wind zone is defined by “*TERMINATE PRODUCT TRANSFER*” threshold as the lower bound and “*DEPARTURE CONDITION*” threshold as the upper bound, with “*DISCONNECT PRODUCT LINES*” occurring within the zone, as presented in proposed Sections 3103F.5.2.2.1 “*Operational condition*”, 3103F.5.2.2.2 “*Survival condition*” and 3103F.5.2.2.3 “*Departure condition*”, and Figure 31F-2-1 (Express Terms #3.14, #3.15, #3.16 and #2.8, respectively). Reasonable consideration of the operating procedures and time necessary to terminate product transfer and then disconnect product lines is necessary. Therefore, no changes are necessary or made, and this comment is rejected.

- (e) During the 45-day Comment Period, the Commission staff discovered an error in the Section number reference for departure condition. Therefore, this cross-reference was corrected in the amended language proposed during the 15-day Comment Period. This amendment is sufficiently related and non-substantive.

EXPRESS TERM #3.16 – COMMENTS 8-11, 8-12, 8-13, 8-14, 11-6 and 12-9.

These comments address proposed Section 3103F.5.2.2.3 “*Departure condition*” and remark on the following:

- (a) The commenter (Comment 8-11) objects to the statement “*For a new MOTs, the ~~departure-survival~~ condition threshold is the maximum wind velocity, for a 30-second gust and a 25-year return period, obtained from historical data... If the wind rises above these levels, the vessel must depart the berth.*”, stating that it is not an accurate reflection of berth capacity. The commenter continues to discuss various potential design scenarios and considerations.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since no substantive changes are proposed to the existing “*For a new MOTs, ...*” 25-year return period wind requirements or the existing “*If the wind rises above these levels, the vessel must depart the berth*” language. Therefore, no response is required per Government Code § 11346.9.

Furthermore, for new MOTs, the designer should consider the 25-year return period design wind speed requirements in Sections 3103F.5.2.1 and 3103F.5.2.2.3, as well as all other Chapter 31F design standards to assess the governing design scenarios.

Therefore, no changes are made, and this comment is rejected.

- (b) The commenters (Comments 8-12, 8-14, 11-6 and 12-9) appear to object to the “departure” action prescribed, remarking that departure is not always possible for a vessel under severe environmental conditions due to limitations such as the availability of tug boat assistance, the participation of pilots and captains, and the authority of the MOT owners or operators. Some commenters suggest other actions, such as the vessel deploying additional mooring lines, requesting tug boat assistance to hold the vessel onto the berth, the vessel taking on additional ballast water, initiation of communications with the vessel Master/Pilots to prepare to depart, etc.

CSLC RESPONSE: Commission staff appreciates these comments. However, the proposed language is meant to provide clarity, but not change the intent, purpose or applicability of the existing regulations. No changes are proposed to the existing “*If the wind rises above these levels, the vessel must depart the berth*” language. Therefore, no changes are made, and these comments are rejected.

- (e) The commenter (Comment 8-13) remarks that the joint probability of combined 25-year return period winds with current, tidal range, vessel draft and passing vessel conditions occurring simultaneously though not impossible, is remote. And that it is at this rare and unusual condition that we would reach either the safe working (allowable) load without beginning to encroach on factors of safety or the factored (LRFD) loads where the load factor is 1.0.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #3.17 – COMMENT 8-15.

The commenter (Comment 8-15) addresses the proposed Section 3103F.5.2.3 “*Wind speed corrections*” language, recognizing that the proposed modifications relate to numbering only, but suggests considering that there is no need to convert “*over-land*” wind data speeds to “*over-water*” conditions.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, as identified by the commenter. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #3.26 – COMMENT 12-10.

The commenter (Comment 12-10) states that Section 3103F.5.7 “*Tsunamis*” is not very clear on how tsunami condition shall be considered in design, and requests multiple points of clarification.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since no changes other than reference number updates were proposed to the existing language. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #4.3 – COMMENTS 12-11 and 12-12.

These comments address proposed Section 3104F.1.3 “*Configuration classification of MOT structure*” and remark on the following:

- (a) The commenter (Comment 12-11) objects to removal of the last sentence in the proposed section, stating that relative movement and the influence of movement on pipe stress must be considered.

CSLC RESPONSE: Commission staff appreciates and partially agrees with this comment. The existing last paragraph is accurate but is relocated to proposed Section 3109F.3 (Express Term #9.2) since this requirement primarily involves assessment by the pipeline stress analyst with information provided by the structural analyst. Therefore, no additional changes are necessary or made, and this comment is rejected.

- (b) The commenter (Comment 12-12) suggests that the Figure 31F-4-9 [sic] should reference the primary source NCEER study.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since there is no proposed Express Term or changes to existing Figure 31F-4-1. Therefore, no response is required per Government Code § 11346.9. Furthermore, existing Figure 31F-4-1 is directly adapted from ASCE/SEI 7 [4.1], which is appropriately referenced in Section 3104F.1.3, and the original NCEER study is not readily available to the public. Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERMS #4.6 & 4.7 – COMMENTS 8-16, 8-17, 12-13, 12-14, 12-17 and 12-19.

These comments address proposed Sections 3104F.2.3.2.1 “*Coefficient Method*” (Express Term #4.6) and 3104F.2.3.2.2 “*Substitute Structure Method*” (Express Term #4.7), respectively, and generally remark that it is not clear that the effective yield displacement should be determined by iterative process.

CSLC RESPONSE: Commission staff appreciates these comments. However, the Coefficient Method and Substitute Structure Method procedures in the existing Chapter 31F language do not prescribe iterative processes for developing idealized force-displacement curves, as such iterative processes were eliminated in the 2016 CBC rulemaking.

As codified in the existing Section 3104F.2.3.2.1, the Coefficient Method represents current state-of-the-knowledge in nonlinear static seismic analysis procedures and provides a simple, non-iterative alternative to the Substitute Structure Method. The proposed changes to the 2019 CBC presented in Express Term #4.6 are editorial and non-substantive only.

As codified in existing Section 3104F.2.3.2.2, the Substitute Structure Method also does not prescribe an iterative process for developing idealized force-displacement curves. The proposed changes to the 2019 CBC presented in Express Term #4.7 do require iteration of steps 5 to 10, but not to determine the effective yield displacement.

Therefore, these comments are rejected.

EXPRESS TERM #4.7 – COMMENTS 12-15, 12-16 and 12-18.

These comments address proposed Section 3104F.2.3.2.2 “*Substitute Structure Method*” only, and remark on the following:

- (a) The commenter (Comment 12-15) recommends adding reference to “*Displacement-Based Seismic Design of Structures*” by Priestley, Calvi and Kowalsky for the Substitute Structure Method.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed Substitute Structure Method references to Priestley et al. [4.5] and ASCE/COPRI 61 [4.2] are adequate. The Priestley et al. [4.5] is the original published work, and the ASCE/COPRI 61 [4.2] represents its latest adaptation. The proposed additional reference has not modified the original procedure in Priestley et al. [4.5] in any significant way. Therefore, no changes are necessary or made, and this comment is rejected.

- (b) The commenter (Comment 12-16) states that proposed *Equation (4-12)* is similar to the existing Chapter 31F damping equation and that provided in ASCE 61-14 but is inconsistent with that used by the Port of Long Beach (POLB) and Port of Los Angeles (POLA) criteria for damping. The commenter further states that for projects in the POLB and POLA, it should be noted that the alternate damping equation is permissible as providing equal protection, and that the damping equation may result in non-sensical solutions for extreme cases, recommending that the output damping be limited to a minimum of 5% and a maximum of 30% unless other values are shown as accurate by the Engineer of Record. Later, the commenter (Comment 12-18) recommends that proposed *Equation (4-12)* be replaced by SP-295-3 by Omar A. Jaradat and MJ Nigel Priestley and POLA Seismic Code 2010 and POLB Wharf Design Criteria V4.0.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed *Equation (4-12)* is identical to the existing *Equation (4-10)*, as adopted in ASCE/COPRI 61 [4.2], except for minor changes in symbolism for consistency with existing and revised symbols. These proposed revisions provide similar seismic demands to the current method and converges consistently based on current state-of-the-knowledge in nonlinear procedure. These proposed amendments do not change the intent, purpose or applicability of the existing regulations. Therefore, the commenter’s recommendation to update to the POLB and POLA damping criteria is rejected.

Furthermore, if MOT projects in the POLA or POLB want to utilize the POLB and POLA damping criteria in lieu of the Chapter 31F damping criteria for CBC compliance purposes, an alternative would need to

be requested by the owner/operator and granted by the Commission per the existing Section 3101F.9 requirements.

Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERM #4.19 – COMMENT 12-20.

The commenter (Comment 12-20) addresses proposed Section 3104F.5 “*Nonstructural components, nonbuilding structures and building structures*”, and objects to the exclusion of Level 1 earthquake assessments for nonstructural components, presenting multiple arguments for Level 1 assessments, including consideration of the Level 1 seismic performance criteria per Section 3104F.2.1 of minor or no structural damage and temporary or no interruption in operations, differences in ductility or response modification factors, and likelihood of occurrence.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed Section 3104F.5 language decisively requires Level 2 seismic assessment for all nonstructural components, nonbuilding structures and building structures per the Section 3104F.2.1 seismic performance criteria (Express Term #4.4). Furthermore, the importance of the seismic performance of critical systems (including nonstructural components, nonbuilding structures or building structures) is acknowledged via amendment of the Section 3104F.2.1 seismic performance criteria with that specified in the 3rd paragraph of proposed Section 3104F.5.1 (Express Term #4.20) and the Importance Factors in the proposed Table 31F-4-4 (Express Term #4.31). Currently, there is insufficient state-of-the-art knowledge, supported by peer-reviewed publications, on need to consider seismic assessment of nonstructural components, nonbuilding structures, and building structures supported on MOTs for two separate earthquakes (i.e., Level 1 and Level 2). If such knowledge were to become available in future, Commission staff will reconsider. Therefore, no changes are necessary or made at this time, and this comment is rejected.

EXPRESS TERM #4.20 – COMMENTS 8-18, 8-19, 12-21, 12-22 and 12-23.

These comments address proposed Section 3104F.5.1 “*General*” and remark on the following:

- (a) The commenters (Comments 8-18 and 12-22) object to the 2nd paragraph in this section, and remark that the definition of nonbuilding structures and parenthetical exemption of building is unclear and may incorrectly imply that building structures are not required to resist the effects of earthquakes.

CSLC RESPONSE: Commission staff appreciates and accepts these comments. The proposed language and sentence structures in the 2nd paragraph are amended to provide clearer definitions for and examples of “*nonbuilding structures*”, and by default, “*building structures*”. A reference to Section 3104F.5.6 (Express Term #4.35) is also added regarding “*building structures*” to assist the reader. Based on these public comments, Commission staff also amended the proposed language and sentence structures in the 1st paragraph to more clearly articulate the definition for and examples of “*nonstructural components*”. These amendments are sufficiently related and non-substantive.

- (b) The commenter (Comment 8-19) suggests minor amendments to the proposed language and sentence structure in the 3rd paragraph, 1st sentence, regarding the definition of “*critical systems*”.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. The sentence is updated with the addition of the terminology “*those*”, to better articulate and clarify the definition of “*critical systems*”. However, the terminology “*following an earthquake*” is not relocated as the commenter suggests. These amendments are sufficiently related and non-substantive.

- (c) The commenter (Comment 12-21) objects to the 3rd paragraph and states that requiring critical components to be seismically qualified is almost impossible and would increase the prices of equipment significantly, which is typically done for nuclear power plants and not standard for MOTs.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. While not specified by the commenter, it appears that Comment 12-21 also relates to the 3rd paragraph in proposed Section 3104F.5.2 (Express Term #4.21), based on the commenter’s use of the terminology

“*seismically qualified*”. Therefore, to reduce potential for misinterpretation regarding the terminology “*seismically qualified*” in proposed Section 3104F.5.2 (Express Term #4.21), the 2nd sentence in the 3rd paragraph is simplified; it should also be noted that this 3rd paragraph is relocated to the new proposed Section 3104F.5.2.1 “*Seismic evaluation, strengthening and design*” (Express Term #4.21a to address Comment 12-24). This is consistent with the CalARP standard for evaluation of equipment and nonstructural components themselves. This amendment is sufficiently related, non-substantive and without regulatory effect.

- (d) The commenter (Comment 12-23) objects to the 1st sentence of the 3rd paragraph regarding the definition of “*critical systems*”, stating that it is unclear if “*remain operational*” and “*failure*” are consistent with the intended performance and providing examples. The commenter also remarks that this definition along with the Importance Factor (Express Term #4.31) and Response Modification Factor (Express Term #4.32) appear overly conservative.

CSLC RESPONSE: Commission staff appreciates this comment. The 1st sentence of the 3rd paragraph is updated to better articulate and clarify the definition of “*critical systems*”, with a minor amendment proposed by another commenter (Comment 8-19). Also, the commenter’s concerns regarding over conservatism of the Importance and Response Modification Factors for critical systems are considered under those specific Express Terms #4.31 and #4.32, respectively. Therefore, no additional changes are necessary or made, and this comment is rejected.

EXPRESS TERM #4.21 – COMMENT 12-24.

The commenter (Comment 12-24) addresses proposed Section 3104F.5.2 “*Seismic assessment*”, requesting clarification on applicability of the 3rd paragraph about seismic evaluation methods to new (N) structures or components.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The proposed section was intentionally presented in three distinct paragraphs, where the 1st paragraph applies to existing (E) only (i.e., “*For existing (E)...*”), the 2nd paragraph applies to new (N) only (i.e., “*For new (N)...*”), and the 3rd paragraph applies to new (N) and existing (E) (if required). However, to provide clarity regarding the applicability of the seismic evaluation, strengthening and design methods for existing (E) and new (N) components and structures, the proposed language is amended with the relocation of the 3rd paragraph to new proposed Section 3104F.5.2.1 “*Seismic evaluation, strengthening and design*” (Express Term #4.21a), and the terminology “*this section*” in the 1st and 2nd paragraphs are amended to directly reference this new proposed section. Furthermore, in the 2nd sentence of the 1st paragraph, the proposed language and sentence structure are amended to better clarify the “*if required...*” statement for existing (E) components and structures, where the proposed sentence structure articulates “*if seismic evaluation and/or strengthening are required, ...*”.

In the new proposed Section 3104F.5.2.1 “*Seismic evaluation, strengthening and design*” (Express Term #4.21a), minor sentence restructuring is proposed including the addition of the title and the terminology “*of nonstructural components, nonbuilding structures and building structures*” in the proposed 1st sentence. Furthermore, to reduce potential for misinterpretation, the proposed 2nd sentence is simplified (ref. Comment 12-21 to Express Term #4.20).

These amendments are sufficiently related, non-substantive and without regulatory effect.

EXPRESS TERM #4.28 – COMMENTS 12-25, 12-26, 12-27, 12-28 and 12-29.

These comments address proposed Section 3104F.5.4.1.1 “*Simplified Procedure*” and remark as follows:

- (a) The commenters (Comment 12-25 and 12-26) object to the proposed language “ S_{XS} = *spectral acceleration in Section 3103F.4.2.4 or Section 3103F.4.2.5, at 0.2 seconds*”, remarking that this variable has been given two definitions and should stay consistent, suggesting amendments, and discussing the differences between the ASCE 7-16 generic site spectra and site-specific spectra.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. For clarity and consistency with use of “ S_{XS} ” in existing Sections 3103F.4.2.4 and 3103F.4.2.5, proposed language is amended by removing “at 0.2 seconds”. This change is sufficiently related and non-substantive.

- (b) The commenter (Comment 12-27) requests clarification that the “*fundamental period of the MOT structure*”, stated in the “ S_A ” definition, is elastic fundamental period, not effective fundamental period.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The proposed language is amended with the addition of “*elastic*” to the definition of “ S_A ”, to clarify that the fundamental period is the elastic fundamental period and not the effective fundamental period.

Furthermore, based on this public comment, Commission staff became aware of potential ambiguity in the definition of the symbol “ T ” in proposed Section 3104F.6 “*Symbols*” (Express Term #4.36). Therefore, the proposed Section 3104F.6 “*Symbols*” (Express Term #4.36) is also amended with the addition of “*the elastic*” to the definition of “ T ”, to clarify that the fundamental period is the elastic fundamental period and not the effective fundamental period, “ T_e ”.

These amendments to proposed Section 3105F.4.1.1 “*Simplified Procedure*” (Express Term #4.28) and Section 3104F.6 “*Symbols*” (Express Term #4.36) are sufficiently related and non-substantive.

- (c) The commenter (Comment 12-28) requests that the “ $1.2S_{XS}$ ” value in proposed *Equation (4-23)* be replaced with “ $\max(1.2S_{XS}, S_{A,max})$ ”.

CSLC RESPONSE: Commission staff appreciates this comment. However, the commenter appears to have misinterpreted reasoning behind the $1.2S_{XS}$ in *Equation (4-23)*. The $1.2S_{XS}$ is derived from peak ground acceleration, PGA_x , which is equal to $0.4S_{XS}$ (ref. existing *Equation (3-3)*) at the bottom of the MOT amplified by a factor of 3 due to flexibility of the MOT, to obtain acceleration at the point of attachment of the nonstructural component, nonstructural system or building structure supported on the MOT. Therefore, no changes are necessary or made, and this comment is rejected.

- (d) The commenter (Comment 12-29) states proposed *Equation (4-26)* is consistent with ASCE 7-16, but not with LRFD load combinations in existing *Table 31F-3-10*, which uses 1.2+k and 0.9-k for variation in dead load due to vertical acceleration, and requests consistent vertical acceleration factors.

CSLC RESPONSE: Commission staff appreciates this comment. However, in existing Chapter 31F *Table 31F-3-10*, earthquake load combinations for dead load (W_p) are prescribed where $k=0.5(PGA)$ and $PGA=0.4S_{XS}$, such that $k=0.5(0.4S_{XS})=0.2S_{XS}$. Therefore, the vertical acceleration factors prescribed in existing *Table 31F-3-10* and proposed *Equation (4-26)* are consistent (i.e., $0.2S_{XS}$). Furthermore, existing Section 3103F.8 states: “*As a minimum, each component of the structure shall be analyzed for all applicable load combinations given in Table 31F-3-10 or Table 31F-3-11, depending on component type...*”. Therefore, no changes are made, and this comment is rejected.

EXPRESS TERM #4.29 – COMMENT 12-30.

The commenter (Comment 12-30) addresses proposed *Table 31F-4-3 “AMPLIFICATION FACTORS FOR NONSTRUCTURAL COMPONENTS AND NONBUILDING STRUCTURES”*, and requests clarification on the definition of rigidly attached components and flexibly attached components.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed amplification factors and approach are consistent with ASCE/SEI 7-16, and the engineer-of-record is responsible for determining the most appropriate application on a case-by-case basis with due consideration for the specific component or structure being assessed. Additionally, the proposed *Figure 31F-4-9* (Express Term #4.30) provides an alternative method for the engineer-of-record to determine amplification factors if desired. Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERM #4.30 – COMMENT 12-31.

The commenter (Comment 12-31) addresses proposed Figure 31F-4-9 “AMPLIFICATION FACTOR, a_p [4.10]”, and recommends that more research be completed to derive the component amplification factors for nonstructural components on pile-supported MOTs for Level 1 and Level 2 earthquakes, stating that the proposed amplification factors may be less conservative for MOTs.

CSLC RESPONSE: Commission staff appreciates this comment. However, proposed Figure 31F-4-9 is added to provide an alternative method to proposed Table 31F-4-3 (Express Term #4.29) for determining amplification factors for nonstructural components and nonbuilding structures, and is based on Goel [4.10], which is research specific to “*Estimating Seismic Forces in Ancillary Components and Nonbuilding Structures Supported on Piers, Wharves, and Marine Oil Terminals*”. Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERM #4.31 – COMMENTS 8-20 and 12-32.

The commenters (Comments 8-20 and 12-32) address proposed Table 31F-4-4 “IMPORTANCE FACTORS FOR NONSTRUCTURAL COMPONENTS AND NONBUILDING STRUCTURES”, and object to the combination of the Importance Factor, $I_p = 1.5$, in the proposed language with the “operational” seismic performance criteria in proposed Section 3104F.5.1 (Express Term #4.20) for critical systems. One commenter (Comment 12-32) further objects to combination with the Response Modification Factor, $R_p = 1.0$, in proposed Table 31F-4-5 (Express Term #4.32), stating that the resulting criteria appears to be overly conservative and may lead to significantly increased costs.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. The proposed language is amended with the addition of the footnote “2. A lower value may be utilized, subject to Division approval.” for “Critical”. This footnote allows engineer-of-record discretion to modify the Importance Factor for critical systems on a case-by-case basis, if justified and subject to Division approval. This is a performance-based approach. Additionally, existing Section 3101F.9 permits justified alternatives requests, subject to Division approval. Note that the commenter’s concern on over conservatism of the Response Modification Factor for critical systems is addressed in proposed Table 31F-4-5 (Express Term #4.32). This amendment is sufficiently related.

EXPRESS TERM #4.32 – COMMENTS 8-21, 8-22, 10-2, 12-33 and 12-34.

These comments address proposed Table 31F-4-5 “RESPONSE MODIFICATION FACTORS FOR NONSTRUCTURAL COMPONENTS AND NONBUILDING STRUCTURES” and remark on the following:

- (a) The commenters (Comments 8-21, 10-2 and 12-33) object to the Response Modification Factor, $R_p=1.0$, proposed for critical systems. Some commenters (Comments 10-2 and 12-33) elaborate that $R_p=1.0$ is not consistent with ASCE 7, where R_p values are used to represent the energy absorption capacity or ductility of a component and its attachments, and is not related to whether it is critical. This is viewed as overly conservative, particularly in combination with the Importance Factor, $I_p = 1.5$, for critical systems in proposed Table 31F-4-4 (Express Term #4.31) and the definition of “critical systems” in proposed Section 3104F.5.1 (Express Term #4.20).

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. The proposed language regarding critical systems is amended with withdrawal of $R_p=1.0$ and footnote 1. Note that the commenters’ concerns regarding over conservatism of the Importance Factor for critical systems are addressed in proposed Table 31F-4-4 (Express Term #4.31). These amendments are sufficiently related.

- (b) The commenter (Comment 8-22) requests that the entire table be re-evaluated and questions multiple Response Modification Factors, stating that engineering discretion may be required for specific cases and at a minimum, should be explicitly allowed.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The proposed language is amended with addition of a new footnote “1. A higher value may be utilized, subject to Division approval.”, to allow engineer-of-record discretion to modify Response Modification Factors on a case-by-case basis, if justified and subject to Division approval. This is a performance-based approach. Additionally, existing Section 3101F.9 permits justified alternatives requests, subject to Division approval. Therefore, this amendment is sufficiently related and non-substantive.

- (c) The commenter (Comment 12-34) requests that reference be provided for proposed Table 31F-4-5.

CSLC RESPONSE: Commission staff appreciates this comment. However, the R_p values presented in proposed Table 31F-4-5 are developed for nonstructural components and nonbuilding structures that are commonly found on MOTs. Some, but not all, are listed in ASCE/SEI 7-16. Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERM #5.2 – COMMENT 8-23.

The commenter (Comment 8-23) addresses proposed Section 3105F.1.4 “New MOTs”, and questions if quick release hooks are designed per MBL, then what is being sized according to the “Design Wind” in proposed Section 3103F.5.2.1.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language updates an existing cross-reference only. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #5.4 – COMMENTS 8-24, 8-25, 11-7, 11-8, 12-35 and 12-36.

These comments address proposed Section 3105F.2 “Mooring analyses” and remark on the following:

- (a) The commenter (Comment 11-7) addresses the 1st sentence in proposed Section 3105F.2 and states that a mooring analysis is performed to justify safe mooring of a vessel, not the safe berthing.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. Since no changes are proposed to the “safe berthing” terminology, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code. However, “mooring” and “berthing” are often used synonymously in the maritime industry. Thus, Commission staff accepts replacement of the terminology “berthing” with “mooring” in the 1st sentence of this section, to more accurately articulate the purpose of mooring analyses. This amendment is sufficiently related and non-substantive.

- (b) The commenters (Comments 8-24 and 12-35) address the 1st paragraph, 3rd sentence of proposed Section 3105F.2 and generally remark that vessel size definition should be clarified. One commenter (Comment 8-24) suggests that “...by Dead Weight Tonnage” be added to the end of the sentence.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. The proposed language is amended with addition of “...by DWT capacity (see Section 3101F.6)” to better define “...the upper bound of each vessel size range...”, consistent with existing Section 3101F.6.

Additionally, based on these public comments, Commission staff became aware of potential ambiguity in the use of the terminology “DWT” when defining vessel sizes in proposed Figure 31F-2-1 (Express Term #2.8). Therefore, the terminology “Capacity” is added after “DWT” in the “Vessel Description” section of proposed Figure 31F-2-1 for clarity and consistency when expressing vessel size (e.g., see Item No. 3 in existing Section 3101F.6).

Furthermore, based on these public comments, Commission staff became aware of potential ambiguity in the definition of the terminology “DWT” in proposed Section 3105F.9 “Symbols” (Express Term #5.18). Therefore, the proposed Section 3105F.9 “Symbols” (Express Term #5.18) is also amended with the addition of the definition of “DWT” for clarity.

These amendments to proposed Section 3105F.2 “*Mooring analyses*” (Express Term #5.4), proposed *Figure 31F-2-1* (Express Term #2.8), and proposed Section 3105F.9 “*Symbols*” (Express Term #5.18) are sufficiently related, non-substantive, and without regulatory effect.

- (c) The commenter (Comment 12-36) addresses the 3rd sentence of the 1st paragraph of proposed Section 3105F.2, recommending that the Commission develop generic classes of vessels which may be utilized by the facilities to aid in vessel selection where large fleets of vessels may call.

CSLC RESPONSE: Commission staff appreciates this comment. However, representative vessel size ranges and mooring configurations must be determined on MOT-specific and berth-specific bases for which generic vessel classes would be inappropriate. Therefore, this comment is rejected.

- (d) The commenter (Comment 11-8) addresses the 6th paragraph of proposed Section 3105F.2, stating that combination of 25-year storm, extreme current, and extreme tide might not be appropriate due to the very low joint probability of these occurrences.

CSLC RESPONSE: Commission staff appreciates this comment. The proposed language is meant to provide clarity, but not change the intent of existing regulations. Therefore, this comment is rejected.

- (e) The commenter (Comment 8-25) addresses Item No. 4 in the 9th paragraph regarding “*4. Maximum allowable capacities for mooring lines.*”, and remarks that these values have to be determined prior to the mooring analysis, not “*Upon completion of the mooring analyses*”, since the mooring lines’ allowable capacities are what dictate the envelope for the various operational conditions.

CSLC RESPONSE: Commission staff appreciates this comment. However, minimum MBLs should be utilized in the mooring analyses, and maximum allowable capacities of mooring lines or maximum MBLs should be considered after the mooring analyses, such as when evaluating the mooring hardware. Therefore, no changes are necessary or made, and this comment is rejected.

EXPRESS TERM #5.5 – COMMENTS 12-37 and 12-38.

The commenter (Comments 12-37 and 12-38) addresses proposed Section 3105F.3.2 “*Passing vessels*”, remarking that Figure 5-17 in UFC 4-150 doesn’t seem relevant to the passing vessel problem and we should refer to Section 3103F.5.4, and recommending update of *Equation (5-1)* based on new research.

CSLC RESPONSE: Commission staff appreciates these comments. However, these comments are not specifically directed at proposed amendments for Chapter 31F of the code, since the proposed language renumbers existing UFC 4-150-06 reference and makes editorial changes for consistency and brevity. Therefore, no response is required per Government Code § 11346.9, and these comments are rejected.

EXPRESS TERM #5.11 – COMMENTS 8-26 and 8-27.

These comments address proposed Section 3105F.7 “*Safety factors for mooring lines*” and remark:

- (a) The commenter (Comment 8-26) addresses the last sentence in proposed Section 3105F.7, suggesting alternative language and stating there is no sense in applying a higher factor of safety based on a tail that may be rated 1.25, 1.5 or more, times the strength of the mooring line itself.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.9 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

- (b) The commenter (Comment 8-27) questions if we should base the effective “mooring line” capacity on the weaker (factored) link.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.9 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #5.12 – COMMENT 8-28.

The commenter (Comment 8-28) addresses proposed Table 31F-5-3 "SAFETY FACTORS FOR ROPES [5.4]", and remarks that the preceding paragraph (proposed Section 3105F.7 – Express Term #5.11) refers to "nylon" and that this table refers to "polyamide", questioning if "nylon" and "polyamide" should be identified as meaning the same thing, or "polyamide" used in the previous paragraph (proposed Section 3105F.7 – Express Term #5.11) or "nylon" in proposed Table 31F-5-3.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The proposed language is amended with the update of the terminology "nylon" to "polyamide", as well as "steel wire ropes" to "wire mooring lines" in proposed Section 3105F.7 (Express Term #5.11), for consistently with proposed Table 31F-5-3 "SAFETY FACTORS FOR ROPES [5.4]". This amendment to proposed Section 3105F.7 "Safety factors for mooring lines" (Express Term #5.11) is sufficiently related and non-substantive.

EXPRESS TERM #5.14 – COMMENTS 8-29, 8-30, 12-39, 12-40 and 12-41.

These comments address proposed Section 3105F.8.1 "Quick release hooks" and remark as follows:

- (a) The commenter (Comment 8-29) addresses the "strongest line" terminology in the 2nd paragraph and states that the "strongest line" is not clearly defined and has no bearing on the loads that are expected to be imparted as part of the design of the MOT.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.1 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9. This comment is rejected.

- (b) The commenter (Comment 8-30) generally addresses design based on design wind speeds vs. MBL vs. SWL and suggest that proposed *Equation (5-4)* be updated to $F_d = SWL \times n$.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.1 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9. This comment is rejected.

- (c) The commenter (Comments 12-40 and 12-41) addresses proposed *Equation (5-4)*, stating that MBL should be replaced by SWL per PIANC WG 153, and requesting clarification be provided if "n" shall be defined as "maximum number of working hooks on the assembly" for the redundant hook.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.1 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F only. Therefore, no response is required per Government Code § 11346.9, and these comments are rejected.

- (d) The commenter (Comment 12-42) addresses the last paragraph of proposed Section 3105F.8.1 and states that F_d is not included in the load combination Tables 31F-3-10 or 31F-3-11 and it is unclear if the load F_d must be combined with any other load conditions.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.1 with minor modification only, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9. This comment is rejected.

EXPRESS TERM #5.17 – COMMENTS 8-31 and 8-32.

These comments address proposed Section 3105F.8.3 "*Base bolts*" and remark on the following:

- (a) The commenter (Comment 8-31) states that the proposed language should include reference to the force F_d , and questions what loads F_d should be based on.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.3 without modifications, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

- (b) The commenter (Comment 8-32) suggests that the last paragraph should be moved to the end of the previous section, below Table 31F-5-4.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the proposed language is relocated from existing Section 3103F.10.3 without modifications, for consolidation of mooring and berthing provisions in Section 3105F. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #5.18 – COMMENT 8-33.

The commenter (Comment 8-33) addresses proposed Section 3105F.9 "*Symbols*" and requests the addition of a definition for "*DLL*" and modification of the definition of "*F_d*", based on SWL.

CSLC RESPONSE: Commission staff appreciates this comment. While not directly specified by the commenters, it appears that this request is related to the commenter's previous suggested language (ref. Comment 8-30) for proposed Section 3105F.8.1 "*Quick release hooks*" (Express Term #5.14). Similarly, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #6.1 – COMMENTS 4-2, 7-1, 8-34 and 12-42.

These comments address proposed Section 3106F.10.2 "*Kinematic loading from lateral spreading*" and remark on the following:

- (a) The commenter (Comment 4-2) initially states that the proposed revision to Section 3106F.10.2 looks fine, and later provides a supplemental comment (Comment 7-1) that suggests the addition of language to further clarify the proposed amendment.

CSLC RESPONSE: Commission staff appreciates and accepts these comments. The terminology "*used in the analysis (failure zone)*" is added to the proposed Item No. 2 language for clarity. This amendment is sufficiently related and non-substantive.

- (b) The commenter (Comment 8-34) states that it is confusing that the "*weak soil layer*" "*shall not be*" the thickness that the geotechnical borings actually show it to be and suggests clarifying language.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. The proposed language is amended based on another commenter's suggestion (Comment 7-1), to clarify the sentence in lieu of this commenter's proposed language. No additional changes are necessary or made.

- (c) The commenter (Comment 12-42) states that that the proposed statement is unclear and that the actual depth of weak soil layers may exceed 10 feet in many locations.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. The proposed language is amended based on another commenter's suggestion (Comment 7-1), to clarify this sentence. No additional changes are necessary or made.

EXPRESS TERM #8.2 – COMMENT 12-43.

The commenter (Comment 12-43) addresses proposed Table 31F-8-3 "*MINIMUM FIRE SUPPRESSION PROVISIONS PER BERTH (N/E)*", and states that this table for fire water requirements is not acceptable anymore, per PIANC WG 153, Table 14-1, from ISGOTT, 5th ed, 2006.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since no changes to fire water requirements are proposed in Express Term #8.2. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

Furthermore, during the 45-day Comment Period, the Commission staff decided to withdraw proposed changes to the table title, with the removal of the "*PER BERTH*" language. This change is without regulatory effect. Therefore, the table title reverts to existing Chapter 31F language, and this amendment is sufficiently related and non-substantive.

EXPRESS TERM #8.4 – COMMENTS 9-1 and 10-3.

The commenters (Comments 9-1 and 10-3) address proposed Section 3108F.7 "*Fire-Critical systems seismic assessment (N/E)*", and object to seismic assessment of all fire systems, suggesting that seismic assessment should only be applicable to systems identified as critical.

CSLC RESPONSE: Commission staff appreciates this comment. However, the existing Chapter 31F provisions identify fire systems as critical systems, as evidenced by existing Section 3104F.6 (i.e., "*A seismic assessment of the survivability and continued operation during a Level 2 earthquake (see Table 31F-4-1) shall be performed for critical systems such as fire protection, emergency shutdown and electrical power systems...*") and existing Section 3108F.7 language. Thus, the proposed language is consistent with the existing Chapter 31F language, with appropriate update of cross-references to consolidated provisions. Therefore, no changes are necessary, and these comments are rejected.

EXPRESS TERM #9.2 – COMMENT 8-35 and 12-44.

These comments address proposed Section 3109F.3 "*Pipeline stress analysis (N/E)*" and remark:

- (a) The commenter (Comment 8-35) suggests updating the term "*sections*" in the 3rd paragraph for consistency with the terms used in the referenced Section 3104F.1.3.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The terminology "*sections*" is updated to "*structures*" in the 3rd paragraph for clarity and consistency. This amendment is sufficiently related and non-substantive.

- (b) The commenter (Comment 12-44) states that if the 5th paragraph statement "*Section 3106F.12 provides additional considerations for underwater seafloor pipelines.*" is being added, Section 3106F.12 should include the effects of scour, free spanning, buoyancy and vortex shedding.

CSLC RESPONSE: Commission staff appreciates this comment. However, this comment is not specifically directed at the proposed amendments for Chapter 31F of the code, since the 5th paragraph is added to provide cross-reference to existing Section 3106F.12 only and no Express Term is proposed for Section 3106F.12. Therefore, no response is required per Government Code § 11346.9, and this comment is rejected.

EXPRESS TERM #9.4 – COMMENT 9-5.

The commenter (Comment 9-5) addresses proposed Section 3109F.5.1 “*Valves and fittings.*”, and remarks that in Item No. 2, the API Standard 2610 [9.1] section reference to Section 8 (“Tanks”) is erroneous and should be Section 10 (“Pipe, Valves, Pumps & Piping Systems”). The commenter further explains that the 2010 edition of Chapter 31F correctly pointed to Section 8 of API 2610 (1st Edition); however, when the API 2610 reference was updated to the 2nd Edition, the update did not take into account the fact that contents in Section 8 were moved to Section 10 in the newer edition of API 2610.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The API 2610 reference in Item No. 2 is corrected to Section 10. This amendment is sufficiently related and non-substantive.

EXPRESS TERM #9.6 – COMMENT 9-6.

The commenter (Comment 9-6) addresses proposed Section 3109F.7 “*Fire piping and pipeline systems.*”, and remarks that the cross-reference to Section 3102F.3.5.5 is erroneous since no such section exists and it is intended to reference Section 3102F.3.5.3.

CSLC RESPONSE: Commission staff appreciates and accepts this comment. The reference in Item No. 7 is corrected to Section 3102F.3.5.3. This amendment is sufficiently related and non-substantive.

EXPRESS TERM #10.7 – COMMENTS 9-2 and 10-4.

The commenters (Comments 9-2 and 10-4) address proposed Section 3110F.12 “*Mechanical and electrical equipment-Critical systems seismic assessment (N/E)*”, objecting to seismic assessment of all mechanical and electrical equipment and suggesting that seismic assessment should only be applicable to systems identified as critical.

CSLC RESPONSE: Commission staff appreciates this comment. However, the existing Chapter 31F provisions require seismic assessment of all mechanical and electrical equipment, as evidenced by existing Section 3110F.8 (Express Term #10.4) and existing Section 3110F.11 language (Express Term #10.7). The proposed code amendments include consolidation of provisions from existing Sections 3110F.8 and 3110F.11 into proposed Section 3110F.12 (Express Term #10.7), and deletion of existing Section 3110F.8 (Express Term #10.4), since it would be duplicative. Thus, the proposed language is consistent with existing Chapter 31F language, with appropriate update of cross-references to consolidated provisions. Therefore, no changes are necessary, and these comments are rejected.

EXPRESS TERM #11.5 – COMMENTS 8-36, 8-37, 9-3, 10-5, 10-6, 10-7, 10-8 and 12-45.

These comments specifically address proposed Section 3111F.8.1 “*Illumination Locations*”, and remark:

- (a) The commenters (Comments 8-36, 9-3 and 10-6) object to Item Nos. 2 and 4 regarding illumination of areas on barges. Generally, the commenters remark that illumination on barges is beyond the scope or jurisdiction of Chapter 31F or the control of the MOT, with one commenter (Comment 8-36) arguing that Item Nos. 2 and 4 appear to contradict proposed Section 3101F.2 (Express Term #1.1) that in part states “*This code does not specifically address...systems onboard vessels...*”. The commenters (Comments 9-3 and 10-6) also provide multiple arguments for why checking illumination on barges themselves is impractical, such as effectiveness of the terminal lighting over barges would have to be checked against every barge that calls on the MOT and potential logistical problems coordinating illumination measurements during Chapter 31F (MOTEMS) audits when a barge is present, as well as

disabling barge lights for such illumination surveys. One commenter (Comment 9-3) suggests removing barges from the scope of the MOTEMS audit and illumination requirements.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. While not directly specified by the commenters, it appears that many of these comments are also related to proposed Section 3111F.8.2 "Illumination Levels" (Express Term #11.6).

The proposed Section 3111F.8.1 "Illumination Locations" requirements are within the scope and jurisdiction of Chapter 31F and the control of the MOT operator, since the MOT is required to provide the fixed lighting, not the barge. Additionally, the manifold end of MOT loading arms and hoses are typically part of the MOT itself and co-located at the barge transfer connection points and within barge operations work areas during oil transfer operations, when the barge is moored at the MOT. To better articulate the relationship between the MOT and barge, the terminology "*have*" is replaced with "*provide*" in the 1st sentence of the section, as well as minor update of the proposed language, such as use of the terminology "...on any barge moored at the MOT..." in Item Nos. 2 and 4.

Furthermore, to address the commenters' (Comments 9-3 and 10-6) concerns regarding checking illumination on barges, the proposed requirements for lighting surveys must be understood. The proposed Section 3111F.8.1 "Illumination Locations" (Express Term #11.5) and Section 3111F.8.2 "Illumination Levels" (Express Term #11.6) language is to ensure that fixed lighting is evaluated, designed and installed in appropriate locations and with adequate capacity to achieve the lighting levels necessary for safe operations, to prevent oil spills and protect public health, safety and the environment. Therefore, once a MOT's fixed lighting system is verified to be built to Chapter 31F (MOTEMS) compliance, routine lighting surveys are not required. During MOTEMS audits, the built attributes and condition of the lighting system shall be qualitatively inspected by engineer(s) (ref. existing Section 3102F.3.5.3); however, a quantitative lighting survey may not be necessary. If the MOT's illumination appears inadequate to the Division at any time (e.g., as witnessed during an actual barge transfer operation), the Division may require verification of illumination levels by the MOT operator or other persons. Therefore, to provide clarity and improve consistency with the Commission's existing Article 5 (2 CCR 2365) operations requirements, the following sentence is added to the 2nd paragraph of the proposed language in Section 3111F.8.2 "Illumination Levels" (Express Term #11.6): "*Where the illumination appears to the Division to be inadequate, the Division may require verification by instrument of the levels of illumination.*" Since this proposed language already occurs in the Commission's existing MOT regulations (ref. 2 CCR 2365(b)), this amendment is sufficiently related and non-substantive. To further emphasize this point, the terminology "*if required*" is also added to the end of the proposed 2nd sentence in the 2nd paragraph of Section 3111F.8.2 "Illumination Levels" (Express Term #11.6).

Finally, the commenter's (Comment 9-3) suggestion to remove barges from the scope of the MOTEMS audit and illumination requirements is rejected, based on the rationale discussed above.

These amendments are sufficiently related and/or non-substantive.

- (b) The commenters (Comments 10-5 and 12-45) compare Item Nos. 1 vs. 2 and Item Nos. 3 vs. 4. One commenter (Comment 10-5) asserts that Item Nos. 2 and 4 are subsets of Item Nos. 1 and 3 (respectively), stating that Item Nos. 2 and 4 should be eliminated. The other commenter (Comment 12-35) requests clarification regarding how these Item Nos. vary.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. The manifold end of MOT loading arms and hoses are typically part of the MOT itself and co-located at the barge transfer connection points and within barge operations work areas during oil transfer operations, when the barge is moored at the MOT. To better articulate the relationship between the MOT and barge, and differences between Item Nos. 1 vs. 2 and Item Nos. 3 vs. 4, the proposed language is amended with minor updates, such as use of the terminology "...on any barge moored at the MOT..." in Item Nos. 2 and 4. However, the commenter's (Comment 10-5) suggestion to eliminate Item Nos. 2 and 4 is rejected. These amendments are sufficiently related and non-substantive.

- (c) The commenters (Comment 8-37 and 10-7) object to Item No. 5 regarding illumination of areas defined in ISGOTT [11.7] and provide multiple arguments, such as checking lighting of water around docks doesn't seem appropriate or practical or useful, and additional lighting is considered detrimental to the neighbors and is generally avoided where possible at some port locations. One commenter (Comment 8-37) questions where Audit leads and designers are to draw the line on the lighting requirements of ISGOTT "as applicable", and requests clarification on if the terminology "ship to shore cargo connection" in ISGOTT Section 24.6.4 is referring to the vessel or shore.

CSLC RESPONSE: Commission staff appreciates and partially accepts these comments. In general, the proposed language in Item No. 5 is intended to be performance-based, allowing the engineer-of-record to determine the adequacy of lighting in accordance with ISGOTT on a MOT-specific basis. For example, ISGOTT Section 17.4 provides a bulletized list of areas where "Particular consideration should be given" with regards to lighting levels. While the Commission staff does not agree with or accept some of the commenters' rationale, the proposed terminology "applicable" is replaced with "appropriate", to better articulate the engineer-of-record's discretion in this performance-based objective. This amendment is sufficiently related and non-substantive.

- (d) The commenter (Comment 10-8) suggests that the existing requirements are adequate, and the proposed language is overkill and not necessary.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. While not directly specified by the commenter, it appears that Comment 10-8 also relates to the proposed Section 3111F.8.2 "Illumination Levels" (Express Term #11.6), based on the commenter's use of the terminology "existing requirements". The proposed language is generally consistent with, but not identical to, the existing requirements and industry practices, utilizing the Article 5 (2 CCR 2365), 33 CFR 154.570 and ISGOTT [11.7] standards to evaluate and design fixed lighting at MOTs. However, these requirements are proposed to ensure that fixed lighting is evaluated, designed and installed in appropriate locations to achieve safe operations, to prevent oil spills and protect public health, safety and the environment. To improve consistency with the Commission's existing Article 5 (2 CCR 2365) requirements, the following sentence is added to the 2nd paragraph of the proposed language in Section 3111F.8.2 "Illumination Levels" (Express Term #11.6): "Where the illumination appears to the Division to be inadequate, the Division may require verification by instrument of the levels of illumination." Since this proposed language already exists in the Commission's existing MOT regulations (ref. 2 CCR 2365(b)), this amendment is sufficiently related.

EXPRESS TERM #11.6 – COMMENTS 9-4, 10-9 and 10-10.

These comments address proposed Section 3111F.8.2 "Illumination Levels" and remark on the following:

- (a) The commenter (Comment 9-4) recommends modifying the proposed language to exclude illumination levels of the water surrounding the terminal (per ISGOTT Section 17.4 in Express Term #11.5), stating that it is not clear how the auditors are to accomplish this.

CSLC RESPONSE: Commission staff appreciates this comment. In general, the proposed language in Item No. 5 of Section 3111F.8.1 "Illumination Locations" (Express Term #11.5) is intended to be performance-based, allowing the engineer-of-record to determine the adequacy of lighting in accordance with ISGOTT on a MOT-specific basis. For example, ISGOTT Section 17.4 provides a bulletized list of areas where "Particular consideration should be given" with regards to lighting levels. To better articulate the engineer-of-record's discretion in this performance-based objective, the proposed terminology "applicable" is replaced with "appropriate", based other commenters (Comment 8-37 and 10-7). Therefore, this commenter's recommendation to exclude illumination levels of the water surrounding the terminal is rejected.

- (b) The commenter (Comment 10-9) suggests removing the added language referring to ambient lighting, stating that the proposed requirement to subtract ambient lighting makes no sense, is unjustified, ignores reality, and is not consistent or equivalently prescriptive to 33 CFR 154.570.

CSLC RESPONSE: Commission staff appreciates and partially accepts this comment. While the Commission staff does not agree with or accept much of the commenter's rationale, the proposed language regarding ambient lighting levels is withdrawn, including the following language: "*After subtraction of the ambient lighting level*" and "*Background measurement of ambient lighting (e.g., moonlight, sky glow) shall be recorded in an area shielded from site lighting.*". The remaining proposed language is generally consistent with, but not identical to, the existing requirements and industry practice, utilizing the Article 5 (2 CCR 2365), 33 CFR 154.570 and ISGOTT [11.7] standards to evaluate and design fixed lighting at MOTs. Therefore, these amendments are sufficiently related.

- (c) The commenter (Comment 10-10) suggests that the proposed language be consistent with the entire section of 33 CFR 154.570 and include a version of 33 CFR 154.570(c), which would allow the Division to authorize operations with an adequate level of illumination provided by the vessel or by portable means.

CSLC RESPONSE: Commission staff appreciates this comment. While not directly specified by the commenter, it appears that Comment 10-10 also relates to the proposed Section 3111F.8.1 "*Illumination Locations*" (Express Term #11.5), based on the commenter's reference to the entire 33 CFR 154.570. The proposed language is intended to ensure that light fixtures (or luminaires) are installed with adequate capacity to achieve the lighting levels necessary for safe operations, to prevent oil spills and protect public health, safety and the environment. The proposed language is generally consistent with, but not identical to, the existing requirements and industry practices, utilizing the Article 5 (2 CCR 2365), 33 CFR 154.570 and ISGOTT [11.7] standards to evaluate and design fixed lighting at MOTs. Furthermore, codifying the entire 33 CFR 154.570 lighting standard in Chapter 31F would violate the building standards law (ref. Health and Safety Code § 18902 *et seq.*). For example, "*illumination provided by the vessel or by portable means*" (ref. 33 CFR 154.570(c)) permits operational means of providing lighting, not built fixtures. Additionally, the Commission's existing Article 5 regulations address "*illumination provided by the vessel or by portable means*" (ref. 2 CCR 2365(c)). Therefore, no changes are made, and this comment is rejected.

- (d) During the 45-day Comment Period, Commission staff discovered duplicative use of the terminology "*at the locations defined in Section 3111F.8.1*" in the proposed language. Therefore, the terminology "*at the locations defined in Section 3111F.8.1*" is removed in the 1st sentence of the amended language proposed during the 15-Day Comment Period. This amendment is sufficiently related.
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15-DAY PUBLIC COMMENT PERIOD:

A 15-Day Public Comment Period was held from August 17, 2018 through September 4, 2018 to present proposed revisions resulting from the initial 45-Day Public Comment Period, with 15 comments received. All comments received were numbered as shown in the table below.

15-DAY PUBLIC REVIEW COMMENTS				
COMMENTS NUMBER*	TOTAL NUMBER OF COMMENTS*	COMMENTS NAME	COMMENTS AFFILIATION	DATE RECEIVED
14	2	Roy Mathur	Shell Oil Products US	08/16/2018 @ 5:16 PM
15	1	Mukesh Gandhi	Valero Wilmington Refinery	08/20/2018 @ 2:01 PM
16	1	Mukesh Gandhi	Valero Wilmington Refinery	08/20/2018 @ 2:11 PM
17	1	Mukesh Gandhi	Valero Wilmington Refinery	08/20/2018 @ 2:12 PM
18	1	Mukesh Gandhi	Valero Wilmington Refinery	08/20/2018 @ 3:47 PM
19	1	Marc Percher, P.E.	Moffatt & Nichol	08/20/2018 @ 2:21 PM 08/20/2018 @ 3:33 PM 08/21/2018 @ 11:39 AM
20	1	Marcie Miller	[Not Provided]	08/22/2018 @ 3:50 PM
21	3	Gayle S. Johnson, P.E.	Simpson, Gumpertz & Heger	08/28/2018 @ 10:27 AM
22	3	James Kearney, P.E. Bernardo Waisman, P.E. Wen Ho Lin, Ph.D., P.E. Andres Espinoza, Ph.D., P.E.	COWI North America, Inc.	08/29/2018 @ 3:16 PM
23	1	Luis H. Palacios, P.E.	Simpson, Gumpertz & Heger	08/30/2018 @ 4:34 PM

* Note: Comment Numbers are assigned in the format “X-Y”, where:
X = Commenter Number (with new numbers assigned for 15-Day period), and
Y = Comment Number (each Commenter’s Comments are numbered sequentially starting at 1)

GENERAL – COMMENTS NOT SPECIFICALLY DIRECTED AT PROPOSED ACTION OR PROCEDURES FOLLOWED – COMMENTS 14-2 and 20-1.

These comments are not specifically directed at the Commission’s proposed rulemaking action or to the procedures follows by the Commission in proposing or adopting this rulemaking action, including:

- (a) Comment 14-2:
Remarks that some changes have been made with regards to critical systems.
- (b) Comment 20-1:
Directs remarks to the State Lands Commissioners regarding the Rancho LPG bulk storage facility in the Port of Los Angeles.

CSLC RESPONSE: Commission staff appreciates these comments. However, these comments are not specifically directed at the proposed amendments to or procedures followed for Chapters 31F and 35 of the code, and therefore, no response is required per Government Code § 11346.9. These comments are rejected.

GENERAL – RECALLED COMMENTS – COMMENTS 15-1, 16-1, 17-1 and 18-1.

The commenter (Comments 15-1, 16-1, 17-1 and 18-1) provides and then recalls comments multiple times. Comments 15-1 and 17-1 appear to be identical and address Express Terms #11.5, 11.6 and 11.7 for proposed Sections 3111F.8.1 "Illumination Locations", 3111F.8.2 "Illumination Levels" and 3111F.8.3 "Emergency Power for Illumination", respectively. While not directly specified by the commenter, it appears that Comments 15-1 and 17-1 are related to the 45-Day Express Terms, based on the commenter's reference to "ambient lighting" and "emergency power system" which do not appear in the 15-Day Express Terms. Nevertheless, Comments 16-1 and 18-1 also appear to be identical and recall Comments 15-1 and 17-1, respectively.

CSLC RESPONSE: Commission staff appreciates these comments. However, since the commenter appears to comment on the 45-Day Express Terms (ref. Comments 15-1 and 17-1) and then recalls their own comments (ref. Comments 16-1 and 18-1, respectively), no response appears required, no changes are made, and these comments are rejected.

GENERAL – COMMENTS SPECIFICALLY DIRECTED AT PROCEDURES FOLLOWED, BUT NOT SPECIFICALLY DIRECTED AT PROPOSED ACTION – COMMENTS 19-1, 21-3 and 22-1.

These commenters generally object to not receiving responses to their comments about various Express Terms during the 45-Day Comment Period, and remark on the following:

- (a) The commenter (Comment 19-1) requests that the Commission provide documented responses to comments received during the 45-Day Public Comment Period, asserting that there were many 45-Day comments from the commenter's affiliated group, Moffatt & Nichol, that were not addressed in the 15-Day Express Terms. The commenter also questions if it should be assumed that such comments have been rejected.
- (b) The commenter (Comment 21-3) remarks that his comments during the 45-Day Public Comment Period regarding Express Terms #2.1, #8.4 and #10.7 were ignored and repeats their 45-Day comments. The commenter further requests that if necessary, consider this as an "appeal" to rejection of these comments.
- (c) The commenter (Comment 22-1) remarks that they are repeating some comments made in the 45-Day Public Comment Period to which the Commission has not responded. The commenter proceeds to repeat their 45-Day comments regarding Express Terms #3.15, #5.4 and #5.11, as well as provides additional related comments.

CSLC RESPONSE: Commission staff appreciates these comments. However, the Commission has administered this rulemaking process in accordance with the California Rulemaking Law under the Administrative Procedure Act. The 15-Day Public Comment Period was administered in accordance with Government Code section 11346.8(c). This Final Statement of Reasons documents a summary of each objection or recommendation made during the 45-Day and 15-Day Public Comment Periods regarding the specific adoption, amendment, or repeal proposed, together with an explanation of how the proposed action has been changed to accommodate each objection or recommendation, or the reasons for making no change in accordance with Government Code section 11346.9(a)(3). Therefore, no changes are made, and these comments are rejected.

EXPRESS TERM #1.4 – NO COMMENTS.

Express Term #1.4 addresses proposed Section 3101F.10 "Symbols" and was not included in the 15-Day Express Terms. However, during the 15-Day Comment Period, the Commission staff discovered an inconsistency in the definitions of "DWT" in the proposed language, where the 45-Day Express Term #1.4 states "Dead weight tons" and the 15-Day Express Term #5.18 states "Dead weight tonnage". Therefore, the terminology in Express Term #1.4 is updated to "Dead weight tonnage" in the Final Express Terms. This amendment is non-substantive and without legal effect; therefore, recirculation is unnecessary.

EXPRESS TERMS #4.21 & #4.21a – COMMENTS 21-1 and 21-2.

These comments address proposed Section 3104F.5.2 “*Seismic assessment*” and Section 3104F.5.2.1 “*Seismic evaluation, strengthening and design*”, and remarks on the following:

- (a) The commenter (Comment 21-1) objects to the addition of Express Term #4.21a, stating that it conflicts with Express Term #4.21. The commenter states that “seismic evaluation” is the same thing as “seismic assessment”. The commenter also asserts that ASCE 7 is written for new design and is totally inappropriate for existing components and assumes that the intent of the proposed language is to strengthen items to ASCE 7, but objects to the use of ASCE 7 for mandatory evaluation.

CSLC RESPONSE: Commission staff appreciates this comment. However, the proposed sections do not conflict. As proposed, the terminology “*seismic evaluation*” is synonymous with seismic calculations or analyses, and not identical to “*seismic assessment*”. Also, the general guidelines that “...*seismic assessment shall be performed in accordance with CalARP [4.8] or ASCE Guidelines [4.9]...*” are consistent with existing Sections 3104F.6 and 3110F.8 requirements (except that reference to FEMA 356 is removed since it is outdated), consolidating CalARP and ASCE Guidelines references exclusively in this section.

Furthermore, in proposed Section 3104F.5.2.1 (Express Term #4.21a), the ASCE/SEI 7 [4.1] reference is specific to demonstrating the seismic adequacy of the nonstructural component itself (similar to CalARP [4.8] Section 5.0 guidelines), utilizing seismic forces obtained from proposed Section 3104F.5 with ASCE/SEI 7-16 [4.1] guidelines (instead of ASCE/SEI 7-10 per CalARP [4.8]).

Therefore, no changes are made, and this comment is rejected.

- (b) The commenter (Comment 21-2) objects to the applicability of proposed Section 3104F.5.2.1 (Express Term #4.21a) to existing facilities, identifying Section 8.0 “Strengthening Criteria” of CalARP and Chapter 10 “Retrofit Design” of ASCE Guidelines as more appropriate. The commenter also suggests that the code simply refer to CalARP or ASCE Guidelines for both assessment and strengthening of existing facilities and proposes associated language.

CSLC RESPONSE: Commission staff appreciates this comment. CalARP [4.8] and ASCE Guidelines [4.9] provide invaluable philosophies and guidance to be used in the seismic assessment of existing and new petrochemical facilities. However, the primary objective of these documents is to address petrochemical facilities permanently attached to the ground and associated infrastructure (i.e., refining facilities, liquid bulk storage facilities, plants), which have similarities and differences to marine oil terminals. For example, for nonstructural components, nonbuilding structures and building structures attached to a MOT structure, amplification of seismic accelerations related to the mounted location must be properly accounted for, which is not the case for ground-supported structures and components. Another example of differences are marine oil terminal pipelines, which are required to be evaluated utilizing pipeline stress analysis in accordance with existing Section 3109F regulations.

Furthermore, CalARP [4.8] and ASCE Guidelines [4.9] often provide vague guidelines, liberally allowing the engineer-of-record and/or owner/operator to establish their own evaluation and strengthening criteria and assumptions in the absence of regulatory specificity and enforcement.

Therefore, one of the major regulatory objectives during this rulemaking cycle is to expand the seismic provisions for nonstructural components, nonbuilding structures and building structures in Section 3104F, to incorporate up-to-date technical standards and provide greater clarity, specificity and continuity. The proposed Section 3104F.5.2.1 (Express Term #4.21a) language defines MOT-specific criteria for the seismic evaluation, strengthening and design of existing (if required) and new components and structures to satisfy the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (PRC 8750-8760) requirements (to protect public health, safety and the environment).

Therefore, no changes are made, and this comment is rejected.

EXPRESS TERM #4.36 – NO COMMENTS.

Express Term #4.36 addresses proposed Section 3104F.6 “*Symbols*”. During the 15-Day Comment Period, no related comments were received. However, Commission staff discovered inconsistencies in the “ S_{XS} ” definition in the proposed language, where the 45-Day Express Term #4.36 showed the subscript letters transposed and “...*at 0.2 seconds*”, as opposed to the proposed 15-Day Express Terms update to the “ S_{XS} ” definition in Section 3104F.5.4.1.1 “*Simplified Procedure*” (Express Term #4.28). Therefore, in the Final Express Terms, the “ S_{XS} ” definition in Express Term #4.36 is updated to “ S_{XS} = Spectral acceleration in Section 3103F.4.2.4 or Section 3103F.4.2.5” for consistency with proposed Section 3104F.5.4.1.1 (Express Term #4.28), as well as existing Sections 3103F.4.2.4 and 3103F.4.2.5. This amendment is non-substantive and without legal effect; therefore, recirculation is unnecessary.

EXPRESS TERM #11.5 – COMMENTS 22-2, 22-3 and 23-1.

These comments address proposed Section 3111F.8.1 “*Illumination Locations*”, and remark as follows:

- (a) The commenters (Comments 22-2 and 23-1) object to Item Nos. 2 and 4 regarding illumination of areas on barges, stating that these items are not appropriate, and the minor changes do not address problems noted. The commenters remark that illumination on barges is beyond the scope or jurisdiction of Chapter 31F and the Commission, arguing that Item Nos. 2 and 4 appear to contradict proposed Section 3101F.2 (Express Term #1.1) that in part states “*This code does not specifically address...systems onboard vessels...*”. One commenter (Comment 23-1) states that regulations for lighting levels aboard vessels are already provided by 33 CFR 154.570 and enforced by the USCG.

CSLC RESPONSE: Commission staff appreciates these comments. The proposed Section 3111F.8.1 “*Illumination Locations*” requirements are within the scope and jurisdiction of Chapter 31F, since the MOT is required to provide the fixed lighting, not the barge. Additionally, the manifold end of MOT loading arms and hoses are typically part of the MOT itself and co-located at the barge transfer connection points and within barge operations work areas during oil transfer operations, when the barge is moored at the MOT. This relationship between the MOT and barge is articulated by the proposed terminology “...*MOTs shall provide fixed lighting (or luminaires) that illuminates...*”, and “...*on any barge moored at the MOT...*” in Item Nos. 2 and 4.

Furthermore, the Commission’s authority must be understood, to address the scope/jurisdictional concerns and the commenter’s (Comment 23-1) statement regarding lighting levels aboard vessels enforced by the USCG per 33 CFR 154.570. The Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (ref. PRC 8750-8760) grants the Commission authority to regulate marine terminals, herein referred to as marine oil terminals (MOTs), in order to protect public health, safety and the environment. While the USCG has federal regulatory oversight of facilities transferring oil or hazardous material in bulk (i.e., marine oil terminals per 33 CFR 154.570), this federal authority does not preempt the Commission’s state authority. Also, note that the proposed amendments are consistent with, but not identical to, the existing industry standards, including the USCG’s 33 CFR 154.570 and the Commission’s Article 5 (2 CCR 2365) requirements.

Therefore, no changes are necessary or made, and these comments are rejected.

- (b) The commenter (Comment 22-3) objects to Item No. 5 regarding illumination of areas defined in ISGOTT [11.7]. The commenter appears to question if the operator or designer has discretion in determining what is “*appropriate*”, and states that definitive performance-based criteria has not been provided, concluding that it is unclear where Commission regulation would be possible.

CSLC RESPONSE: Commission staff appreciates this comment. In general, the proposed language in Item No. 5 allows the engineer-of-record to determine the adequacy of lighting on a MOT-specific basis in accordance with performance-based objectives in ISGOTT. Therefore, no changes are made, and this comment is rejected.

EXPRESS TERM #11.6 – COMMENT 14-1.

The commenter (Comment 14-1) appears to address proposed Section 3111F.8.2 “*Illumination Levels*” and questions if existing regulations already require lighting at transfer points to be 5 footcandles.

CSLC RESPONSE: Commission staff appreciates this comment. While not specified by the commenter, it appears that Comment 14-1 is relate to proposed Section 3111F.8.2 “*Illumination Levels*” (Express Term #11.6), based on the commenter’s reference to “5 foot-candles” and “at transfer points”. This comment is not specifically directed at the proposed 15-Day Express Term amendments or procedures followed by the Commission, and therefore, no response is required per Government Code § 11346.9.

However, for clarity purposes, it should be understood that the Commission’s existing Article 5 regulations for marine oil terminal operations specify illumination standards of “*5.0 foot candles at transfer connection points*” (ref. 2 CCR 2365(b)(1)). In contrast, the proposed language is intended to ensure that light fixtures (or luminaires) are installed/built with adequate capacity to achieve the lighting levels necessary for safe operations, to prevent oil spills and protect public health, safety and the environment.

Therefore, no changes are made, and this comment is rejected.

DETERMINATION OF ALTERNATIVES CONSIDERED AND EFFECT ON PRIVATE PERSONS

Government Code Section 11346.9(a)(4) requires a determination with supporting information that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed, or would be as effective and less burdensome to affected private persons than the adopted regulation, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

The State Lands Commission has determined that no alternative considered would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective as and less burdensome to affected private persons than the adopted regulations. Furthermore, the State Lands Commission has determined that no alternative considered would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law, since this code does not affect private persons. These proposed changes to the existing code, as is that code, are directed only at marine oil terminals and no private persons. There are no other statutory policies or laws that pertain to marine oil terminals from an engineering perspective.

REJECTED PROPOSED ALTERNATIVE THAT WOULD LESSEN THE ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES:

Government Code Section 11346.9(a)(5) requires an explanation setting forth the reasons for rejecting any proposed alternatives that would lessen the adverse economic impact on small businesses, including the benefits of the proposed regulation per 11346.5(a)(3).

This is not applicable, as there are no small businesses, as defined by Government Code § 11342.610, affected by these proposed regulations.