Date:         September 7, 2017
To:           Oregon Energy Facility Siting Council (EFSC or “the Council”)
From:         Jason Sierman, Policy Analyst
              Todd Cornett, ODOE Assistant Director / Council Secretary
Subject:      Agenda Items C and G for the September 21-22, 2017 Council Meeting
Rulemaking:   Structural, Geologic and Seismic Updates (Information & Action Items)
Rulemaking hearing and the potential adoption of final rule language for the structural, geologic, and seismic updates. This rulemaking proposes to amend:
1) OAR 345-021-0010 Contents of an Application;
2) OAR 345-022-0020 Structural Standard;
3) OAR 345-027-0020 Mandatory Conditions In Site Certificates; and
4) OAR 345-050-0060 Site Suitability.

Overview
At its August 18, 2017 Council meeting, the Council received an overview of staff’s work on the Council’s third scheduled rulemaking project for 2017, the structural, geologic, and seismic rulemaking. Work included drafting an initial redline document showing the precise changes being proposed in this rulemaking (see Attachment A) and issuing official public notice of this rulemaking on August 10th, with a rulemaking hearing scheduled to occur before the Council at 4:30pm on September 21, 2017 at Boardman City Hall (see Attachment C). The rulemaking hearing is Agenda Item C, an information item for the Council. After the hearing and after considering all comments received on the record before the close of the hearing, the Council will deliberate and decide on whether to adopt final rule language under Agenda Item Y, an action item for the Council.

Purpose and Scope
The purpose and scope of the structural and geologic rulemaking project is to amend the provisions in EFSC rules relating to the structural, geologic, and seismic issues the Council examines when issuing site certificates, or amendments to site certificates, for energy facilities and waste disposal facilities within Council jurisdiction (or when carrying out cooperative agreements or arrangements with an agency of the federal government to clean up radioactive waste, uranium mine overburden or contaminated material pursuant to ORS 469.559(2)).

These amendments are broadly needed to: 1) eliminate references to specific codes, which can quickly become outdated; 2) better describe the relationship and consultation requirements between the applicant (or certificate holder) and the Department of Geology and Mineral Industries (DOGAMI); 3) add factors the applicant must consider in its assessments and explanations of how it will design, engineer, construct, and operate the facility to avoid dangers caused by structural, geologic, and seismic issues and hazards (factors including but not limited
to the environment, resiliency, rapid recovery, future climate conditions, etc.); and 4) eliminate inefficient and unnecessary language. The proposed rule language is intended to focus the requirements of Exhibit H and the Structural Standard to site-specific issues and risks, and allow for the appropriate consideration of evolving science of seismic risk and hazard based on consultation with DOGAMI.

Applicability of EFSC Rule Changes Approved by the Council
Generally speaking, applicants for site certificates, and site certificate holders making a request for amendment to the site certificate, must demonstrate compliance with the EFSC rules that are in effect on the date the Council makes its final decision on whether to approve or deny a site certificate or an amendment to a site certificate. Absent any specific language stating otherwise, any and all changes that are approved in an EFSC rulemaking project (other than rules relating to the Council’s land use standard) become applicable to all in process applications for site certificates and all in process requests for amendment upon their effective date. The Council’s land use standard is the only EFSC rule that becomes fixed upon the date an application is submitted, or the date a request for amendment is submitted.

Proposed Amendments to EFSC Rules
Prior to issuing official public notice of this proposed rulemaking project, EFSC staff met with the staff of the Department of Geology and Mineral Industries (DOGAMI) and recommended changes to the (4) EFSC rules listed below (see the initial proposed redline in Attachment A). Following the update staff provided to the Council at its August meeting, staff received additional input from DOGAMI that resulted in staff recommending minor changes to the language initially proposed (see the final proposed redline in Attachment B). All changes between the initial proposed redline and the final proposed redline are within the scope of the official public notice issued for this rulemaking project.

1) OAR 345-021-0010 Contents of an Application
   Subsection (1)(h)
   Staff recommends amending subsection (1)(h) of this rule to require applicants for site certificates (or existing site certificate holders) to:
   • consult with DOGAMI in its assessment of the seismic hazards, and geology and soil-related hazards, related to the proposed energy facility (or proposed change to an already certificated energy facility);
   • include a summary of its consultation with DOGAMI; and
   • include a geologic report that meets the current guidelines (as determined by DOGAMI) of the Oregon State Board of Geologist Examiners.

2) OAR 345-022-0020 Structural Standard
   Subsection (1)(a)
   Staff recommends amending subsection (1)(a) of this rule to require the Council, in order to issue a site certificate or amend a site certificate, to find that the applicant or certificate holder, has adequately characterized the seismic hazard risk of the site in its site-specific study. The proposed changes would remove the specific and absolute requirement to characterize the site as to the Maximum Considered Earthquake Ground Motion as shown for the site in the 2009 International Building Code and maximum probably ground
motion, while still allow DOGAMI and EFSC to require compliance with any applicable codes or laws related to seismic hazard risks.

**Subsection (1)(b)**
Staff recommends amending subsection (1)(b) of this rule to require the Council, in order to issue a site certificate or amend a site certificate, to find that the applicant or certificate holder can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in subsection (1)(a). The proposed changes would add the requirement to avoid dangers to the environment and otherwise removes what staff considers to be superfluous language.

**Subsection (1)(d)**
Staff recommends amending subsection (1)(d) of this rule to require the Council, in order to issue a site certificate or amend a site certificate, to find that the applicant or certificate holder can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c). The proposed changes would add the requirement to avoid dangers to the environment.

**Section (2)**
Staff recommends amending section (2) to align with the statutory language found in ORS 469.501(4).

**Section (3)**
Staff recommends amending section (3) to align with the statutory language found in ORS 469.373(10).

**3) OAR 345-027-0020 Mandatory Conditions In Site Certificates**

**Section (12)**
Staff recommends amending section (12) of this rule to require a mandatory condition in all site certificates and amended site certificates for the certificate holder to design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards. The proposed changes would add the requirement to avoid dangers to the environment and would clarify the definition of “seismic hazard” as used in this rule.

**Section (13)**
Staff recommends amending section (13) of this rule to give the Council the authority to require the certificate holder to implement any corrective or mitigation actions that may be recommended by DOGAMI and the Building Codes Division in the event site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate.

**Section (14)**
Staff recommends amending section (14) of this rule to give the Council the authority to require the certificate holder to propose and implement any corrective or mitigation actions that may be recommended by DOGAMI and the Building Codes Division in the
event shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site.

4) OAR 345-050-0060 Site Suitability

Section (1)
Staff recommends amending this rule to include impacts from future climate conditions in the factors of geological evidence it shall consider when determining an area subject to surface water erosion over the projected life of the facility that is not suitable for the type and amount of waste the applicant intends to dispose of at the site.

Section (3)
Staff recommends amending this rule to state that a site is not suitable for the type and amount of waste the applicant intends to dispose of at the site if it is located in a Quaternary-active fault or fault zone. Existing language only states a site is not suitable if it is located in an active fault zone.

Section (4)
Staff recommends amending this rule to state that a site is not suitable for the type and amount of waste the applicant intends to dispose of at the site if it is located in an area of ancient, recent, active or potentially active mass movement, including the triggering mechanisms such as earthquake shaking. Existing language only states a site is not suitable if it is located in an area of ancient, recent, or active mass movement.

Recommended Process

Base on the Council’s direction, staff has completed the rulemaking process as illustrated below:

NO EARLY PUBLIC PARTICIPATION (APPROVED PROCESS)

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The next step in the process is for the Council to consider the proposed rule language in conjunction with its consideration of all comments received on the record before the end of the rulemaking hearing on September 21, 2017. Should the Council need additional time to consider all comments received, it may postpone its decision on adoption of permanent rules to a future Council meeting.
After the Council considers all comments received, the Council may vote on adoption of the proposed rule language as permanent rules. Subject to Council adoption, staff will ask for signature authorization from the Council Chair to file the permanent rules with the Oregon Secretary of State. Subject to the Council’s adoption of permanent rules, and subject to receiving authorization to file, staff would likely file the permanent rules on or around September 28, 2017. Unless the Council chooses an effective date later than the filing date, the new rule language would become effective upon filing.

**Staff Recommendation**
As discussed above, and as shown in the attached redlines, this rulemaking amends the following (4) rules:

1) OAR 345-021-0010 Contents of an Application;
2) OAR 345-022-0020 Structural Standard;
3) OAR 345-027-0020 Mandatory Conditions In Site Certificates; and
4) OAR 345-050-0060 Site Suitability.

Staff recommends that the Council adopt the proposed language as final permanent rules and authorize staff to file the adopted permanent administrative rules with the Oregon Secretary of State. These rules would be effective upon filing, with a target filing date of September 28, 2017.
345-021-0010

Contents of an Application

(1) The project order described in OAR 345-015-0160(1) identifies the provisions of this rule applicable to the application for the proposed facility, including any appropriate modifications to applicable provisions of this rule. The applicant shall include in its application for a site certificate information that addresses each provision of this rule identified in the project order. The applicant shall designate the information with the appropriate exhibit label identified in the following subsections. If the same information is required in each of several exhibits the applicant may provide the required information in one exhibit and include appropriate references in the others. For the purpose of submitting an application for a site certificate in an expedited review granted under OAR 345-015-0300 or 345-015-0310, the applicant shall include information that addresses all provisions of this rule. In such expedited reviews, analysis areas addressed in this rule are the study areas defined in 345-001-0010, subject to later modification in the project order.

(a) Exhibit A. ...
(b) Exhibit B. ...
(c) Exhibit C. ...
(d) Exhibit D. ...
(e) Exhibit E. ...
(f) Exhibit F. ...
(g) Exhibit G. ...

(h) Exhibit H. Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:

(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines shall be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as per (B), guidance in Oregon Department of Geology and Mineral Industries open file report 00-04 “Guidelines for Engineering Geologic reports and Site-Specific Seismic Hazard Reports.”

(B) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.

(C) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.
(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, or marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility’s operation.

(E) For all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings and portions of the proposed alignment where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(EF) An assessment of seismic hazards in accordance with the guidance provided by Oregon Department of Geology and Mineral Industries under (B), and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure a rapid recovery of operations after major disasters. The applicant shall include proposed design and engineering features, applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone. For the purposes of this assessment, the maximum probable earthquake (MPE) is the maximum earthquake that could occur under the known tectonic framework with a 10 percent chance of being exceeded in a 50 year period. If seismic sources are not mapped sufficiently to identify the ground motions above, the applicant shall provide a probabilistic seismic hazard analysis to identify the peak ground accelerations expected at the site for a 500 year recurrence interval and a 5000 year recurrence interval. In the assessment, the applicant shall include:

(i) Identification of the Maximum Considered Earthquake Ground Motion as shown for the site under the 2009 International Building Code.

(ii) Identification and characterization of all earthquake sources capable of generating median peak ground accelerations greater than 0.05g on rock at the site. For each earthquake source, the applicant shall assess the magnitude and minimum epicentral distance of the maximum credible earthquake (MCE).

(iii) A description of any recorded earthquakes within 50 miles of the site and of recorded earthquakes greater than 50 miles from the site that caused ground shaking at the site more intense than the Modified Mercalli III intensity. The applicant shall include the date of
occurrence and a description of the earthquake that includes its magnitude and highest
intensity and its epicenter location or region of highest intensity.
(iv) Assessment of the median ground response spectrum from the MCE and the MPE and
identification of the spectral accelerations greater than the design spectrum provided in the
2010 Oregon Structural Specialty Code. The applicant shall include a description of the probable
behavior of the subsurface materials and amplification by subsurface materials and any
topographic or subsurface conditions that could result in expected ground motions greater than
those characteristic of the Maximum Considered Earthquake Ground Motion identified above.
(v) An assessment of seismic hazards expected to result from reasonably probable seismic
events. As used in this rule “seismic hazard” includes ground shaking, ground failure, landslide,
lateral spreading, liquefaction, tsunami inundation, fault displacement and subsidence.
(G) An assessment of geology and soil-related hazards such as landslides, flooding and erosion
which could, in the absence of a seismic event, adversely affect or be aggravated by the
construction or operation of the facility, in accordance with the guidance provided by Oregon
Department of Geology and Mineral Industries under (B). An explanation of how the applicant
will design, engineer, construct and operate the facility to adequately avoid dangers to human
safety and the environment presented by these hazards, as well as:
(i) An explanation of how the applicant will design, engineer, construct and operate the facility
to integrate disaster resilience design to ensure a rapid recovery of operations after major
disasters.
(ii) An assessment of future climate conditions for the expected life span of the proposed
facility, such as sea level rise along the coast. This includes potential impacts to access roads
and other such infrastructure.
(H) An explanation of how the applicant will design, engineer and construct the facility to avoid
dangers to human safety from the seismic hazards identified in paragraph (F). The applicant
shall include proposed design and engineering features, applicable construction codes, and any
monitoring for seismic hazards.
(I) An explanation of how the applicant will design, engineer and construct the facility to
adequately avoid dangers to human safety presented by the hazards identified in paragraph
(G).
(i) Exhibit I. ... through (dd) Exhibit DD. ...
345-022-0020

Structural Standard

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study and based on consultation with the Oregon Department of Geology and Mineral Industries, has adequately characterized the seismic hazard risk of the site as to the Maximum Considered Earthquake Ground Motion as shown for the site in the 2009 International Building Code and maximum probable ground motion, taking into account ground failure and amplification for the site specific soil profile under the maximum credible and maximum probable seismic events; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in (a) that are expected to result from maximum probable ground motion events. As used in this rule “seismic hazard” includes ground shaking, ground failure, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence;

(c) The applicant, through appropriate site-specific study and based on consultation with the Oregon Department of Geology and Mineral Industries, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c).

(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may not impose the Structural Standard in section (1) to deny an application issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.
Mandatory Conditions In Site Certificates

The Council shall impose the following conditions in every site certificate. The Council may impose additional conditions.

1. The Council shall not change the conditions of the site certificate except as provided for in OAR Chapter 345, Division 27.

2. The certificate holder shall submit a legal description of the site to the Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.

3. The certificate holder shall design, construct, operate and retire the facility:
   a. Substantially as described in the site certificate;
   b. In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and
   c. In compliance with all applicable permit requirements of other state agencies.

4. The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate.

5. Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and:
   a. The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line or pipeline occurs during the certificate holder’s negotiations to acquire construction rights on another part of the site; or
(b) The certificate holder would construct and operate part of a wind energy facility on that part
of the site even if other parts of the facility were modified by amendment of the site certificate
or were not built.

(6) If the certificate holder becomes aware of a significant environmental change or impact
attributable to the facility, the certificate holder shall, as soon as possible, submit a written
report to the Department describing the impact on the facility and any affected site certificate
conditions.

(7) The certificate holder shall prevent the development of any conditions on the site that
would preclude restoration of the site to a useful, non-hazardous condition to the extent that
prevention of such site conditions is within the control of the certificate holder.

(8) Before beginning construction of the facility, the certificate holder shall submit to the State
of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to
the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall
maintain a bond or letter of credit in effect at all times until the facility has been retired. The
Council may specify different amounts for the bond or letter of credit during construction and
during operation of the facility.

(9) The certificate holder shall retire the facility if the certificate holder permanently ceases
construction or operation of the facility. The certificate holder shall retire the facility according
to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The
certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous
condition at the time of retirement, notwithstanding the Council’s approval in the site
certificate of an estimated amount required to restore the site.

(10) The Council shall include as conditions in the site certificate all representations in the site
certificate application and supporting record the Council deems to be binding commitments
made by the applicant.

(11) Upon completion of construction, the certificate holder shall restore vegetation to the
extent practicable and shall landscape all areas disturbed by construction in a manner
compatible with the surroundings and proposed use. Upon completion of construction, the
certificate holder shall remove all temporary structures not required for facility operation and
dispose of all timber, brush, refuse and flammable or combustible material resulting from
clearing of land and construction of the facility.

(12) The certificate holder shall design, engineer and construct the facility to avoid dangers to
human safety and the environment presented by seismic hazards affecting the site that are
expected to result from all maximum probable seismic events. As used in this rule “seismic
hazard” includes ground shaking, ground failure, landslide, liquefaction triggering and
consequences (including flow failure, settlement buoyancy, and lateral spreading) cyclic
softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence, inundation, fault displacement and subsidence.

(13) The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division and to propose and implement corrective or mitigation actions.

(14) The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.

(15) Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.

(16) If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Office within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed final retirement plan for the Council’s approval. Upon the Council’s approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.
To issue a site certificate for a waste disposal facility, or to carry out a cooperative agreement or arrangement with an agency of the federal government to clean up radioactive waste, uranium mine overburden or contaminated material pursuant to ORS 469.559(2), the Council must find that the site is suitable for the type and amount of waste the applicant intends to dispose of at the site. For purposes of this rule, uranium mine overburden means earth and other material overlying natural deposits of uranium ore and removed to gain access to the ore, if disposal of the material would result in an exceedance of any of the pathways in OAR 345-050-0035 as in effect on the date of this rule. A site is not suitable if it is located in:

1. An area determined by the Council to be subject to surface water erosion over the projected life of the facility. In making this determination, the Council shall consider geological evidence of historical erosion, ancient shorelines, stream beds and cutting due to floods as well as impacts from future climate conditions.

2. The 500-year flood plain of a river, stream or creek, taking into consideration the area the Council determines under section (1) to be potentially subject to erosion within the lifetime of the facility.

3. A Quarternary fault or active fault zone.

4. An area of ancient, recent, active or potentially active mass movement, including the triggering mechanisms such as earthquake shaking.

5. An area subject to volcanic damage over the past two-million years or that the Council finds to be subject to damage from natural forces of volcanic origin that is sufficient to cause meaningful degradation of facility integrity.
345-021-0010

Contents of an Application

(1) The project order described in OAR 345-015-0160(1) identifies the provisions of this rule applicable to the application for the proposed facility, including any appropriate modifications to applicable provisions of this rule. The applicant shall include in its application for a site certificate information that addresses each provision of this rule identified in the project order. The applicant shall designate the information with the appropriate exhibit label identified in the following subsections. If the same information is required in each of several exhibits the applicant may provide the required information in one exhibit and include appropriate references in the others. For the purpose of submitting an application for a site certificate in an expedited review granted under OAR 345-015-0300 or 345-015-0310, the applicant shall include information that addresses all provisions of this rule. In such expedited reviews, analysis areas addressed in this rule are the study areas defined in 345-001-0010, subject to later modification in the project order.

(a) Exhibit A. ...
(b) Exhibit B. ...
(c) Exhibit C. ...
(d) Exhibit D. ...
(e) Exhibit E. ...
(f) Exhibit F. ...
(g) Exhibit G. ...

(h) Exhibit H. Information from reasonably available sources regarding the geological and soil stability within the analysis area, providing evidence to support findings by the Council as required by OAR 345-022-0020, including:

(A) A geologic report meeting the Oregon State Board of Geologist Examiners geologic report guidelines. Current guidelines shall be determined based on consultation with the Oregon Department of Geology and Mineral Industries, as per (B).

(B) A description and schedule of site-specific geotechnical work that will be performed before construction for inclusion in the site certificate as conditions.

(B) A summary of consultation with the Oregon Department of Geology and Mineral Industries regarding the appropriate methodology and scope of the seismic hazards and geology and soil-related hazards assessments, and the appropriate site-specific geotechnical work that must be performed before submitting the application for the Department to determine that the application is complete.
(D) For all transmission lines, and for all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings, dead ends (for transmission lines), corners (for transmission lines), and portions of the proposed route where geologic reconnaissance and other site specific studies provide evidence of existing landslides, or marginally stable slopes or potentially liquefiable soils that could be made unstable by the planned construction or experience impacts during the facility’s operation.

(E) For all pipelines that would carry explosive, flammable or hazardous materials, a description of locations along the proposed route where the applicant proposes to perform site specific geotechnical work, including but not limited to railroad crossings, major road crossings, river crossings and portions of the proposed alignment where geologic reconnaissance and other site specific studies provide evidence of existing landslides or marginally stable slopes that could be made unstable by the planned construction.

(EF) An assessment of seismic hazards, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries under (B), and an explanation of how the applicant will design, engineer, construct, and operate the facility to avoid dangers to human safety and the environment from these seismic hazards. Furthermore, an explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure a rapid recovery of operations after major disasters. The applicant shall include proposed design and engineering features, applicable construction codes, and any monitoring and emergency measures for seismic hazards, including tsunami safety measures if the site is located in the DOGAMI-defined tsunami evacuation zone. For the purposes of this assessment, the maximum probable earthquake (MPE) is the maximum earthquake that could occur under the known tectonic framework with a 10 percent chance of being exceeded in a 50 year period. If seismic sources are not mapped sufficiently to identify the ground motions above, the applicant shall provide a probabilistic seismic hazard analysis to identify the peak ground accelerations expected at the site for a 500 year recurrence interval and a 5000 year recurrence interval. In the assessment, the applicant shall include:

(i) Identification of the Maximum Considered Earthquake Ground Motion as shown for the site under the 2009 International Building Code.

(ii) Identification and characterization of all earthquake sources capable of generating median peak ground accelerations greater than 0.05g on rock at the site. For each earthquake source, the applicant shall assess the magnitude and minimum epicentral distance of the maximum credible earthquake (MCE).
(iii) A description of any recorded earthquakes within 50 miles of the site and of recorded earthquakes greater than 50 miles from the site that caused ground shaking at the site more intense than the Modified Mercalli III intensity. The applicant shall include the date of occurrence and a description of the earthquake that includes its magnitude and highest intensity and its epicenter location or region of highest intensity.

(iv) Assessment of the median ground response spectrum from the MCE and the MPE and identification of the spectral accelerations greater than the design spectrum provided in the 2010 Oregon Structural Specialty Code. The applicant shall include a description of the probable behavior of the subsurface materials and amplification by subsurface materials and any topographic or subsurface conditions that could result in expected ground motions greater than those characteristic of the Maximum Considered Earthquake Ground Motion identified above.

(v) An assessment of seismic hazards expected to result from reasonably probable seismic events. As used in this rule “seismic hazard” includes ground shaking, ground failure, landslide, lateral spreading, liquefaction, tsunami inundation, fault displacement and subsidence.

(FG) An assessment of geology and soil-related hazards such as landslides, flooding and erosion which could, in the absence of a seismic event, adversely affect or be aggravated by the construction or operation of the facility, in accordance with standard-of-practice methods and best practices, that addresses all issues relating to the consultation with the Oregon Department of Geology and Mineral Industries under (B). An explanation of how the applicant will design, engineer, construct and operate the facility to adequately avoid dangers to human safety and the environment presented by these hazards, as well as:

(i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure a rapid recovery of operations after major disasters.

(ii) An assessment of future climate conditions for the expected life span of the proposed facility, such as sea level rise along the coast. This includes potential impacts to access roads and other such infrastructure.

(H) An explanation of how the applicant will design, engineer and construct the facility to avoid dangers to human safety from the seismic hazards identified in paragraph (F). The applicant shall include proposed design and engineering features, applicable construction codes, and any monitoring for seismic hazards.

(I) An explanation of how the applicant will design, engineer and construct the facility to adequately avoid dangers to human safety presented by the hazards identified in paragraph (G).

(i) Exhibit I. ... through (dd) Exhibit DD. ...
345-022-0020

Structural Standard

(1) Except for facilities described in sections (2) and (3), to issue a site certificate, the Council must find that:

(a) The applicant, through appropriate site-specific study, has adequately characterized the seismic hazard risk of the site as to the Maximum Considered Earthquake Ground Motion as shown for the site in the 2009 International Building Code and maximum probable ground motion, taking into account ground failure and amplification for the site-specific soil profile under the maximum credible and maximum probable seismic events; and

(b) The applicant can design, engineer, and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site, as identified in subsection (1)(a) that are expected to result from maximum probable ground motion events. As used in this rule “seismic hazard” includes ground shaking, ground failure, landslide, liquefaction, lateral spreading, tsunami inundation, fault displacement, and subsidence;

(c) The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soils hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility; and

(d) The applicant can design, engineer and construct the facility to avoid dangers to human safety and the environment presented by the hazards identified in subsection (c).

(2) The Council may not impose the Structural Standard in section (1) to approve or deny an application for an energy issue a site certificate for a facility that would produce power from wind, solar or geothermal energy without making the findings described in section (1). However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.

(3) The Council may not impose the Structural Standard in section (1) to deny an application issue a site certificate for a special criteria facility under OAR 345-015-0310 without making the findings described in section (1). However, the Council may, to the extent it determines appropriate, apply the requirements of section (1) to impose conditions on a site certificate issued for such a facility.
345-027-0020

Mandatory Conditions In Site Certificates

The Council shall impose the following conditions in every site certificate. The Council may impose additional conditions.

(1) The Council shall not change the conditions of the site certificate except as provided for in OAR Chapter 345, Division 27.

(2) The certificate holder shall submit a legal description of the site to the Department of Energy within 90 days after beginning operation of the facility. The legal description required by this rule means a description of metes and bounds or a description of the site by reference to a map and geographic data that clearly and specifically identify the outer boundaries that contain all parts of the facility.

(3) The certificate holder shall design, construct, operate and retire the facility:
   (a) Substantially as described in the site certificate;
   (b) In compliance with the requirements of ORS Chapter 469, applicable Council rules, and applicable state and local laws, rules and ordinances in effect at the time the site certificate is issued; and
   (c) In compliance with all applicable permit requirements of other state agencies.

(4) The certificate holder shall begin and complete construction of the facility by the dates specified in the site certificate.

(5) Except as necessary for the initial survey or as otherwise allowed for wind energy facilities, transmission lines or pipelines under this section, the certificate holder shall not begin construction, as defined in OAR 345-001-0010, or create a clearing on any part of the site until the certificate holder has construction rights on all parts of the site. For the purpose of this rule, “construction rights” means the legal right to engage in construction activities. For wind energy facilities, transmission lines or pipelines, if the certificate holder does not have construction rights on all parts of the site, the certificate holder may nevertheless begin construction, as defined in OAR 345-001-0010, or create a clearing on a part of the site if the certificate holder has construction rights on that part of the site and:
   (a) The certificate holder would construct and operate part of the facility on that part of the site even if a change in the planned route of a transmission line or pipeline occurs during the certificate holder’s negotiations to acquire construction rights on another part of the site; or
(b) The certificate holder would construct and operate part of a wind energy facility on that part of the site even if other parts of the facility were modified by amendment of the site certificate or were not built.

(6) If the certificate holder becomes aware of a significant environmental change or impact attributable to the facility, the certificate holder shall, as soon as possible, submit a written report to the Department describing the impact on the facility and any affected site certificate conditions.

(7) The certificate holder shall prevent the development of any conditions on the site that would preclude restoration of the site to a useful, non-hazardous condition to the extent that prevention of such site conditions is within the control of the certificate holder.

(8) Before beginning construction of the facility, the certificate holder shall submit to the State of Oregon, through the Council, a bond or letter of credit in a form and amount satisfactory to the Council to restore the site to a useful, non-hazardous condition. The certificate holder shall maintain a bond or letter of credit in effect at all times until the facility has been retired. The Council may specify different amounts for the bond or letter of credit during construction and during operation of the facility.

(9) The certificate holder shall retire the facility if the certificate holder permanently ceases construction or operation of the facility. The certificate holder shall retire the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110. The certificate holder shall pay the actual cost to restore the site to a useful, non-hazardous condition at the time of retirement, notwithstanding the Council’s approval in the site certificate of an estimated amount required to restore the site.

(10) The Council shall include as conditions in the site certificate all representations in the site certificate application and supporting record the Council deems to be binding commitments made by the applicant.

(11) Upon completion of construction, the certificate holder shall restore vegetation to the extent practicable and shall landscape all areas disturbed by construction in a manner compatible with the surroundings and proposed use. Upon completion of construction, the certificate holder shall remove all temporary structures not required for facility operation and dispose of all timber, brush, refuse and flammable or combustible material resulting from clearing of land and construction of the facility.

(12) The certificate holder shall design, engineer and construct the facility to avoid dangers to human safety and the environment presented by seismic hazards affecting the site that are expected to result from all maximum probable seismic events. As used in this rule “seismic
hazard” includes ground shaking, ground failure, landslide, liquefaction triggering and consequences (including flow failure, settlement buoyancy, and lateral spreading) cyclic softening of clays and silts, fault rupture, directivity effects and soil-structure interaction. For coastal sites, this also includes tsunami hazards and seismically-induced coastal subsidence, inundation, fault displacement and subsidence.

(13) The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if site investigations or trenching reveal that conditions in the foundation rocks differ significantly from those described in the application for a site certificate. After the Department receives the notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose corrective or mitigation actions.

(14) The certificate holder shall notify the Department, the State Building Codes Division and the Department of Geology and Mineral Industries promptly if shear zones, artesian aquifers, deformations or clastic dikes are found at or in the vicinity of the site. After the Department receives notice, the Council may require the certificate holder to consult with the Department of Geology and Mineral Industries and the Building Codes Division to propose and implement corrective or mitigation actions.

(15) Before any transfer of ownership of the facility or ownership of the site certificate holder, the certificate holder shall inform the Department of the proposed new owners. The requirements of OAR 345-027-0100 apply to any transfer of ownership that requires a transfer of the site certificate.

(16) If the Council finds that the certificate holder has permanently ceased construction or operation of the facility without retiring the facility according to a final retirement plan approved by the Council, as described in OAR 345-027-0110, the Council shall notify the certificate holder and request that the certificate holder submit a proposed final retirement plan to the Office within a reasonable time not to exceed 90 days. If the certificate holder does not submit a proposed final retirement plan by the specified date, the Council may direct the Department to prepare a proposed final retirement plan for the Council’s approval. Upon the Council’s approval of the final retirement plan, the Council may draw on the bond or letter of credit described in section (8) to restore the site to a useful, non-hazardous condition according to the final retirement plan, in addition to any penalties the Council may impose under OAR Chapter 345, Division 29. If the amount of the bond or letter of credit is insufficient to pay the actual cost of retirement, the certificate holder shall pay any additional cost necessary to restore the site to a useful, non-hazardous condition. After completion of site restoration, the Council shall issue an order to terminate the site certificate if the Council finds that the facility has been retired according to the approved final retirement plan.
Site Suitability

To issue a site certificate for a waste disposal facility, or to carry out a cooperative agreement or arrangement with an agency of the federal government to clean up radioactive waste, uranium mine overburden or contaminated material pursuant to ORS 469.559(2), the Council must find that the site is suitable for the type and amount of waste the applicant intends to dispose of at the site. For purposes of this rule, uranium mine overburden means earth and other material overlying natural deposits of uranium ore and removed to gain access to the ore, if disposal of the material would result in an exceedance of any of the pathways in OAR 345-050-0035 as in effect on the date of this rule. A site is not suitable if it is located in:

(1) An area determined by the Council to be subject to surface water erosion over the projected life of the facility. In making this determination, the Council shall consider geological evidence of historical erosion, ancient shorelines, stream beds and cutting due to floods as well as impacts from future climate conditions.

(2) The 500-year flood plain of a river, stream or creek, taking into consideration the area the Council determines under section (1) to be potentially subject to erosion within the lifetime of the facility.

(3) An active fault zone.

(4) An area of ancient, recent, active or potentially active, mass movement or landslide, including the triggering mechanisms such as earthquake shaking.

(5) An area subject to volcanic damage over the past two-million years or that the Council finds to be subject to damage from natural forces of volcanic origin that is sufficient to cause meaningful degradation of facility integrity.
PUBLIC NOTICE
Rulemaking Hearing and Public Comment Period
Amend rules and rule provisions addressing structural, geologic, and seismic related issues and hazards.

Summary
Date Issued: August 09, 2017

Proposal: Amend rules and rule provisions addressing structural, geologic, and seismic related issues and hazards.

Rulemaking Hearing:
Date: September 21, 2017
Time: EFSC meeting begins at 3:00 p.m.
Rulemaking hearing begins at 4:30 p.m.
Location: Boardman City Hall
200 City Center Circle
Boardman, OR 97818
Call-in: 877-873-8017
Passcode: 799345

Written Comment Deadline:
September 21, 2017 (close of the rulemaking hearing)

Description of Rulemaking Activity
The proposed rules would amend the EFSC rules and rule provisions addressing the structural, geologic, and seismic related issues and hazards the Council examines when issuing site certificates or amendments to site certificates for energy facilities and waste disposal facilities within Council jurisdiction [or when carrying out cooperative agreements or arrangements with an agency of the federal government to clean up radioactive waste, uranium mine overburden or contaminated material pursuant to ORS 469.559(2)].

Broadly speaking, the amendments would:
1) eliminate references to specific codes, which can quickly become outdated;
2) better describe the relationship and consultation requirements between the applicant (or certificate holder) and the Department of Geology and Mineral Industries (DOGAMI);
3) add factors the applicant must consider in its assessments and explanations of how it will design, engineer, construct, and operate the facility to avoid dangers caused by structural, geologic, and seismic related issues and hazards (factors including but not limited to the environment, resiliency, rapid recovery, future climate conditions, etc.); and
4) eliminate inefficient and unnecessary language.

The proposed rule language is intended to focus the requirements of Exhibit H and the Structural Standard to site-specific issues and risks, and allow for the appropriate consideration of evolving science of seismic risk and hazard based on consultation with DOGAMI.

EFSC Decision Process
EFSC relies upon its authority under ORS 469.470 and ORS 469.501 to conduct rulemaking. EFSC will make all decisions on the proposed rule amendments at a public meeting and will provide public notice of the date, time, and location of all EFSC meetings. EFSC plans to consider the proposed amendments and potentially take action to approve the proposed amendments at its September 21-22, 2017 meeting. If EFSC approves the proposed amendments at that time, permanent rules could become effective as early as September 28, 2017.

Comment Period
EFSC requests public comment on these draft amendments. EFSC also requests public comment on whether other options should be considered for achieving the proposed rule’s substantive goals while reducing the negative economic impact of the rule on business.

The Oregon Department of Energy (ODOE) will accept written comments on the proposed amendments until the end of the rulemaking hearing scheduled to begin at 4:30 p.m. on September 21, 2017. Any person or agency may provide oral comments on this rulemaking in person or via telephone during the rulemaking hearing.
Any person or agency may send written comments by email to EFSC.rulemaking@oregon.gov, or by mail, hand-delivery or fax to:

Jason Sierman, EFSC Rules Coordinator
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301
Fax: 503-373-7806

More Information
Please contact Jason Sierman at 503-373-2127, by email to jason.sierman@oregon.gov, or at the mailing address listed above with any questions regarding this rulemaking.

Additional information about the proposed rulemaking and updates on the rulemaking review process are available using any of the following options:

1) Oregon Department of Energy’s Webpage
Details about this rulemaking, including: proposed rule language, a statement of need and fiscal impact, a list of principal documents prepared by or relied upon in preparing the rule, and information regarding the use of any advisory committee are available online at:

2) Updates by Email/Mail
In order to receive future updates related to this rulemaking project or other rulemaking projects you must be signed up on either or both of the two lists below. You will not automatically receive future updates simply by providing comments on the rulemaking.

Email
Subscribe to GovDelivery for email updates on EFSC rulemaking activities and other activities related to energy facilities under EFSC jurisdiction. GovDelivery is an automated email system that allows the public to manage subscriptions to receive information on ODOE’s projects and events. For more information, please visit: http://tinyurl.com/EFSC-email.

Mail
To receive notices of rulemaking activities in paper via U.S. postal mail, please contact Jason Sierman and request to be added to the paper notice list. His contact information is contained in this notice.

3) In Hardcopy
Copies of the draft proposed rules, including a summary of amendments, are available for public inspection at:
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

Accessibility Information
The Oregon Department of Energy is committed to accommodating people with disabilities. If you require any special physical or language accommodations, or need information in an alternate format, please contact Megan Boardman at 503-378-3895, toll-free in Oregon at 800-221-8035, or by email to: Megan.Boardman@oregon.gov.