Electrical Undergrounding Plans Guideline Development Working Group #5

December 12, 2023

Safety Message

Take care of your posture and sit in a comfortable position

Take regular breaks to stretch, hydrate, and rest your eyes

Know the emergency exits and procedures in your physical location should the need arise

Be prepared for **earthquakes**

Feel something say something and we will find a way to help

Welcome and Process Overview

- Format & Ground Rules: Recorded, Facilitated, Structured, Discussion
- Recordings of sessions will be posted on our website
- Written comments on all working group topics (to be confirmed today):
    - December 22, 2023 (Comments)
    - December 29, 2023 (Reply Comments)
    - Note: *CPUC* Staff Proposal Resolution Comments due December 28 and January 11 for January 25 voting meeting.

Today's Topics

- Costs
  - Cost Efficiency
  - Unit Cost Targets
  - Cost Comparison
  - Cost Containment and Economies of Scale
  - Cost Information Required for Application
- Supply Chain
- Evaluation Principles

Cost

Under section 8388.5, Energy Safety is responsible for evaluating increased reliability and decreased risk of wildfire in the Undergrounding Plan.

CPUC is responsible for reviewing costs for the Plan.

However, the Undergrounding Plan itself will include certain cost-related information. The questions below are intended to help Energy Safety develop guidelines for including these costs in the Undergrounding Plan.

Are Cost Effectiveness and Cost Efficiency the Same?

*Section 8388.5(c)(2) Identification of the undergrounding projects that will be constructed as part of the program, including a means of prioritizing undergrounding projects based on wildfire risk reduction, public safety, **cost efficiency**, and reliability benefits.*

1. Generally, cost efficiency is defined as the process of minimizing cost while maximizing value. Cost effectiveness, on the other hand, refers to the value of the outcome compared to the expenditures. Cost effectiveness is calculated by dividing the total cost by outcome. Cost efficiency is typically calculated as a ratio between cost and benefit. However, the CPUC often uses the terms cost effectiveness and cost efficiency interchangeably.
2. For purposes of prioritizing undergrounding projects under the Undergrounding Plan, how should cost efficiency be defined? How should cost efficiency be calculated?

Unit Cost Targets

*8388.5(c)(3) Timelines for the completion of identified and prioritized undergrounding projects, and **unit cost targets** and mileage completion targets for each year covered by the plan.*

a) For purposes of unit cost targets, how should "unit" be defined? Is the definition of unit for the cost unit the same as the unit for the risk unit? Are the following definitions for cost and risk appropriate in this context?
   - Cost measured by mile of undergrounded line constructed.
   - Risk measured by mile of overhead replaced.

b) How should completion targets be set in the Undergrounding Plan? Should the Undergrounding Plan's completion targets be used to determine compliance with the Undergrounding Plan?

Cost Comparison

*Cost Comparison Section 8388.5(c)(4) requires that the Undergrounding Plan include a comparison of undergrounding and other mitigation strategies. The comparison should evaluate the **cost of each action** and the **cost of each activity**. Specifically, the statute states the comparison should evaluate "the scope, cost, extent, and risk reduction of each action separately and collectively, over the duration of the plan. The comparison should emphasize risk reduction and include an analysis of the cost of each activity for reducing wildfire risk, separately and collectively, over the duration of the plan."*

Cost Comparison

a) ~~What are the differences between "cost of each action" and "cost of each activity" in this context? Are action, activity, and mitigation strategy synonymous in section 8388.5(c)(4)?~~

b) Should the cost evaluation of each mitigation strategy be compared to the same baseline that is adopted evaluating undergrounding projects?

c) Should the cost of evaluation of each mitigation strategy also be compared to the cost evaluation of the corresponding undergrounding project?

d) If "action" and/or "activity" do not refer to the mitigation strategy, what do they refer to? Is "activity" intended to denote a component of the mitigation strategy? For example, would covered conductor and EPSS be treated as separate activities for the purpose of analyzing cost? Would they also be treated as different actions?

Note: 8388.5(c)(4) is on slide 8

Cost Containment/Economies of Scale

Cost Containment and Economies of Scale Section 8388.5(c)(6) requires that the Undergrounding Plan include *"An evaluation of project costs, projected economic benefits over the life of the assets, and any cost containment assumptions, including the economies of scale necessary to reduce wildfire risk and mitigation costs and establish a sustainable supply chain."*

a) What should be included in project costs?

b) What should be included in "economic benefits"?

c) What details should be included in the description of "cost containment assumptions"?

d) Should the guidelines include any specific direction for "economies of scale necessary to reduce wildfire risk and mitigation costs"?

Cost Info Required for Application

8388.5(e)(1) Upon the office approving a plan pursuant to paragraph (2) of subdivision (d), the large electrical corporation shall, within 60 days, submit to the commission a copy of the plan and an application requesting review and conditional approval of the plan's costs and including all of the following:

(A) Any substantial improvements in safety risk and reduction in costs compared to other hardening and risk mitigation measures over the duration of the plan.

(B) The cost targets, at a minimum, that result in feasible and attainable cost reductions as compared to the large electrical corporation's historical undergrounding costs.

(C) How the cost targets are expected to decline over time due to cost efficiencies and economies of scale.

(D) A strategy for achieving cost reductions over time.

Cost Info Required for Application

Section 8388.5(e)(1) sets forth cost information required for the CPUC application. Section 8388.5(c) specifies cost information to be included in the Undergrounding Plan which will be reviewed by Energy Safety.
The following terms are used in both section 8388.5(e) and section 8388.5(c):

- cost targets
- cost efficiencies
- economies of scale

Should these terms have the same definition for both sections even though the context and purpose of section 8388.5(e) and 8388.5(c) are different?

Note: statutory context on next slide

Context Section 8388.5(c) and (e)

*8388.5(c)(2) . . . . means of prioritizing undergrounding projects based on wildfire risk reduction, public safety, **cost efficiency**, and reliability benefits. Only undergrounding projects located in tier 2 or 3 high fire-threat districts or rebuild areas may be considered and constructed as part of the program.*

*(c)(3) Timelines for the completion of identified and prioritized undergrounding projects, and **unit cost targets** and mileage completion targets for each year covered by the plan.*

*(c)(6) An evaluation of project costs, projected economic benefits over the life of the assets, and any cost containment assumptions, including the **economies of scale** necessary to reduce wildfire risk and mitigation costs and establish a sustainable supply chain.*

- *8388.5(e)(1) . . . an application requesting review and conditional approval of the plan's costs and including all of the following:*

(A) Any substantial improvements in safety risk and reduction in costs compared to other hardening and risk mitigation measures over the duration of the plan.

*(B) The **cost targets**, at a minimum, that result in feasible and attainable cost reductions as compared to the large electrical corporation's historical undergrounding costs.*

*(C) How the **cost targets** are expected to decline over time due to **cost efficiencies** and **economies of scale**.*

(D) A strategy for achieving cost reductions over time.

Supply Chain

Section 8388.5(c)(6) An evaluation of project costs, projected economic benefits over the life of the assets, and any cost containment assumptions, including the economies of scale necessary to reduce wildfire risk and mitigation costs and establish a sustainable supply chain.

1. What elements should be included in a sustainable supply chain plan?

2. What timeframe should the sustainable supply chain plan should cover? Start at the beginning of the Undergrounding Plan? Extend beyond ten years to ensure that maintenance supplies are covered? Should it cover the life of the assets?

3. Should the sustainable supply chain plan cover sourcing and purchasing/leasing of materials?

4. Should the sustainable supply chain plan provide a plan be broken down by type of supplies and equipment?

5. Should the sustainable supply chain plan include cost related information and outline the economies of scale?

Guiding Principles

1. Would a set of guiding principles be useful to articulate the high level objectives of Undergrounding Plans?
2. Should we develop set of guiding principles to serve as a framework to assist in the development of the guidelines? The guidelines, in turn, would build on the guiding principles by incorporating more specific instructions and requirements for Undergrounding Plans.
3. What guiding principles would you propose? Please discuss areas that would benefit from guiding principles.

Wrapping Up and Planning

- Additional Public Comment on today's topics
- Questions about today's discussion
- Written comments Schedule?
    - December 22, 2023 (Comments)
    - December 29, 2023 (Reply Comments)
    - Note: *CPUC* Staff Proposal Resolution Comments due December 28 and January 11 for January 25 voting meeting.
- Questions about housekeeping items like e-filing