

DRAFT REVEGETATION PLAN

PG&E does not expect the project to cause ground disturbance that would require revegetation. The basis for this expectation is that PG&E reconnected 4 circuits in this corridor in 1989-1990 during the preferred late summer-early fall period, and did not cause any disturbance requiring revegetation. The 1989-1990 reconnection, known as the San Francisco Resource Supply Project, was considerably larger and potentially more disruptive than the proposed project. By the following spring, there was no sign that PG&E had been on San Bruno Mountain or the West of Bayshore property.

Revegetation was required for the San Mateo-Martin 115 kV Circuit Number 3 Reconnection Project because that project required construction of new towers and was done in the winter during periods of heavy rain. It resulted in considerable road damage and ground disturbance of about 1000 sq ft per tower replaced.

Nevertheless, should some unforeseen damage occur, PG&E will revegetate using methods approved for previous projects. For the two sensitive areas of the project, these include:

West of Bayshore:

We will use the same methods used for the BART Tower Raising project (Byrne, 1998). Similar methods have been used successfully on other PG&E projects in the West of Bayshore parcel. On the West of Bayshore parcel, revegetation is done with species that are common on the site. The philosophy behind this approach is that the floral environment on site currently supports the endangered San Francisco garter snake and the red-legged frog, and that the best mitigation is to maintain existing grassland vegetative conditions. Also, it is important to provide ground cover to prevent weed invasion.

The steps in revegetation are:

- Ground preparation. This is the most crucial step. The ground is prepared by breaking up compacted soil mechanically (if the area is large) or by hand (if small).
- Seeding. Seeding is done by hydroseeding for large areas and by hand for small. The seed mix used consists of perennial rye, wild oats, and brome. If any wetland areas are impacted, a haying method will be used to replicate existing species composition.
- Weed control. If necessary, weeds will be pulled, cultivated or sprayed after one full season of growth. So far, weed control has not proven necessary, as we have achieved good ground cover using the above methods.
- Monitoring. Sites are inspected following one full growing season, and reseeded will be done if needed.



Road on San Bruno Mt.
during San Mateo-Martin
No. 3 reconnection.

San Bruno Mountain:

PG&E will use methods approved for the San Mateo-Martin 115 kV Circuit Number 3 Reconductoring Project (Pacific Gas and Electric Company, 1999). PG&E proposes to implement these measures if construction on San Bruno Mountain disturbs soil and creates a potential for erosion and sedimentation, or for the establishment of invasive species. This plan is consistent with the guidelines for erosion control and restoration set forth in the "Standards for acceptance of any dedicated lands by the County of San Mateo in accordance with the San Bruno Mountain Area Habitat Conservation Plan."

On San Bruno Mountain, the primary vegetation of areas near the PG&E project is native grass. The major objective of a revegetation plan is to provide vegetative cover of native grasses to prevent erosion and the spread of non-native invasive species.

a. Site Preparations

The disturbed areas will be treated as necessary to re-establish native grass cover and to promote natural regeneration. Depending on the conditions of the site, various treatments will be applied. The various treatments may include:

- Disking or cultivation of the soil to eliminate soil compaction and to create a seedbed for seeding. The time of disking or cultivation would be in the fall after the seasonal rains have moistened and softened the soil.
- Applying a wetting agent¹ in areas where existing vegetation exists but soil is compacted and growth is stunted. The treatment would be applied in the fall in order to enhance infiltration of rainwater and to reduce runoff.
- Applying an organic fertilizer such as Biosol 7-7-1 to stunted vegetation in order to encourage more vigorous growth.

b. Erosion Control Seeding

Broadcast seeding onto a prepared seedbed or scarified soil is the common seeding procedure PG&E anticipates using in most areas. In some cases, an erosion control blanket may be used on some steep-sloped areas to help retain seed and to promote germination.

1. Seeding Mix- the seeding mix will consist of native grasses collected from San Bruno Mountain.

<u>Species</u>	<u>Pounds per acre (PLS)</u>
Elymus glaucus	as much as feasible
Bromus carinatus (40%)	30.0
Festuca idahoensis (40%)	6.0
Festuca rubra (20%)	3.5

2. Sources of seed

The sources of seed for roadways, trails and laydown areas will be from the San Bruno Mountain area. They will be primarily from a commercial source that was collected from

¹ The wetting agent to be used is E-Z wet Soil Penetrant (active ingredient is Nonylphenolpolyethoxylate, isopropyl Alcohol, Oleic acid). This material is used in agricultural applications as well as in golf course management. The material is non-toxic and has a "Caution- Keep out of reach of children" label.

the mountain several years ago and grown as a seed crop. In some cases where native grasses and forbs were collected in 2000 by PG&E, commercial seed may be supplemented with these additional native species.

3. Seeding rate

The seeding rate for erosion control seeding will be approximately 150 viable seeds per square foot. Seeding rate determination shall be performed according to the procedure described in a published article "Determining the Seeding Rates of Native Grass Species" (Chan, 1999).

c. Minimal Fertilization

A minimal amount of organic fertilizer will be applied to seeded areas to assure establishment and to attain a vegetative cover for erosion control. The fertilizer that will be applied is Biosol 7-7-1 (or another comparable organic fertilizer) at a rate of 600 pounds per acre.

d. Mulching or Erosion Control Blanket

Mulching seeded areas will be performed by applying rice straw mulch uniformly over the seeded area at a rate of 1000 to 1200 pounds per acre or by covering the seeded area with a light erosion control blanket. If straw mulch is used, it may have to be stabilized by crimping or by securing with photodegradable netting.

e. Additional Treatments for Vegetated or Partially Vegetated Roadways and Trails with Compacted Soil

On vegetated or partially vegetated roadways and trails [where soil has been disturbed and bare soil is visible] growth of the vegetation has been inhibited due to soil compaction. Depending on the extent of the stunted growth and if the soil is bare, various treatments will be applied. If the vegetation growth is stunted, a wetting agent and supplemental fertilizer (see above) will be applied. If the soil is bare, the soil will be scarified with a thatch rake after rain has softened the ground and then seeded. Afterwards, the wetting agent and fertilizer will be applied. All treatments will be performed in the fall.

f. Monitoring and Remedial Seeding

The seeded areas will be monitored 3 years after seeding. During this period, the seeding contractor will perform remedial seeding as necessary at the end of each growing season in the fall. Local native seeds will be seeded as needed.

g. Level of Acceptance for Erosion Control Seeding

The seeded areas should have a cover of at least 70% at the end of the first growing season. Bare soil areas should be reseeded in the fall at the end of the first growing season and as needed during the 3-year remedial period.

REFERENCES

- Byrne, Sheila. 1998. Site Restoration and Revegetation Report BART-San Francisco Airport Extension Project, PG&E Tower Raising. Prepared for the San Francisco Bay Area Rapid Transit District (BART). Pacific Gas and Electric Company Technical and Ecological Services. San Ramon, California.
- Pacific Gas and Electric Company. 1999. San Mateo-Martin 115 kV Circuit Number 3 Reconductoring Project, U. S. Army Corps of Engineers Nationwide Permit Application. Pacific Gas and Electric Company, San Francisco, California.
- Chan, Frank. 1999. Soil Stabilization and Revegetation Plan for San Bruno Mountain, PG&E San Mateo-Martin 115kV Circuit Number 3 Reconductoring Project. Tab 6 of Pacific Gas and Electric Company. 1999. San Mateo-Martin 115 kV Circuit Number 3 Reconductoring Project, U. S. Army Corps of Engineers Nationwide Permit Application. Pacific Gas and Electric Company, San Francisco, California