

Public Safety Plan

Public Safety Plan for Solomon Gulch Project
P-2742-AK

Copper Valley Electric Association



Updated October 2024



Solomon Gulch Hydroelectric Power Plant
Valdez, Alaska

Table of Contents

Solomon Gulch Hydroelectric Project Public Safety Plan

1. Introduction	2
2. Safety Devices and Measures	3
a. Hiking Trail Sign	3
b. Locked Gate	3
c. Stop Signs	3
d. Barbed Wire Fence	3
3. Warning Signs	
a. No Hiking	3
b. Stay Off the Dam	3
c. Video Surveillance	3
d. Recreate at Your Own Risk	3
e. No Climbing, No Jumping	3
f. High Voltage	3
g. Emergency Reporting	3
h. Authorized Personnel Only	3
4. Warning Devices	3
a. Flashing Warning Light	3
b. Dam Failure Warning Siren	3
5. Danger Warning Signs	3
a. Dam Failure Warning Signs	3
b. Thin Ice & Open Water Sign	3
6. Critical Site Concerns	4
7. Drawings	5
a. Solomon Gulch Vicinity Map	5
b. Powerhouse Site Map	6
c. Dam and Valve House Map	8
d. Solomon Gulch Trailhead Map	10

INTRODUCTION

This revised Public Safety Plan is filed in accordance with the Federal Energy Regulatory Commission's (FERC) authority pursuant to 18 CFR, Part 12, the Commission's regulations related to the safety of waterpower projects and project works.

PROJECT DESCRIPTION

In 1978 Copper Valley Electric Association (CVEA) obtained a license from the FERC and began construction of a 12-megawatt hydroelectric project at Solomon Gulch, near Valdez. Construction was completed in January 1982 and commercial operation commenced on March 31, 1982. The project provides power to Valdez and Glennallen.

The project includes the following:

- A 115-foot-high rock-fill dam and asphalt concrete face
- Two 48-inch diameter steel penstocks approximately 4,200 feet in length
- A powerhouse with two 6,000 kW generators providing a total of approximately 12 megawatts of installed capacity
- Five miles of 24.9 kV transmission line from the powerhouse to the Meals Substation and 106-miles of 138kV transmission line between the Meals Substation and Glennallen

The Alaska Energy Authority (AEA) acquired the project from CVEA and operated the project for many years selling power to CVEA. CVEA has since acquired the project back in 2009 and operates the project as a CVEA asset. CVEA is now responsible for the Emergency Action Plan and the Public Safety Plan.

PUBLIC USE OF THE PROJECT SITE

Public use of the project includes day hiking on a two-mile-long trail between Dayville Road and the dam and occasional public tours of the powerhouse.

No boats or boating facilities are available in the reservoir. The reservoir has no fish. Use of motorized vehicles for recreational purposes on project land is prohibited.

Table 1 lists the safety devices found at the project.

Table 1 – Public Safety Devices at the Solomon Gulch Hydroelectric Project

Safety Devices and Measures	Location
a. Hiking Trail Sign Alerting Users to the Potential for Bear Encounters	At trailhead on Dayville Road
b. Locked Gate	Locked gate on Alyeska Pipeline Company’s ROW, to prevent entry of unauthorized motor vehicles in project hiking area and access road
c. Stop Signs (2)	On Alyeska Pipeline Company’s ROW to prevent hikers from moving off project trail onto unauthorized portions of Alyeska ROW
d. Barbed Wire Fence	Attached to elevated section of penstocks to prevent access
Warning Signs	Location
a. No Hiking (2)	Valve house building on downstream base of dam
b. Stay Off the Dam	Bubbler Shack
c. Video Surveillance	Mounted on camera pole above saddle dike wall
d. Recreate at Your Own Risk (2)	At the beginning of trailhead, Pavilion
e. No Climbing, No Jumping	Saddle dike wall
f. High Voltage	Valve house building on downstream base of dam
g. Emergency Reporting (2)	Bubbler Shack, Pavilion
h. Authorized Personnel Only	Saddle dike wall
Warning Devices	Location
a. Flashing Warning Light ¹	East end of Solomon Gulch Bridge on Dayville Road
b. Dam Failure Warning Siren	Mounted on the north wall of powerhouse
Danger Warning Signs	Location
a. Dam Failure Warning Signs (4)	At Solomon Gulch Creek Bridge on Dayville Road and on approaches to bridge.
b. Thin Ice & Open Water	Mounted on camera pole above saddle dike wall

¹Lights and siren are tied into the project’s Early Warning System that will activate in response to sudden and pronounced increase in flows below the dam and spillway.

CRITICAL SITE CONCERNS

Short Travel Time of Flood Water in the Event of Failure

The Solomon Gulch Hydroelectric Project dam, spillway, saddle dike, and reservoir are located directly above the:

1. Project Powerhouse and warehouse,
2. Dayville Road,
3. Dayville Road Bridge, and
4. Valdez Fish Hatchery.

Given the short distance between the dam and these structures, they all could be subjected to inundation in a matter of minutes should there be a failure of the Project.

Valdez Fish Hatchery

The Fish Hatchery and surrounding facilities are vulnerable to inundation and thus warning signs are posted in areas most visited by the public.

Alyeska Pipeline and Oil Terminal

The Solomon Gulch Hydroelectric Project penstocks cross the Alyeska Pipeline Company right of way, where the Alaska oil pipeline is buried. A portion of this right of way also is used by the Project as part of the access route to the dam, spillway, saddle dike, and reservoir. High flows from the Project, including high flows over the spillway could erode the pipeline right of way. If erosion were severe enough, it could affect the buried oil pipeline. The result of such an occurrence could include an oil spill.

In addition, the Alyeska Oil Pipeline Terminal facilities are located on Dayville Road, some two miles west of the Project. Damage to the road, or to the bridge that crosses Solomon Gulch Creek, could affect access to the pipeline terminal.

Flood Wave in Valdez Bay

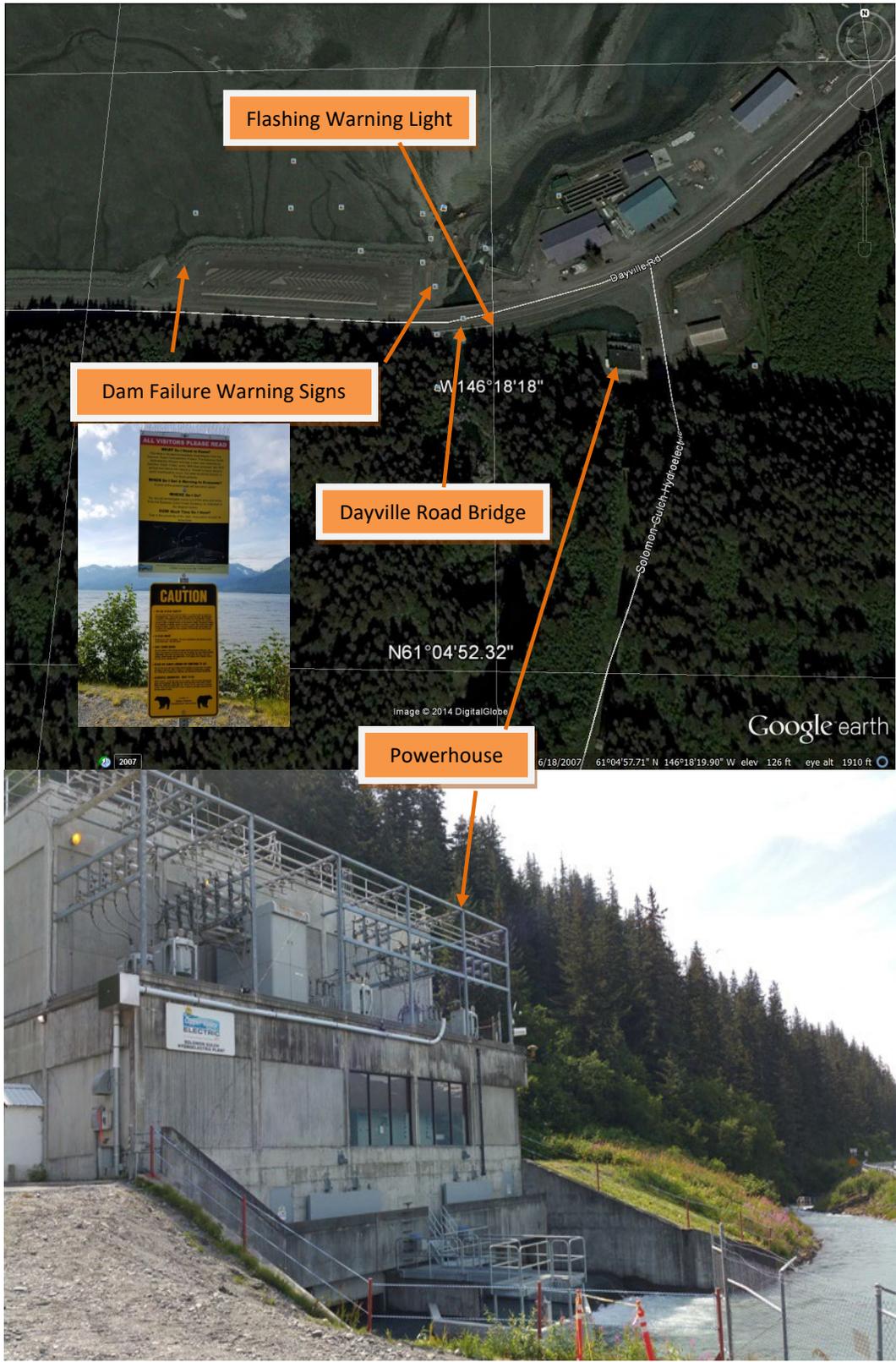
Valdez Bay is heavily utilized by commercial and recreational vessels. A sudden, catastrophic failure of the Solomon Gulch Dam could result in a large, rapidly moving flood wave exiting the mouth of Solomon Gulch Creek and traveling across the bay. Such a flood wave would likely carry a significant amount of debris with it. Both the wave itself and the debris it would carry could constitute a danger to vessels in the area. The Valdez Emergency Preparedness Center, working with the National Weather Service and the U. S. Coast Guard will be responsible for the public notification of this closure and for its enforcement.

Solomon Gulch Project Vicinity Map



Powerhouse Site Map





Dam and Valve House Map





Photo 1. Between Saddle Dike & Spillway



Photo 2. Mounted on camera pole above dike wall



Photo 3. Pavilion



Photo 4. Bubbler shack

Solomon Gulch Trailhead Map





Solomon Gulch Trail Sign



View of Solomon Gulch Trail from Dayville Road



Solomon Gulch Stop Sign when leaving trail