STATE OF CALIFORNIA CALIFORNIA NATURAL RESOURCES AGENCY DEPARTMENT OF WATER RESOURCES DIVISION OF SAFETY OF DAMS

INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

Name of D	amS	eeger (Nica			Dam No	33-8	County	Marin
Type of Da		ER	TH	Type of Spillway		ncrete sid	e channel o	gee
Water is _	0.1	feet_	above	the spillway crest and	15	feet	below	the dam crest.
Weather C		Clear an						
Contacts M				ders, and Ronnie Chas	teen during th	ne inspect	ion	
Reason for	Inspectio	n_Periodic	Evaluatio	n				
mportar	nt Obse	vations, Re	commen	dations or Actions Ta	<u>aken</u>			
				and continues to impro tream groin is desirable				
				ontrol valve is inoperati the outlet to full functio		l Mr. Anay	a to repair o	or replace the
The seep debris, as			ge chann	el beyond the weir hav	e been cleare	ed of sedim	nent, leaves	, and other
		wer access wnstream fa		ss the downstream fac	e of the dam	should be	filled and gi	raded to drain
Conclusi	ions							
From the	known i	nformation a	and visual	inspection, the dam, re	eservoir and	the annuit	enances ar	e judaed safe
or contin			aria visaai	mopeodon, the dam, n	cservoir, and	ine appun	iciiaiices ai	e judged sale
					×			
Observa	tions ar	d Commen	its					
<u>Dam</u>	conditional condit	on with no in oulder riprar	dication of that rem	ostream face, crest, down of surficial distress or in ains in satisfactory con dam should be filled an	stability. The dition. Ruts v	e upstream within the	i face is arm lower acces	ored with s road across
	are cov	ered with ar ng inspectio ream toe an	nkle tall gr n and moi	ly quite good, and the rass and other low grou nitoring for seepage an ght downstream groin i	ind cover that d other defec	t protect a cts. Some	gainst erosi additional c	on without clearing of the
	rodent	activity was	observed	ctions, rodent control a within the embankmer the embankment surfac	nt footprint. R	Rodent acti	ivity is abun	dant within the
Spillway	structur		n satisfact	n, and exit channel we fory condition, and is fro tion.				
					Inspected by		J. Lowe	LA TOIL
hotos take	n? Yes	X No)	18	Date of Inspec	tion	5 April 20	
for		Owner/Boo	K	20	Date of Report		6 April 20	
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INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

Name of Dam _	Seeger (Nicasio)	Dam No	33-8	
		Data di la sancia	5 April 2016	
		Date of Inspection	5 April 2016	

Observations and Comments

Total freeboard is 15 feet and the residual freeboard for the design storm is 8.6 feet. Freeboard is satisfactory.

Outlet

Four 24-inch diameter butterfly valves on the inclined inlet structure provide upstream control for the fully encased normally pressurized outlet. The four mechanically operated valves are located at elevations 157.0', 146.0', 126.0', and 90.0'. A pair of geared head drive 24-inch butterfly valves arrayed in series provides downstream control.

All upstream and downstream controls were partially cycled, and all except for the downstream most 24-inch butterfly valve function properly. The downstream most outlet control valve is inoperative due to an apparent failure of the geared head drive. I directed Mr. Anaya to repair or replace the valve as quickly as possible, to restore the outlet to full function.

Seepage The downstream face, groins, and abutments were dry and free of evidence of any seepage.

The seepage weir and drainage channel beyond the weir have been cleared of sediment, leaves, and other debris, as requested. Clear seepage flow at the toe weir was roughly 5 gpm and is within historic values.

Instr.

Instrumentation consists of:

- Ten (10) survey monuments. Survey monuments were installed to monitor post construction settlement of the crest and settlement and displacement of the crest following significant seismic events. Survey monuments have been read at irregular intervals.
- One (1) seepage-measuring weir. The seepage-monitoring weir was installed to monitor flow beneath the toe of the embankment and is read monthly.

The ten survey monuments consist of seven (7) crest monuments, two (2) auxiliary monuments, and one (1) spillway monument. The seven survey monuments are located along the centerline of the embankment crest. Two (2) benchmarks are used to locate and reference the survey monuments.

The latest instrumentation data was received from the owner on December 16, 2015; survey data covers the reporting period between January 1982 and September 2015. There is no indication of increasing settlement of the embankment in the past fifteen years, and the apparent movement indicated by the survey data is most likely instrumentation or reading error. Lateral displacement data shows quite a bit of scatter, but again, there does not appear to be any continuing long-term trend of displacement. The owner reports that, "Seeger Dam (Nicasio Lake) is trending toward stabilization: settlement of -0.13 ft. (maximum) and alignment of -0.13 ft. (downstream direction; maximum)."

Clear seepage measured at the monitoring weir correlates closely to rainfall; in the absence of rainfall seepage drops to essentially zero. Normal peak seepage, in the range of 40 or more gpm, quickly falls to near zero following the secession of winter storms.

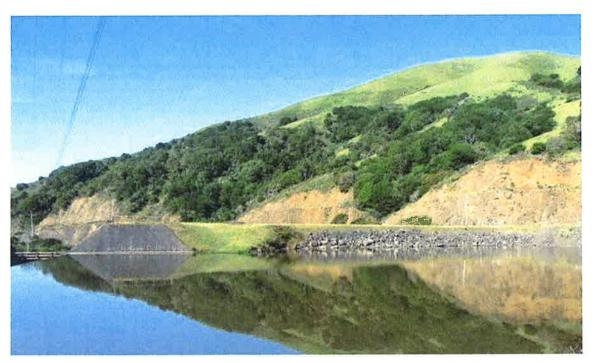
Based on the data submitted the dam appears to be performing satisfactorily, and no additional instrumentation is believed necessary at this time.

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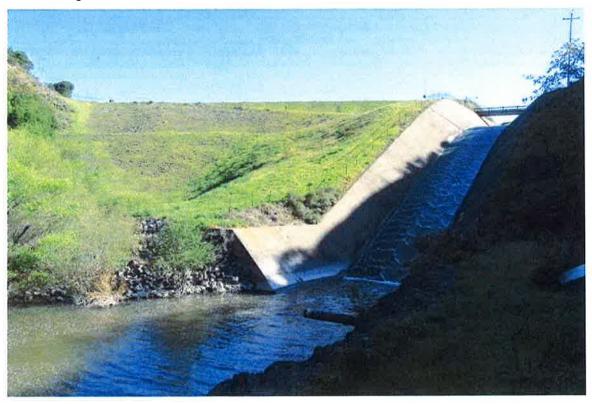
INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

33-8 Dam No. _____ Seeger (Nicasio) Name of Dam

Date of Inspection 5 April 2016



The upstream face as viewed from the upstream end of the spillway channel. The large boulder riprap face protection remains in good condition.



The downstream face, spillway outflow channel, and stilling basin. The outlet discharges into the stilling basin just upstream of the drain pipe visible in the bottom center of the photograph.

INSPECTION OF DAM AND RESERVOIR IN CERTIFIED STATUS

Name of Dam

Seeger (Nicasio)

_Dam No. ____

33-8

Date of Inspection 5 April 2016



A closer look at the lower right downstream face and downstream toe. Overhanging vegetation indicated by the yellow line should be removed to improve access for monitoring by MMWD staff.



The spillway channel looking in the downstream direction. The spillway concrete structure remains in satisfactory condition, and is free of significant cracks or spalls indicative of excessive stress or deterioration.