

**River Falls Hydroelectric Project No. 10-489
12.10 Report**

This document has been created to satisfy 18 CFR 12.10 Reporting safety related incident during large rain event on June 28-29, 2020.



The Powell Falls dam has had the right-side training wall damaged to the extent of missing concrete and possible lowering Lake Louise 3 feet.

The picture below was on taken on March 16, 2020 before the damage.



June 28 -29- 2020 the Kinnickinnic river watershed area had a rain event. The storm rained over the area and dropped 7-8" of precipitation in approximately 12 hours. The Kinnickinnic River experienced a large flash flood event on the June 29. On July 2 when the water had receded enough, began the start of the damage inspection.

On the morning of June 29, the hydroelectric generators were taken offline at Powell Falls and Junction Falls as they had falling kW output. They were taken offline to avoid pulling in mud and debris through the intake. No one was recreating downstream at that point in time.

There were no measures taken to prevent worsening. The river was rising fast, and the picture shows the staff gauge at the Junction Falls intake. The dam crest is at 865.3 and the picture below reflects it at 867.9 at 7:06 a.m. on June 29.



On June 29 at 2:20 p.m. the staff gauge was underwater.



The water was carrying large debris downriver during this time frame. The headworks at Powell Falls were underwater with water flowing fast over it and was unsafe to access (time 7:55 a.m. on June 29).



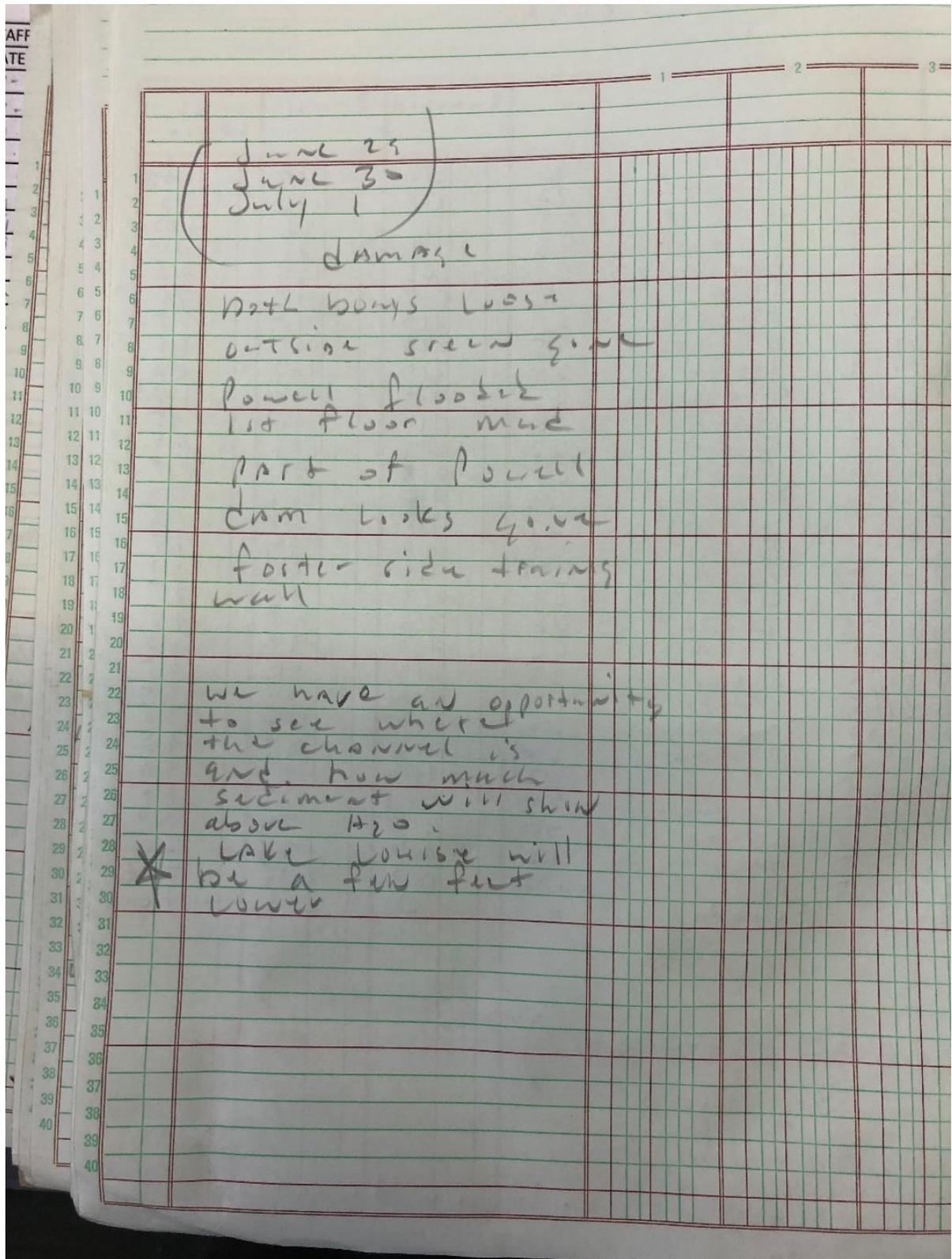
- There were no injuries or deaths reported from this event on the Kinnickinnic River.
- The EAP was not activated for this event. We attempted no sandbagging or any other flood fighting actions.
- We did not operate the wastegate at either site.
- The water moved rocks and debris downstream and the river at one point was creating a new channel.

More pics before and after below of Junction Falls on the next two pages.





Pictures of operational data:



DATE	Time	kw	
7.5	1700	206	7.5
7.3	0925	209	6.2
7.3	1715	209	7.
7.4	0850	206	7.
7.4	1715	206	7.3
7.5	1025	206	7.
6.26	0755	75	Sti
6.26	1440	88	
6.27	0840	74	Fr
6.28	1045	73	
6.28	1820	73	Ke
6.29	Offline.		16

Brushes
6.17

6-29 - Flash Flood -

Powell
offline @ 0445

Junction
180 KW

Offline 0730

7-2

Right side of Powell training wall
broken off warning sign
bent over by log.
@ 8 ft section of the wall
gone hole left is 2'-
3' deep. It will drain down
Lake Louise

sandbags, stop logs
posts, or boards are we going
to fix it? or start the
lowering + remove process early

?

below Junction limestone
wiped clean of brush + weeds
looks nice.
Lost transducer for level
lost ext screen it is below
Junction in tailrace all bent



\$

				1 Junctions	2 Pumps	3 Valve	4
1	61	0840	LT clouds	66	214	105	80%
2	62	0730	clear	72	214	103	80
3	63	0950	LT clouds	73	0	12	100
4	64	0915	LT clouds	73	0	81	95
5	65	0720	PTLY cloudy	61	223	105	90
6	66	1205	cloudy	66	218	105	70
7	67	0940	PTLY cloudy	69	217	105	75
8	68	0810	LT clouds	75	220	103	80
9	69	0730	clear	70	217	103	80
10	610	0705	clouds	60	213	99	100+
11	611	0715	clear	58	213	99	95
12	612	0810	clear	62	214	101	90
13	613	0900	clouds	60	213	98	75
14	614	0940	PTLY cloudy	63	212	102	70
15	615	0720	clouds	67	210	98	75
16	616	0730	clear	68	210	97	75
17	617	0715	clear	67	212	96	80
18	618	0720	clouds	68	213	96	75
19	619	0755	clouds	68	206	95	75
20	620	1010	clouds	66	207	93	80
21	621	0830	clear	68	208	92	85
22	622	0725	clouds	67	204	83	95
23	623	0720	clouds	65	206	86	90
24	624	0710	PTLY cloudy	60	206	83	85
25	625	0815	clear	62	207	90	90
26	626	0755	clouds	71	207	75	85
27	627	0845	clear	75	208	74	90
28	628	1055	hazy	82	209	73	
29	629	0445	Rain	67	180	057	Flood
30	630		Flood	7	0	0	Flood
31							
32							
33							
34							
35	629	0405	3840 cfs				
36			Big Flood				
37							
38							
39			Both valves, Bony's				
40			Loose				
			X' outside screen gate Junction				

Rain

Wind

Wind

10

SON
928

COMPLETION:
www.accuform.com • reorders# TAR416

W. P. (Private)	D9	
E DUNDAS ST	E7	F7 07
W DIVISION ST	C9	D6
DOUGLAS ST	D0	
DRY RIVER RD	C6	
DUNDAS AVE	D2	
EASTVIEW CT	I7	
EDINBURGH DR	D2	
N BRIGHT ST	F6	F7
S BRIGHT ST	F7	
E ELM ST	E7	
W ELM ST	D7	E7
EMERY CIR	C7	
EMORY CIR	E9	
EMORY DR	E9	
DVA PL (Private)	D9	
FALCON DR	I8	
N FALLS ST	F7	
S FALLS ST	D6	D7
...	D7	

July 2020

Level gauge broken

Prepared By	Initials	Date
Approved By		

	1	2	3
1	71	Hot + Humid	0
2	72 0725	same	214
3	73 0930	LT clouds	209
4	74 0900	dry clay	206
5	75 1025	dry clay	202
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Light
Broken

The pictures below are from the height of the flood at Powell Falls and Junction Falls. At the USGS station downstream the flow was at 3890 cfs at 905 a.m. June 29th.



At the height of the flood it was at 7 feet above the crest of the dam (this is an enormous amount of water).



- The damage done by the flash flood on June 29 -July 1, 2020.
- Powell training wall, at this time no repair has been scheduled.
- Junction intake prescreen pulled from mounts sent downstream ending up below Junction Falls tailrace. Will try to salvage this.
- Junction Falls level gauge transducer pulled from mount sent downstream. Will need to replace.
- Warning buoys broke will need to reattach.
- Dam warning sign smashed right side Powell. Have replacement sign.
- The property around the project area is owned by the city. No private property in project boundary.