

FPP Change Form

Change Request Number: 11TDA 001 Table TDA 6 Spill Pattern Revision

Date: April 29, 2010

Proposed by: Doug Baus

Location of Change: Section 3 The Dalles, of the 2010 Fish Passage Plan

Proposed Change: See attached revised spill table.

Reason for Change: With the recent low flows TDA Project refined the spill patterns to get closer to 40%. They incremented gate openings by 0.2, 0.5, 0.7 and 1.0 foot increment. The 0.2 and 0.7 have to do with control of the gate and using the counter in the control room. It works out that there is 5 counts between 0 and 0.5 and 0.5 and 1.0 feet. You can't set the gate opening at a half count so the decision was made to use 0.2 and 0.7. The gate refinement was continued until spill was at 40% plus or minus 1%. The revised spill pattern is attached.

Comments from others:

Record of Final Action:

Approved at the 13 May 2010 FPOM Meeting.

Table TDA 6. 2010 Spill Pattern. 8/9 Spill Patterns (Revised April 20, 2010).
The highlighted spillbays are redtagged and unavailable for normal use.

Spill patterns have been refined (0.2 and 0.7 foot increments) based on the gate counter, which is used to set gate openings in the control room. Refinement was stopped once spill was plus or minus 1% of the required 40%.

The Dalles																																																						
Discharge Distribution Patterns																																																						
Spillway Bay Number																										Total	Total	Total	Range of Flow	Range of %Spill																								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	counts	Feet (ft)	Spill cfs	River cfs	Low	High	High	Low																								
vertical gate opening (ft.)																																																						
						4	4																44	8	12,000	62,000	62,000	62,750	19.4%	19.1%																								
						5	5																49	9	13,500	63,500	62,750	64,250	21.5%	21.0%																								
						5	5																54	10	15,000	65,000	64,250	65,750	23.3%	22.8%																								
						6	6																58	11	16,500	66,500	65,750	67,250	25.1%	24.5%																								
						6	6																63	12	18,000	68,000	67,250	68,750	26.8%	26.2%																								
						7	7																68	13	19,500	69,500	68,750	70,250	28.4%	27.8%																								
						7	7																73	14	21,000	71,000	70,250	71,750	29.9%	29.3%																								
						8	8																78	15	22,500	72,500	71,750	73,250	31.4%	30.7%																								
						8	8																82	16	24,000	74,000	73,250	74,750	32.8%	32.1%																								
						9	9																87	17	25,500	75,500	74,750	76,250	34.1%	33.4%																								
						9	9																92	18	27,000	77,000	76,250	77,750	35.4%	34.7%																								
						10	10																96	19	28,500	78,500	77,750	79,250	36.7%	36.0%																								
						10	10																101	20	30,000	80,000	79,250	80,750	37.9%	37.2%																								
						11	11																105	21	31,500	81,500	80,750	82,250	39.0%	38.3%																								
						11	11																110	22	33,000	83,000	82,250	83,750	40.1%	39.4%																								
						12	12																114	23	34,500	84,500	83,750	85,250	41.2%	39.5%																								
						12	12																119	24	36,000	90,000	87,250	90,000	41.3%	40.0%																								
		4	4	4	4	4	4																44	24	36,000	90,000	90,000	92,250	40.0%	39.0%																								
		4	4	4	4	4	4																46	25.2	37,800	94,500	92,250	97,875	41.0%	38.6%																								
		5	5	5	5	5	5																49	27	40,500	101,250	97,875	103,125	41.4%	39.3%																								
	4	4	4	4	4	4	4				</																																											

Note 1: There is a 50 Kcfs powerhouse requirement. Thus 40% spill is not achievable until the total river is 85 Kcfs or higher.

Note 2: Uniform spill patterns are critical to increasing juvenile fish survival through the tailrace. With the completion of the spill wall between spillbays 8/9 two more bays are being used in the pattern. To accomplish the flat pattern fixed amounts of spill will occur resulting in hourly spill percentages within the ranges shown in the table.

Note 3: The highlighted columns are spill bays that are operationally restricted because of structural or wire rope issues.

Note 4: If total river discharge is between 90 and 150 kcfs, the spill percentage could range from 38.6 to 41.4 percent due to the new spill patterns developed for use with the newly completed spillwall.

Note 5: If total river discharge is between 150 and 300 kcfs, the spill percentage could range from 38.9 to 41.2 percent due to the new spill patterns developed for use with the newly completed spillwall.

Note 6: If total river discharge is between 300 and 420 kcfs, the spill percentage could range from 38.4 to 41.0 percent.