

Appendix D

2024 Summary of TDG Exceedance Tracking

INTRODUCTION

The U.S. Army Corps of Engineers (Corps) tracks the number of days when the percent TDG exceeds the Oregon (set by Oregon Department of Environmental Quality, ODEQ) and Washington (set by Washington Department of Ecology, WDOE) water quality standards (WQS). During spill for fish passage, April through August, WDOE's and ODEQ's WQSs use the same method for calculating a daily value of TDG: the average of the 12 highest hourly readings in a calendar day. This appendix provides the TDG tracking system results. A description of each table follows.

Table D- 1 provides a definition of TDG instances (including exceedance types, 7Q10 flows, and data quality events) with the associated format used to identify the type. Table D-2 through D-9 identify the daily TDG regulatory value (computed using the methods described in the previous paragraph) and exceedance type if applicable (as defined in Table D- 1) by project forebay and tailwater.

Table D- 7 and Table D-8 provide the total number of TDG exceedances by type for each project for the lower Snake River projects and lower Columbia River projects, respectively.

Oregon and Washington also specify that April through August, the maximum two consecutive hour TDG must not exceed 127 percent and 126 percent, respectively. Table D-9 through D-11 show the daily TDG two-hour regulatory values between April and June 2024. Table D- 12 breaks down the maximum two-hour consecutive TDG value, the number of days that exceed 126 percent Washington TDG standard, and the number of days that exceed the 127 percent Oregon TDG standard.

Table D- 13 provides a list of TDG gauges that malfunctioned during the 2024 spill season, which resulted in six hours or more of either missing or erroneous data. Malfunctioning gauge TDG instances are noted as data quality event in Table D-2 through Table D-9.

Table D- 1: TDG instance definitions

Forced Spill Exceedance (FSE)	TDG WQS exceedance due to spill above the BiOp fish spill levels. This includes exceedances due to: • High runoff flows and flood risk management efforts. • Periods when BPA load requirements are lower than actual powerhouse capacity or project is carrying system-wide reserves. • Involuntary spill at Mid-Columbia River dams resulting in high TDG levels entering the lower Columbia River. • Involuntary spill at Snake River dams resulting in high TDG levels entering the lower Columbia River. • Planned and unplanned outages of hydro power equipment including generation unit, intertie line, or powerhouse outages.
Mechanical Exceedance (ME)	TDG WQS exceedance due to the operation or mechanical failure of non-generating equipment. This includes exceedances due to: • Spill gates stuck in open position or inadvertently left open. • Increased spill in a bulk spill operation to pass debris or other special operations. • Communication errors, such as teletype were transmitted but change was not timely made or misinterpretation of intent of teletype by Project operator.
Uncertainty Exceedance (UE)	TDG WQS exceedance due to uncertainties when using best professional judgment, SYSTDG model and forecasts. This includes exceedances due to: • Uncertainties when using best professional judgment to apply the spill guidance criteria, e.g., travel time, degassing, and spill patterns. • Uncertainties when using the SYSTDG model to predict the effects of various hydro system operations, temperature, degassing, and travel time. • Uncertainties when using forecasts for flows, temperature, and wind. • Unanticipated sharp rise in water temperature (greater than 1.5 degree F. per day).
Transition Exceedance (TE)	TDG WQS exceedance due to change in the WQS from spring spill to summer spill. • Because spring WQS are higher than summer WQS and travel time between projects can be greater than a week, there may be a transition period while the system degasses subsequent to the spring spill operation.
Exceedance Following GBT (GBT)	TDG WQS exceedance during spill reduction following GBT exceedance. • There may be a transition period while the system degasses. • Because there may be different WQS applied to projects in the same reach, a WQS may not be attainable at all gauge locations.
Data Quality Event (-)	Malfunctioning FMS gauge that resulted in missing or erroneous data. The TDG cannot be evaluated for these days.
7Q10 Flow (*)	TDG above the WQS during project flow higher than 7Q10 flows. These instances are not counted towards the total number of exceedances.
Gauge Not Yet Installed (•)	Data not collected at forebay gauges during the spring as the 125% TDG WQS applies only to the tailwater gauges.

Table D- 2: Daily 12-hour Regulatory TDG Instances in April 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
4/1/2024	102	107	108	110	108	114	111	112	108	113	107	110	107	108	107	108
4/2/2024	103	109	107	111	108	113	111	112	107	114	107	111	108	108	107	108
4/3/2024	103	115	108	115	109	116	112	114	107	111	107	111	107	107	107	109
4/4/2024	104	117	109	118	110	116	112	114	107	112	108	111	108	108	107	110
4/5/2024	104	118	109	119	110	117	112	116	107	110	107	111	107	107	106	107
4/6/2024	103	119	107	120	113	118	112	116	106	110	105	110	105	105	104	106
4/7/2024	100	119	108	119	115	117	112	117	104	109	105	110	106	106	105	106
4/8/2024	100	119	111	120	116	118	113	116	105	109	105	109	106	106	105	107
4/9/2024	101	119	112	119	118	118	114	117	106	110	105	109	106	106	105	107
4/10/2024	102	119	114	120	118	118	114	116	108	118	105	116	107	112	106	116
4/11/2024	104	119	117	120	120	118	118	117	111	118	106	116	114	116	108	118
4/12/2024	104	119	118	120	122	117	119	116	112	118	106	116	114	116	113	119
4/13/2024	104	120	119	120	123	118	119	117	113	118	106	115	114	116	114	119
4/14/2024	104	121	120	122	122	119	119	117	114	118	106	116	114	116	114	118
4/15/2024	103	123	119	123	120	120	117	117	112	117	105	116	110	115	109	118
4/16/2024	102	124	114	123	119	122	115	118	109	118	105	117	109	115	108	120
4/17/2024	101	123	112	123	121	121	118	118	108	118	107	117	113	117	111	120
4/18/2024	102	122	116	122	124	119	120	117	111	118	109	117	116	118	114	120
4/19/2024	103	122	119	122	123	119	121	117	112	118	110	117	116	118	116	120
4/20/2024	104	121	120	122	121	119	120	117	-	118	109	117	117	119	115	120
4/21/2024	104	121	119	122	120	118	117	116	-	117	108	116	114	118	115	119
4/22/2024	104	120	118	122	119	118	117	116	-	118	111	117	114	118	115	119
4/23/2024	104	121	119	122	120	118	119	116	-	118	114	117	116	119	115	120
4/24/2024	104	121	119	122	122	118	119	117	113	118	114	117	116	119	115	120
4/25/2024	104	121	120	122	120	120	118	116	113	117	114	117	115	118	115	118
4/26/2024	104	121	119	122	119	120	117	116	112	118	114	117	116	118	115	118
4/27/2024	103	122	118	123	119	121	116	117	110	117	112	116	113	117	114	119
4/28/2024	102	122	116	122	117	122	115	118	109	118	111	116	113	117	112	120
4/29/2024	102	122	114	122	117	121	115	117	107	117	111	116	112	117	112	118
4/30/2024	102	123	113	122	117	121	115	117	106	116	109	116	112	117	112	117
Exceedances:																
DQE:																

Table D- 3: Daily 12-hour Regulatory TDG Instances in May 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
5/1/2024	102	122	114	122	118	120	116	118	107	117	108	116	112	117	112	117
5/2/2024	103	121	115	122	119	120	118	117	109	117	107	116	113	117	113	117
5/3/2024	104	121	117	122	121	120	119	117	112	117	108	115	115	118	115	119
5/4/2024	106	121	119	121	122	119	121	117	112	117	109	116	116	119	116	120
5/5/2024	105	120	119	121	121	118	119	116	110	117	107	115	111	116	112	117
5/6/2024	103	120	117	121	116	118	114	116	108	119	105	115	108	114	108	117
5/7/2024	101	120	113	122	113	120	111	116	105	118	104	115	110	114	107	116
5/8/2024	100	120	110	122	114	119	112	116	104	<u>116</u>	104	116	109	115	108	117
5/9/2024	101	121	110	122	117	118	117	116	107	117	106	116	113	118	111	118
5/10/2024	103	121	114	122	121	118	119	117	111	118	107	116	116	119	115	120
5/11/2024	105	121	120	122	123	118	121	117	114	118	107	117	117	119	119	120
5/12/2024	106	123	122	123	124	120	121	117	115	118	108	117	116	119	118	120
5/13/2024	105	124	121	123	123	122	120	118	115	118	108	116	113	118	113	119
5/14/2024	103	125	120	124	121	122	120	119	113	122	111	117	114	118	113	120
5/15/2024	103	126	120	124	123	122	122	122	114	123	115	118	118	120	115	121
5/16/2024	105	126	121	125	126	122	124	122	114	123	115	120	116	120	115	121
5/17/2024	104	125	120	124	123	122	122	120	111	121	113	118	113	117	112	121
5/18/2024	103	125	119	124	120	122	120	122	110	122	111	118	114	118	111	121
5/19/2024	103	125	117	124	123	121	120	121	109	122	109	119	113	118	110	121
5/20/2024	104	124	117	124	121	121	120	118	111	121	108	118	115	117	111	121
5/21/2024	104	122	117	122	122	119	119	116	112	121	107	118	115	118	112	120
5/22/2024	105	123	117	122	120	121	119	117	111	122	108	117	113	117	111	120
5/23/2024	104	122	117	123	119	121	115	117	107	122	108	117	113	117	110	120
5/24/2024	104	121	118	123	121	120	118	117	109	122	110	117	115	118	112	121
5/25/2024	104	121	117	121	120	118	118	117	110	120	109	115	112	116	112	120
5/26/2024	103	120	116	121	118	119	115	116	108	118	107	115	111	115	111	120
5/27/2024	103	120	116	121	118	118	115	116	109	118	107	115	113	116	113	119
5/28/2024	103	120	116	120	120	118	118	116	110	120	108	115	113	116	112	120
5/29/2024	103	121	116	121	119	119	117	117	110	119	108	116	112	116	111	119
5/30/2024	103	123	116	123	118	121	115	117	108	121	107	116	114	118	112	119
5/31/2024	103	123	117	123	122	121	119	117	111	122	109	117	118	120	116	121
Exceedances:		2														
DQE:																

Table D- 4: Daily 12-hour Regulatory TDG Instances in June 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
6/1/2024	105	123	121	123	125	120	122	117	114	121	111	117	117	120	117	121
6/2/2024	106	123	122	123	124	119	122	117	114	118	111	116	116	119	116	120
6/3/2024	105	123	120	122	122	120	120	116	113	118	111	116	115	119	114	120
6/4/2024	103	126	116	125	117	123	115	124	109	122	111	117	112	117	111	121
6/5/2024	102	125	115	125	119	122	117	123	107	122	112	118	115	119	113	121
6/6/2024	104	125	120	125	124	122	121	122	114	122	112	120	120	122	116	121
6/7/2024	105	125	124	125	126	121	123	121	116	123	111	120	122	123	118	122
6/8/2024	105	125	125	125	127	122	123	119	116	122	113	118	119	121	120	121
6/9/2024	105	125	125	124	126	123	122	122	116	122	118	118	116	120	117	121
6/10/2024	104	125	122	124	125	123	122	118	113	122	119	117	115	119	112	120
6/11/2024	104	124	121	124	125	122	123	118	114	122	119	117	115	119	113	121
6/12/2024	103	123	119	123	122	121	120	118	111	122	116	117	115	119	112	121
6/13/2024	104	123	119	123	123	121	120	117	111	122	114	118	118	120	114	121
6/14/2024	103	123	118	122	122	118	120	117	111	122	112	117	113	118	113	120
6/15/2024	103	119	116	121	120	117	119	116	110	119	111	115	111	116	112	120
6/16/2024	102	119	114	118	117	116	115	115	107	117	110	114	111	116	112	117
6/17/2024	102	119	113	118	116	117	114	115	107	117	109	114	110	116	111	117
6/18/2024	101	118	112	120	115	117	113	114	107	117	108	114	109	115	110	117
6/19/2024	101	117	112	118	116	116	114	114	108	117	108	114	112	118	113	117
6/20/2024	101	117	114	117	117	115	114	114	109	117	108	114	112	117	115	117
6/21/2024	103	111	115	114	119	119	115	114	111	117	108	114	112	117	117	117
6/22/2024	104	111	116	115	119	119	116	114	112	117	109	114	111	116	115	117
6/23/2024	104	111	117	114	118	118	116	113	111	116	109	114	109	115	111	116
6/24/2024	103	111	116	114	115	117	115	114	110	117	109	115	109	116	109	117
6/25/2024	103	111	116	113	114	118	115	115	110	117	112	115	112	118	112	117
6/26/2024	103	111	114	113	113	117	115	114	110	116	112	116	113	117	113	117
6/27/2024	102	111	110	112	113	117	114	113	108	116	109	116	109	115	110	116
6/28/2024	102	112	110	113	112	117	113	113	107	117	108	115	109	116	110	117
6/29/2024	102	111	110	113	111	117	112	112	107	117	108	116	111	117	111	117
6/30/2024	100	111	109	112	110	117	111	112	108	117	107	116	109	115	110	117
Exceedances:		1	2		3		2								1	
DQE:																

Table D- 5: Daily 12-hour Regulatory TDG Instances in July 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
7/1/2024	100	111	108	112	111	117	113	113	109	117	107	115	108	115	110	117
7/2/2024	101	111	109	112	111	117	114	113	109	117	106	115	107	114	108	117
7/3/2024	100	111	109	112	110	-	113	113	108	117	105	115	107	114	107	116
7/4/2024	101	111	109	113	110	117	113	113	109	117	108	115	110	116	109	117
7/5/2024	101	111	109	113	111	117	114	113	109	117	110	115	112	117	113	117
7/6/2024	101	111	109	113	112	117	115	114	110	117	112	115	112	117	115	117
7/7/2024	102	111	110	113	113	117	116	114	111	117	113	116	112	117	115	117
7/8/2024	102	111	111	113	113	117	116	114	112	117	115	117	113	118	114	117
7/9/2024	103	111	111	113	113	117	117	114	113	117	118	116	114	118	115	117
7/10/2024	103	112	111	113	113	117	117	114	112	117	117	116	114	117	113	117
7/11/2024	103	111	111	113	112	117	115	113	111	117	114	116	110	115	109	117
7/12/2024	103	112	112	113	112	117	115	113	111	117	112	116	111	116	108	117
7/13/2024	104	111	110	113	112	117	115	113	111	117	113	116	113	117	109	117
7/14/2024	103	111	110	113	111	117	114	113	110	117	112	117	112	116	109	117
7/15/2024	102	111	109	113	112	117	114	113	110	117	110	116	110	115	108	117
7/16/2024	102	112	110	113	112	117	114	113	109	118	110	-	111	116	110	117
7/17/2024	103	112	109	112	111	117	114	113	109	117	110	-	112	117	110	117
7/18/2024	102	112	109	113	110	117	113	113	109	117	109	-	110	115	109	117
7/19/2024	101	112	109	113	110	117	113	113	109	117	108	116	109	114	109	117
7/20/2024	101	112	109	113	110	117	113	113	109	117	108	116	110	115	111	117
7/21/2024	102	113	110	113	111	117	113	113	109	117	109	116	112	115	111	117
7/22/2024	103	112	110	113	111	117	113	113	109	117	108	115	108	113	106	116
7/23/2024	103	112	109	113	110	117	111	113	108	117	107	115	106	113	104	116
7/24/2024	104	112	111	114	111	117	111	112	107	117	107	115	108	113	105	117
7/25/2024	103	112	109	113	110	116	110	111	106	118	105	114	106	111	105	115
7/26/2024	103	116	109	114	109	115	110	112	106	121	105	115	107	114	106	114
7/27/2024	103	112	109	113	110	113	110	109	107	121	106	115	110	115	106	116
7/28/2024	101	111	109	113	110	112	110	108	107	119	105	116	107	114	106	117
7/29/2024	100	111	108	113	109	110	109	107	107	117	104	115	106	113	105	117
7/30/2024	100	111	107	113	108	111	109	108	106	119	104	115	107	113	106	116
7/31/2024	100	111	107	112	108	114	108	108	105	119	104	115	108	113	107	114
Exceedances:							4			2	2					
DQE:						1						3				

Table D- 6: Daily 12-hour Regulatory TDG Instances in August 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
8/1/2024	100	110	107	110	108	110	108	108	106	117	104	113	110	113	108	113
8/2/2024	100	109	107	110	108	110	107	108	107	116	106	113	109	112	109	113
8/3/2024	100	109	106	109	109	109	107	107	108	121	106	112	107	111	108	113
8/4/2024	100	109	107	109	109	110	108	108	109	120	106	113	107	111	107	113
8/5/2024	103	110	108	115	109	110	109	108	108	122	106	113	108	111	106	113
8/6/2024	104	109	105	109	108	109	108	108	108	120	106	112	106	109	105	113
8/7/2024	101	110	107	109	107	109	107	108	107	119	106	113	106	109	105	112
8/8/2024	102	110	108	109	108	109	106	108	108	121	108	114	110	111	106	113
8/9/2024	102	110	108	109	108	109	106	108	108	117	108	114	111	111	109	113
8/10/2024	101	110	107	109	107	109	105	108	108	117	107	113	110	111	108	113
8/11/2024	101	110	107	109	107	109	104	107	108	116	107	113	108	109	106	113
8/12/2024	102	115	107	109	107	109	104	107	108	117	107	113	106	108	105	112
8/13/2024	102	111	106	108	106	109	103	107	106	119	105	112	104	106	103	112
8/14/2024	102	117	106	109	105	109	102	107	104	121	104	112	105	107	102	113
8/15/2024	102	116	106	108	105	109	101	106	104	120	104	112	107	108	103	113
8/16/2024	102	115	105	108	104	109	100	107	103	114	103	112	105	107	104	113
8/17/2024	102	111	106	109	107	110	101	107	106	115	104	112	108	108	105	113
8/18/2024	101	109	106	109	105	109	100	107	104	114	103	111	106	107	106	112
8/19/2024	101	110	105	109	104	109	101	107	104	114	102	111	106	106	105	112
8/20/2024	101	110	105	108	103	109	100	106	104	114	101	110	105	107	105	113
8/21/2024	101	110	105	109	103	109	102	107	103	114	102	110	106	107	105	112
8/22/2024	102	110	107	110	105	110	104	107	104	117	103	111	106	107	106	112
8/23/2024	102	110	106	108	105	109	104	106	104	115	103	109	105	106	105	112
8/24/2024	100	110	105	108	103	109	101	106	102	114	101	109	103	104	104	112
8/25/2024	99	109	103	108	102	110	100	106	100	114	101	108	105	105	104	112
8/26/2024	100	110	104	108	103	110	99	106	101	113	101	109	107	105	105	112
8/27/2024	100	110	104	107	103	111	101	106	100	113	101	109	107	108	104	112
8/28/2024	99	110	103	108	103	113	102	107	101	118	101	110	104	110	106	112
8/29/2024	100	109	104	109	103	112	103	107	102	120	103	111	107	111	105	113
8/30/2024	100	109	104	108	103	109	104	108	102	113	103	110	107	112	107	113
8/31/2024	101	110	105	108	104	110	104	107	102	112	103	110	105	111	107	113
Exceedances:										4						
DQE																

Table D- 7¹ : Total juvenile fish passage season exceedances by project and type for the Lower Snake River

TDG Exceedance Type	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	Total
FSE	0	0	0	0	0	0	0	0	0
ME	0	0	0	0	0	0	0	0	0
UE	0	3	0	0	0	0	4	0	7
TE	0	0	2	0	3	0	2	0	7
GBT	0	0	0	0	0	0	0	0	0
Grand Total	0	3	2	0	3	0	6	0	14

Table D-8: Total juvenile fish passage season TDG exceedances by project and type for the Lower Columbia River

TDG Exceedance Type	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW	Total
FSE	0	4	0	0	0	0	0	0	4
ME	0	2	0	0	0	0	0	0	2
UE	0	0	2	0	0	0	1	0	3
TE	0	0	0	0	0	0	0	0	0
GBT	0	0	0	0	0	0	0	0	0
Grand Total	0	6	2	0	0	0	1	0	9

¹ TDG thresholds are 125% Tailwater during Spring Spill and 115% Forebay; 120% Tailwater during Summer Spill and in response to GBT exceedances

Table D- 9: Daily 2-hour Regulatory TDG Instances in April 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
4/1/2024	102	108	109	111	108	114	111	113	108	114	107	111	107	108	107	108
4/2/2024	104	110	108	112	108	113	112	113	108	115	107	111	108	108	107	108
4/3/2024	104	115	108	116	109	117	112	114	108	111	107	111	107	108	107	110
4/4/2024	104	118	109	119	110	117	113	115	108	113	108	112	108	108	107	111
4/5/2024	104	119	109	120	110	118	112	117	107	111	108	111	107	107	106	107
4/6/2024	103	119	108	120	113	118	112	116	107	110	106	110	105	106	104	106
4/7/2024	101	119	109	120	115	118	112	117	105	109	105	110	106	106	105	106
4/8/2024	100	119	111	120	117	118	113	117	105	109	105	109	106	106	105	107
4/9/2024	101	119	112	120	118	119	114	117	106	110	105	109	106	106	105	107
4/10/2024	102	119	114	120	118	118	115	117	109	119	106	118	107	112	107	117
4/11/2024	104	119	117	120	121	118	118	117	112	119	106	116	114	117	109	119
4/12/2024	104	119	118	120	123	117	119	117	113	118	106	117	114	116	113	119
4/13/2024	105	120	119	120	123	119	119	117	114	119	106	116	115	116	114	119
4/14/2024	104	121	121	123	122	119	119	117	114	118	107	117	114	117	115	118
4/15/2024	104	123	120	123	121	120	118	117	113	118	106	118	112	115	111	118
4/16/2024	102	125	115	123	119	123	115	118	110	118	106	118	110	115	109	120
4/17/2024	101	124	112	123	122	123	119	122	109	118	107	118	116	118	112	120
4/18/2024	102	123	117	123	124	120	120	117	112	118	110	117	116	119	115	120
4/19/2024	104	122	119	122	124	119	121	117	113	118	110	118	118	119	116	120
4/20/2024	105	121	120	122	123	119	120	117	-	118	109	118	118	120	116	120
4/21/2024	104	121	120	122	121	118	118	116	-	117	108	117	118	119	116	120
4/22/2024	104	120	119	122	119	118	117	117	-	118	112	117	115	118	115	119
4/23/2024	104	121	119	122	121	119	119	117	-	119	115	117	117	120	116	120
4/24/2024	104	121	120	122	122	119	119	117	113	118	115	117	117	120	116	120
4/25/2024	104	121	120	123	121	120	119	117	113	117	114	117	115	118	115	120
4/26/2024	104	121	119	122	120	121	118	117	113	118	114	117	116	119	116	118
4/27/2024	103	123	119	123	120	122	117	118	111	117	112	116	114	117	115	120
4/28/2024	102	123	117	123	118	122	115	122	109	118	112	117	114	118	113	120
4/29/2024	102	122	115	122	118	121	115	117	108	117	111	117	114	118	112	120
4/30/2024	102	123	114	122	117	121	115	118	107	117	109	117	113	117	113	118
Washington																
Oregon																

Table D- 10: Daily 2-hour Regulatory TDG Instances in May 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
5/1/2024	102	122	114	122	119	121	116	118	107	117	108	116	113	117	112	117
5/2/2024	103	121	115	122	121	120	118	117	109	117	107	117	113	117	113	117
5/3/2024	105	121	117	123	121	122	120	117	114	117	109	116	115	119	115	120
5/4/2024	106	121	120	122	122	120	121	117	113	117	109	117	117	119	116	121
5/5/2024	106	120	119	121	123	119	120	116	111	117	108	116	113	117	114	117
5/6/2024	104	121	118	122	118	118	115	116	108	119	105	115	109	115	108	117
5/7/2024	102	121	114	122	114	121	111	116	107	119	105	115	110	115	108	116
5/8/2024	101	121	110	122	115	120	112	117	106	117	104	116	111	115	109	117
5/9/2024	101	121	111	122	119	119	117	117	108	117	108	117	114	118	112	118
5/10/2024	103	121	114	122	123	119	120	117	112	118	107	117	118	119	116	120
5/11/2024	106	121	120	122	123	118	121	117	114	118	108	117	118	119	119	120
5/12/2024	106	123	122	123	124	121	121	117	115	118	108	117	118	120	119	120
5/13/2024	105	124	122	124	123	122	121	119	115	118	109	117	115	118	115	120
5/14/2024	104	125	121	125	122	122	120	119	114	122	113	118	117	119	113	121
5/15/2024	104	126	121	125	124	122	123	122	114	124	116	119	120	121	115	121
5/16/2024	105	126	121	125	126	122	124	123	114	124	116	121	118	121	115	121
5/17/2024	105	125	121	125	125	122	123	121	112	121	114	120	114	119	113	121
5/18/2024	104	126	119	124	121	123	121	122	110	122	111	119	116	118	111	121
5/19/2024	103	125	118	124	124	121	120	124	110	122	110	119	115	119	111	121
5/20/2024	104	124	117	124	121	122	121	120	112	122	108	119	117	119	111	121
5/21/2024	105	123	117	122	122	120	120	117	112	121	108	120	117	119	112	121
5/22/2024	105	123	117	122	121	122	119	117	112	122	108	117	116	119	111	120
5/23/2024	104	123	117	123	119	121	116	117	108	122	109	118	116	118	110	121
5/24/2024	104	122	118	123	122	121	119	117	110	122	110	118	116	118	112	121
5/25/2024	104	121	118	122	122	119	118	117	110	120	110	117	114	118	112	120
5/26/2024	104	121	117	122	119	119	116	117	108	119	107	116	112	115	112	120
5/27/2024	103	121	116	122	119	119	116	117	109	118	108	115	114	116	113	120
5/28/2024	103	121	116	120	121	119	118	117	110	120	109	116	115	116	113	120
5/29/2024	103	121	116	122	120	120	117	117	110	120	108	118	113	116	111	119
5/30/2024	103	124	116	124	119	123	116	118	109	121	107	117	116	119	112	120
5/31/2024	103	123	117	123	123	121	121	117	113	122	110	118	121	122	116	121
Washington																
Oregon																

Table D- 11: : Daily 2-hour Regulatory TDG Instances in June 2024

Station:	LWG	LGNW	LGSA	LGSW	LMNA	LMNW	IHRA	IDSW	MCNA	MCPW	JDY	JHAW	TDA	TDDO	BON	CCIW
6/1/2024	105	123	121	123	126	121	122	117	114	122	111	119	119	122	118	121
6/2/2024	106	123	122	123	124	120	122	117	115	119	111	117	118	120	116	120
6/3/2024	106	123	121	123	124	121	121	117	114	118	111	118	118	120	115	120
6/4/2024	103	126	117	125	118	123	116	125	110	123	112	117	114	118	111	121
6/5/2024	102	126	115	125	123	123	118	124	108	123	112	121	118	121	113	121
6/6/2024	105	126	121	126	125	122	122	124	115	123	112	122	124	124	116	121
6/7/2024	105	126	124	125	126	122	123	122	116	123	111	121	126	125	120	122
6/8/2024	106	125	125	125	127	122	123	120	117	123	115	119	122	123	121	121
6/9/2024	105	125	125	125	126	124	122	125	117	122	118	118	118	122	119	121
6/10/2024	104	125	123	124	126	123	123	119	114	122	120	117	116	120	112	121
6/11/2024	104	124	122	124	126	122	123	119	114	122	119	117	116	120	113	121
6/12/2024	104	123	119	124	123	122	120	118	111	122	117	117	117	121	112	121
6/13/2024	104	123	120	123	123	122	120	117	112	123	115	118	120	121	114	121
6/14/2024	103	123	119	123	123	119	121	117	112	122	113	117	116	121	113	121
6/15/2024	103	120	117	123	122	118	120	116	111	120	112	117	112	117	112	120
6/16/2024	102	119	114	119	118	116	115	116	108	117	110	116	112	116	113	117
6/17/2024	102	119	114	118	117	118	114	116	107	117	110	114	111	116	112	117
6/18/2024	101	118	112	120	116	118	113	114	108	117	108	115	111	116	111	117
6/19/2024	101	117	112	118	117	116	114	114	108	117	108	114	112	118	114	117
6/20/2024	101	117	114	118	118	115	115	115	109	117	108	115	112	118	116	117
6/21/2024	103	112	115	115	120	119	115	116	111	117	109	114	112	117	117	117
6/22/2024	104	111	117	115	119	119	116	115	112	117	110	115	111	117	116	117
6/23/2024	104	111	117	114	118	118	116	114	111	117	109	115	110	115	112	117
6/24/2024	103	111	116	115	116	118	115	114	110	117	110	115	110	116	110	117
6/25/2024	104	112	117	114	114	118	115	116	111	117	112	116	113	119	112	117
6/26/2024	104	111	115	113	114	118	115	114	110	117	113	116	114	118	113	117
6/27/2024	103	112	110	113	114	118	114	113	109	117	110	116	109	116	111	116
6/28/2024	103	112	110	113	113	117	113	114	108	117	109	116	110	116	111	117
6/29/2024	102	111	111	113	111	117	113	113	107	117	108	117	112	117	111	117
6/30/2024	100	112	110	113	110	117	111	113	108	117	107	116	109	116	110	117
Washington:																
Oregon:																

Table D- 12²: Maximum two consecutive hour TDG, number of days with two consecutive hour TDG above 126%, number of days with two consecutive hour TDG above 127% at project tailwaters

Station	Gauge ID	Maximum two consecutive hour % TDG	126% Exceedance Days (WA)	127% Exceedance Days (OR)
Lower Granite Tailwater	LG NW	126.0	0	
Little Goose Tailwater	LGSW	126.0	0	
Lower Monumental Tailwater	LMNW	124.0	0	
Ice Harbor Tailwater	IDSW	125.0	0	
McNary Tailwater	MCPW	124.0	0	0
John Day Tailwater	JHAW	122.0	0	0
The Dalles Tailwater	TDDO	125.0	0	0
Bonneville Tailwater	CCIW	122.0	0	0
		Total Exceedances:	0	0

Table D- 13³: Malfunctioning TDG gauges from April through August 2024

Project	Gauge ID	Dates	Days of Missing or Erroneous Data	Reason for Erroneous Data
Lower Monumental Tailwater	LMNW	7/3	1	Defective membrane
McNary Forebay	MCNA	4/20-4/23	4	Defective membrane
John Day Tailwater	JHAW	7/16-7/18	3	Ruptured membrane

² April through August were assessed for TDG values greater than 126%. TDG instances were not included when project flow exceeded 7Q10 flows.

³ Table D-5 includes only days when there is 6 hours or more of either missing or erroneous gauge data.