

# **Appendix F**

## **% TDG Exceedance Tracking System**



**INTRODUCTION:**

The US Army Corps of Engineers tracks the number of percent TDG exceedances of the Washington and Oregon water quality standards and designates a cause for each exceedance during the spill season, April 3 through August 31. There are exceedances that occurred outside of the spill season, but they are not included in this report since they are not associated with spill for fish. The State water quality standards are 115% in the forebays and 120% in the tailwaters of Columbia and Snake River dams, under the provisions of the state water quality exemptions granted by the states. The percent TDG exceedances are based on the daily high 12 hour average, except for those exceedances above 125% which are hourly. This information is provided to the Technical Management Team Regional Forum and can be found at <http://www.nwd-wc.usace.army.mil/tmt/documents/ops/spill/> and also in Appendix E at the end of each monthly court FOP Implementation Report.

Table F-1 provides a listing of the various causes (types) that are designated to each percent TDG exceedance occurrence for the daily high 12 hour average. Table F-2 designates a specific percent TDG exceedance cause (type) for all TDG exceedances at all Corps of Engineers Lower Columbia and Snake River projects. Tables F-3A and B provides the total number of each percent TDG exceedance type for each project. Table F-4 provides the maximum hourly % TDG value and number of exceedances, both hourly and daily high 12 hour average, for all the Corps of Engineers Lower Columbia and Snake River projects plus Chief Joseph at the Middle Columbia River. There were no projects from Table F-4 that exceeded the hourly 125% TDG Oregon and Washington state standards. Table F-5 provides a historical summary from 2001 to 2007 of the number of hours that exceeded 125% TDG during the spill season. Plots and Tables for the percent TDG daily high 12 hour averages can be found in Appendix E within the Fish Operation Plan Implementation Reports.

**TABLE F-1  
TYPES OF PERCENT TDG EXCEEDANCE TRACKING**

<b>Types of Exceedances:</b>
1. Exceedance due to high runoff flows and flood control efforts.
2. Exceedance due to Intertie line outages.
3. Exceedance due to unit outages during repair or maintenance.
4. Exceedance due to BPA inability to handle load so water was spilled.
5. Exceedance due to a break down in communication. Teletype went out but no change occurred or Project operator interpreted teletype differently than what was intended.
6. Exceedance due to uncertainties when using best professional judgment to apply the spill guidance criteria, e.g., travel time, degassing, water temperature effects, spill patterns.
7. Exceedance due to high TDG levels coming from the Mid Columbia River Dam (see Pasco FMS readings).
8. Exceedance due to high TDG levels coming from the Snake River projects (see Ice Harbor Dam FMS readings).
9. Exceedance due to a load rejection; the powerhouse was not working and the river was spilled.
10. Exceedance due to lack of information; the FMS gage malfunctioned and we had no information at the time of making spill change decisions.
11. Exceedance due to mechanical problems, e.g., gate was stuck open, passing debris.
12. Exceedance due to sharp rise in water temperature (a 3 degree F. or greater change in a day).
13. Exceedance due to bulk spill pattern being used which generated more TDG than expected.
14. Exceedance due to non-functioning of flow deflectors during tailwater elevation above 19 ft and especially above 26 ft.

**TABLE F-2  
PERCENT TDG EXCEEDANCE TYPE TRACKING  
APRIL 2007**

	Low Gran FB	Low Gran TW	Little Goose FB	Little Goose TW	Low Monu. FB	Low Monu. TW	Ice Harb FB	Ice Harb TW	McNary FB	McNary TW	John Day FB	John Day TW	The Dalles FB	The Dalles TW	BON FB	BON TW	Camas FB
4/3/07	Spill Begins	Spill Begins	Spill Begins	Spill Begins	Spill Begins	Spill Begins	Spill Begins	Spill Begins									
4/4/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/5/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/6/07	---	---	---	---	---	---	---	---	Not included	---	---	---	---	---	---	---	---
4/7/07	---	---	---	---	---	---	---	---	Not included	---	---	---	---	---	---	---	---
4/8/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/9/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/10/07	---	---	---	---	---	---	---	---	Spill Begins	Spill Begins	Spill Begins	Spill Begins	Spill Begins				
4/11/07	---	---	---	---	---	---	---	---	---	3	---	---	---	---	---	---	---
4/12/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/13/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/14/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/15/07	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
4/16/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/17/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/18/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/19/07	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---
4/20/07	---	---	---	---	---	6	---	---	---	---	---	6	6	---	---	---	---
4/21/07	---	---	---	---	---	---	---	---	---	---	---	6	6	---	---	---	---
4/22/07	---	---	---	---	---	---	6	---	---	---	---	6	---	---	---	---	---
4/23/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/24/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/25/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/26/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
4/27/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	6
4/28/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	6
4/29/07	---	---	---	---	---	---	6	---	6	---	---	---	---	---	---	---	6
4/30/07	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---

**TABLE F-2**  
**PERCENT TDG EXCEEDANCE TYPE TRACKING**  
**MAY 2007**

	Low Gran FB	Low Gran TW	Little Goose FB	Little Goose TW	Low Monu. FB	Low Monu. TW	Ice Harb FB	Ice Harb TW	McNary FB	McNary TW	John Day FB	John Day TW	The Dalles FB	The Dalles TW	BON FB	BON TW	Camas FB
5/1/2007	---	---	---	---	6	---	6	---	---	---	---	---	---	---	---	---	---
5/2/2007	---	---	---	---	6	---	6	---	---	---	---	---	---	---	---	---	---
5/3/2007	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---	---
5/4/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/5/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/6/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
5/7/2007	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	6
5/8/2007	---	---	---	---	6	6	6	---	---	---	---	---	6	---	---	---	---
5/9/2007	---	---	---	---	6	---	6	---	---	---	---	---	---	---	---	---	---
5/10/2007	---	---	---	---	6	---	6	---	7	---	---	---	---	---	---	---	---
5/11/2007	---	---	---	---	6	---	6	---	7	---	---	---	6	---	---	---	---
5/12/2007	---	---	---	---	6	---	6	---	7	---	---	---	---	---	---	---	---
5/13/2007	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---	---
5/14/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/15/2007	---	---	---	---	---	---	---	---	---	---	---	---	6	---	6	---	---
5/16/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
5/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/18/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/19/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/20/2007	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---
5/21/2007	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---
5/22/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/23/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/24/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
5/25/2007	---	---	---	---	---	---	6	---	---	---	---	---	6	---	---	---	6
5/26/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	6
5/27/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
5/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/30/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
5/31/2007	---	---	---	---	---	---	---	---	---	---	---	---	6	---	6	---	6

**TABLE F-2  
PERCENT TDG EXCEEDANCE TYPE TRACKING  
JUNE 2007**

	Low Gran FB	Low Gran TW	Little Goose FB	Little Goose TW	Low Monu. FB	Low Monu. TW	Ice Harb FB	Ice Harb TW	McNary FB	McNary TW	John Day FB	John Day TW	The Dalles FB	The Dalles TW	BON FB	BON TW	Camas FB
6/1/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	6	---	6
6/2/2007	---	---	---	---	6	---	6	---	7	---	---	---	---	---	---	---	6
6/3/2007	---	---	---	---	6	---	6	---	7	---	---	---	6	---	---	---	---
6/4/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
6/5/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
6/6/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/7/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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6/9/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/13/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/14/2007	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---	---
6/15/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/16/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/18/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/19/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/20/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
6/21/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
6/22/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
6/23/2007	---	---	---	---	---	---	6	---	---	---	---	---	---	---	---	---	---
6/24/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/25/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
6/26/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/27/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
6/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
6/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
6/30/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**TABLE F-2  
PERCENT TDG EXCEEDANCE TYPE TRACKING  
JULY 2007**

	Low Gran FB	Low Gran TW	Little Goose FB	Little Goose TW	Low Monu. FB	Low Monu. TW	Ice Harb FB	Ice Harb TW	McNary FB	McNary TW	John Day FB	John Day TW	The Dalles FB	The Dalles TW	BON FB	BON TW	Camas FB
7/1/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/2/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
7/3/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
7/4/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/5/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/6/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/7/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/8/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/9/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/13/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/14/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/15/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/16/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/18/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/19/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/20/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/21/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/22/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
7/23/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/24/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/25/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/26/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/27/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/30/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7/31/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**TABLE F-2**  
**PERCENT TDG EXCEEDANCE TYPE TRACKING**  
**AUGUST 2007**

	Low Gran FB	Low Gran TW	Little Goose FB	Little Goose TW	Low Monu. FB	Low Monu. TW	Ice Harb FB	Ice Harb TW	McNary FB	McNary TW	John Day FB	John Day TW	The Dalles FB	The Dalles TW	BON FB	BON TW	Camas FB
8/1/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/2/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/3/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/4/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/5/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/6/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/7/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/8/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/9/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/10/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/11/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/12/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/13/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/14/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/15/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/16/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/17/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/18/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/19/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/20/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/21/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/22/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/23/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/24/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	6
8/25/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/26/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/27/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/28/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/29/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/30/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
8/31/2007	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>7</b>	<b>31</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>29</b>

**TABLE F-3A  
LOWER SNAKE RIVER PERCENT TDG EXCEEDANCE TYPE TOTALS**

TDG Exceedance Types	Lower Granite Forbay	Lower Granite Tailwater	Little Goose Forbay	Little Goose Tailwater	Low Monumental forebay	Low Monumental Tailwater	Ice Harbor Forbay	Ice Harbor Tailwater	Totals
1	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0
6	0	0	0	0	11	7	31	0	49
7	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>7</b>	<b>31</b>	<b>0</b>	<b>49</b>

**TABLE F-3B  
LOWER COLUMBIA RIVER PERCENT TDG EXCEEDANCE TYPE TOTALS**

TDG Exceedance Types	McNary Forbay	McNary Tailwater	John Day Forbay	John Day Tailwater	The Dalles Forbay	The Dalles Tailwater	BON Forbay	BON Tailwater	Camas/Washougal Forbay	Totals
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	1	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0
6	1	0	0	3	8	0	3	0	29	44
7	5	0	0	0	0	0	0	0	0	5
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0
<b>Grand Total</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>29</b>	<b>50</b>

**TABLE F-4**  
**2007 SPILL SEASON - MAXIMUM %TDG and NUMBER of EXCEEDANCES**  
**Starting April 3, L. Snake R and April 10, L. Columbia R:**

<b>Station</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>
<b>Middle Columbia River</b>					
Chief Joseph Forebay (CHJ)					
Maximum hourly % TDG	110.9	112.8	114.0	112.6	110.4
Number of hours over 110%	24	223	660	462	7
Chief Joseph Tailwater (CHQW)					
Maximum hourly % TDG	120.1	111.8	113.7	113.0	110.9
Number of hours over 110%	29	139	556	405	23
<b>Lower Snake River</b>					
Lower Granite Forebay (LWG)					
Maximum hourly % TDG	104.7	105.7	105.5	104.3	103.6
Number of hours over 115%	0	0	0	0	0
Number of days high 12 hour avg over 115%	0	0	0	0	0
Lower Granite Tailwater (LGNW)					
Maximum hourly % TDG	113.0	112.6	116.2	115.6	116.6
Number of hours over 120%	0	0	0	0	0
Number of days high 12 hour avg over 120%	0	0	0	0	0
Little Goose Forebay (LGSA)					
Maximum hourly % TDG	113.4	115.6	114.6	111.5	107.3
Number of hours over 115%	0	1	0	0	0
Number of days high 12 hour avg over 115%	0	0	0	0	0
Little Goose Tailwater (LGSW)					
Maximum hourly % TDG	121.8	119.4	116.2	111.6	117.1
Number of hours over 120%	5	0	0	0	0
Number of days high 12 hour avg over 120%	0	0	0	0	0
Lower Monumental Forebay (LMNA)					
Maximum hourly % TDG	114.5	118.8	116.0	108.4	110.9
Number of hours over 115%	0	160	14	0	0
Number of days high 12 hour avg over 115%	0	9	2	0	0
Lower Monumental Tailwater (LMNW)					
Maximum hourly % TDG	121.3	122.3	120.8	117.5	118.0
Number of hours over 120%	19	48	12	0	0
Number of days high 12 hour avg over 120%	2	4	1	0	0
Ice Harbor Forebay (IHRA)					
Maximum hourly % TDG	116.6	117.1	118.3	112.4	112.1
Number of hours over 115%	211	216	161	0	0
Number of days high 12 hour avg over 115%	14	10	7	0	0
Ice Harbor Tailwater (IDSW)					
Maximum hourly % TDG	116.3	120.3	116.1	115.5	114.3
Number of hours over 120%	0.0	3.0	0.0	0.0	0.0
Number of days high 12 hour avg over 120%	0	0	0	0	0
<b>Lower Columbia River</b>					
McNary Washington Forebay (MCNA)					
Maximum hourly % TDG	116.6	118.3	116.5	114.2	111.3
Number of hours over 115%	67	38	27	0	0
Number of days high 12 hour avg over 115%	1	3	2	0	0
McNary Tailwater (MCPW)					
Maximum hourly % TDG	122.0	118.1	119.7	119.4	119.2
Number of hours over 120%	12	0	0	0	0
Number of days high 12 hour avg over 120%	1	0	0	0	0

**TABLE F-4 (continued)**  
**2007 SPILL SEASON - MAXIMUM %TDG and NUMBER of EXCEEDANCES**  
**Starting April 3, L. Snake R and April 10, L. Columbia R:**

<b>Station</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>
<b>Lower Columbia River</b>					
John Day Forebay (JDY)					
Maximum hourly % TDG	113.9	114.5	115.1	110.3	105.7
Number of hours over 115%	0	0	1	0	0
Number of days high 12 hour avg over 115%	0	0	0	0	0
John Day Tailwater (JHAW)					
Maximum hourly % TDG	121.4	121.1	120.3	120.4	119.5
Number of hours over 120%	36	5	1	4	0
Number of days high 12 hour avg over 120%	3	0	0	0	0
The Dalles Forebay (TDA)					
Maximum hourly % TDG	117.4	118.4	116.9	113.9	108.9
Number of hours over 115%	31	88	28	0	0
Number of days high 12 hour avg over 115%	2	5	1	0	0
The Dalles Tailwater (TDDO)					
Maximum hourly % TDG	118.4	120.1	118.4	116.2	115.8
Number of hours over 120%	0	1	0	0	0
Number of days high 12 hour avg over 120%	0	0	0	0	0
Bonneville Forebay (BON)					
Maximum hourly % TDG	115.4	117.2	115.7	112.4	111.1
Number of hours over 115%	5	36	8	0	0
Number of days high 12 hour avg over 115%	0	2	1	0	0
Cascade Island Washington (CCIW)					
Maximum hourly % TDG	119.5	120.0	118.7	121.1	120.8
Number of hours over 120%	0	0	0	58	43
Number of days high 12 hour avg over 120%	0	0	0	0	0
Camas/Washougal (CWMW)					
Maximum hourly % TDG	116.8	117.5	117.3	119.2	118.7
Number of hours over 115%	56	78	79	89	104
Number of days high 12 hour avg over 115%	3	7	7	3	9

**TABLE F-5**  
**2001 -2007 SPILL SEASON – NUMBER OF HOURS OVER 125% TDG**

<b>Year</b>	<b>Number of Hours</b>
2001	0
2002	85
2003	417
2004	0
2005	0
2006	589
2007	0