

## **SYSTEM OPERATIONAL REQUEST: #2007-6**

*The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, Idaho Department of Fish and Game, Oregon Department of Fish and Wildlife, the Washington Department of Fish and Wildlife, NOAA Fisheries, Nez Perce Tribe, and the Columbia River Inter-Tribal Fish Commission.*

**TO:**            **Brigadier General Gregg F. Martin**    **COE-NWD**  
                  **James D. Barton**                            **COE-Water Management**  
                  **Cathy Hlebechuk**                           **COE-RCC**  
                  **Witt Anderson**                              **COE-P**  
                  **Col. Thomas E. O'Donovan**               **COE-Portland District**  
                  **LTC Anthony Hofmann**                   **COE-Walla Walla District**  
                  **J. William McDonald**                    **USBR-Boise Regional Director**  
                  **Stephen J. Wright**                         **BPA-Administrator**  
                  **Greg Delwiche**                              **BPA-PG-5**

  
**FROM:**        **Paul Wagner, Chairperson, Salmon Managers**

**DATE:**        **May 8, 2007**

**SUBJECT:**    **Spill for Fish Passage According to the Court Order**

**SPECIFICATIONS:** **Increase spill to the amounts specified in the Court's Order when TDG levels decrease below the criteria.**

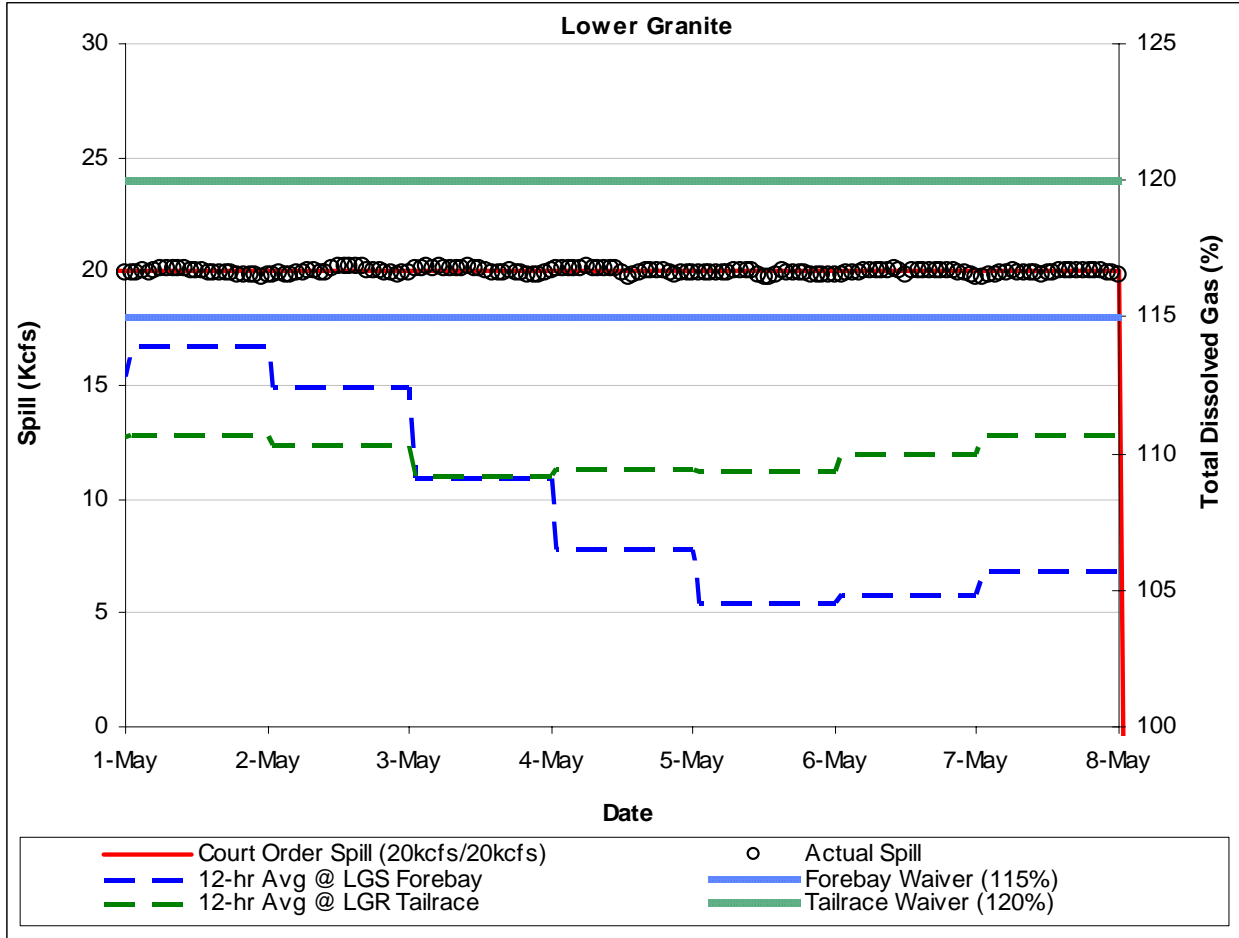
**JUSTIFICATION:** We recognize that implementation of spill under the Court Order is limited by the presently established criteria for total dissolved gas, and that the COE is operating spill within those criteria. However, spill under the Court Order is being provided to benefit fish survival through the hydrosystem, and any unnecessary reductions in spill reduce the survival of these endangered stocks. Consequently, in order to achieve the greatest benefit of spill for fish survival we request the COE to respond more quickly by increasing spill to the amounts specified in the Court's Order when TDG levels decrease below the criteria.

The attached graphs show the provision of spill relative to the Court Order over the past week, as well as the high 12-hour average TDG readings at the tailrace monitor and at the next downstream forebay monitor. Spill is being implemented to the levels specified in the Court's Order at Lower Granite, Ice Harbor (for testing), McNary and The Dalles Dam. At Little Goose Dam the Court's Order calls for an instantaneous spill level of 30%. However, the 2007 Operations Agreement calls for 14 days of spill to the gas cap (120%) during nighttime hours at this project. The fourteen days began on April 29, 2007 and spill has not reached gas cap during nighttime hours at this project since this operation began. While the Lower Monumental Dam forebay readings exceeded the 115% on May 1 to May 3, the 12 hour TDG reading at the tailrace of Little Goose or at the next downstream forebay have not exceeded the TDG criteria in the last

four days. At Lower Monumental Dam spill was decreased to just 13.5 Kcfs on May 3 in response to a downstream forebay monitor at Ice Harbor. That forebay monitor was reading higher TDG levels than were observed at the Lower Monumental tailrace monitor below the dam. John Day Dam has not achieved the Court Order since the first day of spill (on April 18-19 spill averaged the closest to the Court Order at 59.5% during nighttime hours) in spite of the fact that TDG levels in both the tailrace and The Dalles forebay have been below the TDG criteria since April 22. Lastly, at Bonneville Dam spill was reduced on the 29<sup>th</sup> of April in response to a 115.1% 12 hour average reading at the downstream Camas/Washougal station and was below both the TDG and the Court's Order for several days, with only small increments in spill occurring every few days.

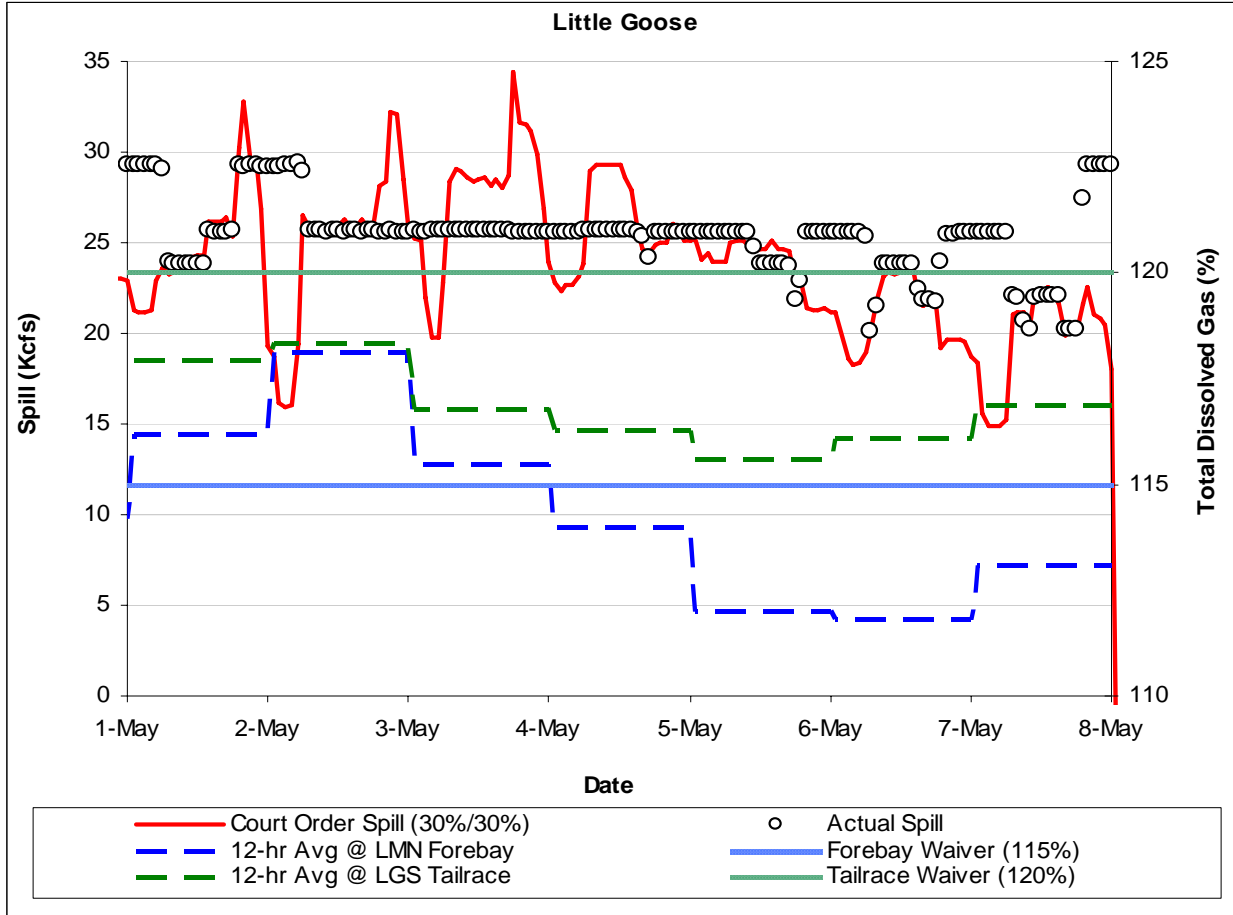
Again, the Salmon Managers recognize the difficulty in managing spill and TDG on a real-time basis. However, since spill is a mitigative measure provided for fish protection, the Salmon Managers request that the COE be more responsive in changing spill levels when TDG falls below criteria.

Flow-Spill Operations – May 1 – May 7, 2007  
 For FPAC Meeting (05/08/07)



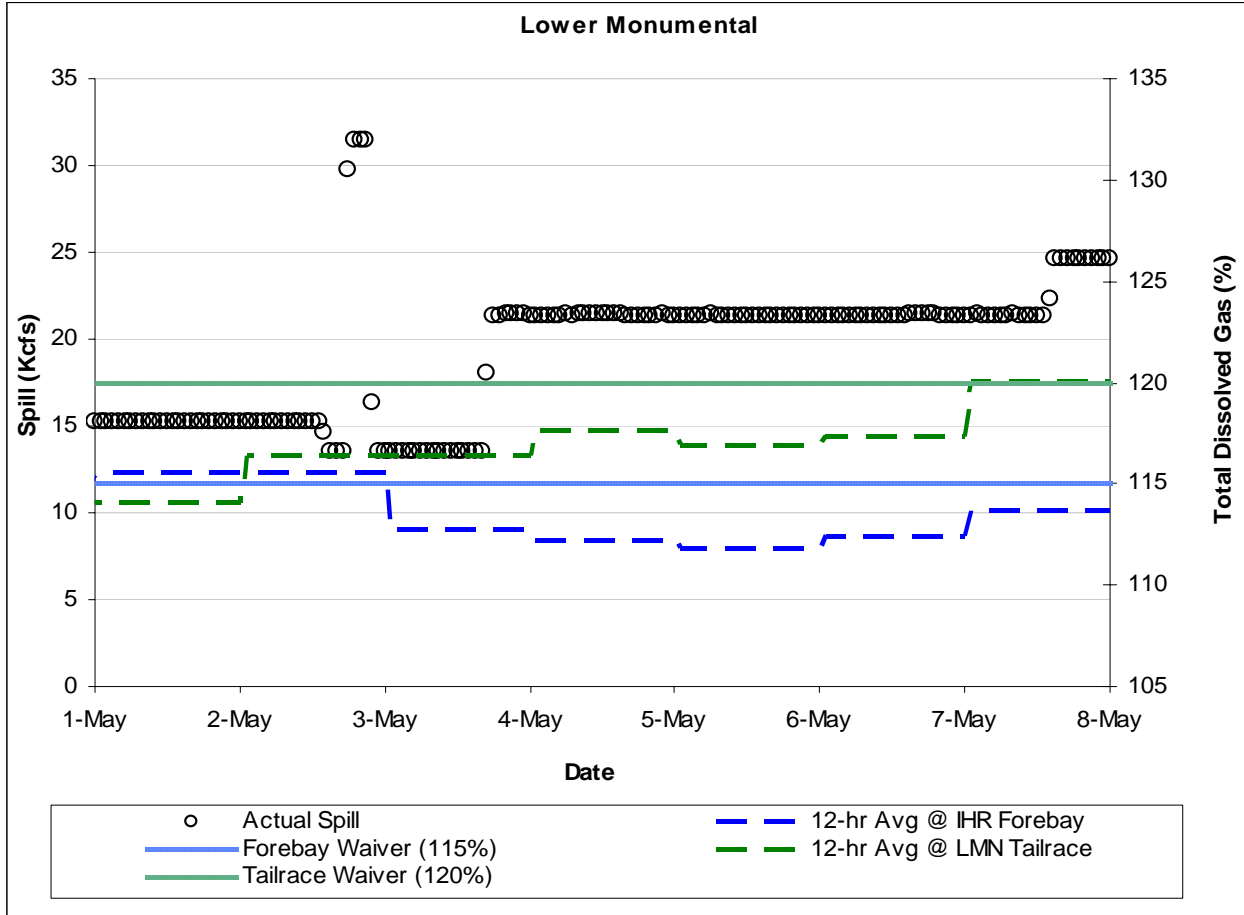
1-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 19.9 kcfs TDG waivers not exceeded (12-hr Avg TDG = 110.7% @ LGR Tailrace and 113.9% @ LGS Forebay)
2-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 20.0 kcfs TDG waivers not exceeded (12-hr Avg TDG = 110.4% @ LGR Tailrace and 112.4% @ LGS Forebay)
3-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 20.0 kcfs TDG waivers not exceeded (12-hr Avg TDG = 109.2% @ LGR Tailrace and 109.1% @ LGS Forebay)
4-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 20.0 kcfs TDG waivers not exceeded (12-hr Avg TDG = 109.4% @ LGR Tailrace and 106.5% @ LGS Forebay)
5-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 19.9 kcfs TDG waivers not exceeded (12-hr Avg TDG = 109.3% @ LGR Tailrace and 104.5% @ LGS Forebay)
6-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 20.0 kcfs TDG waivers not exceeded (12-hr Avg TDG = 110% @ LGR Tailrace and 104.8% @ LGS Forebay)
7-May	Court Order: 20 kcfs/20 kcfs; 24-hr Avg Spill = 19.9 kcfs TDG waivers not exceeded (12-hr Avg TDG = 110.7% @ LGR Tailrace and 105.7% @ LGS Forebay)

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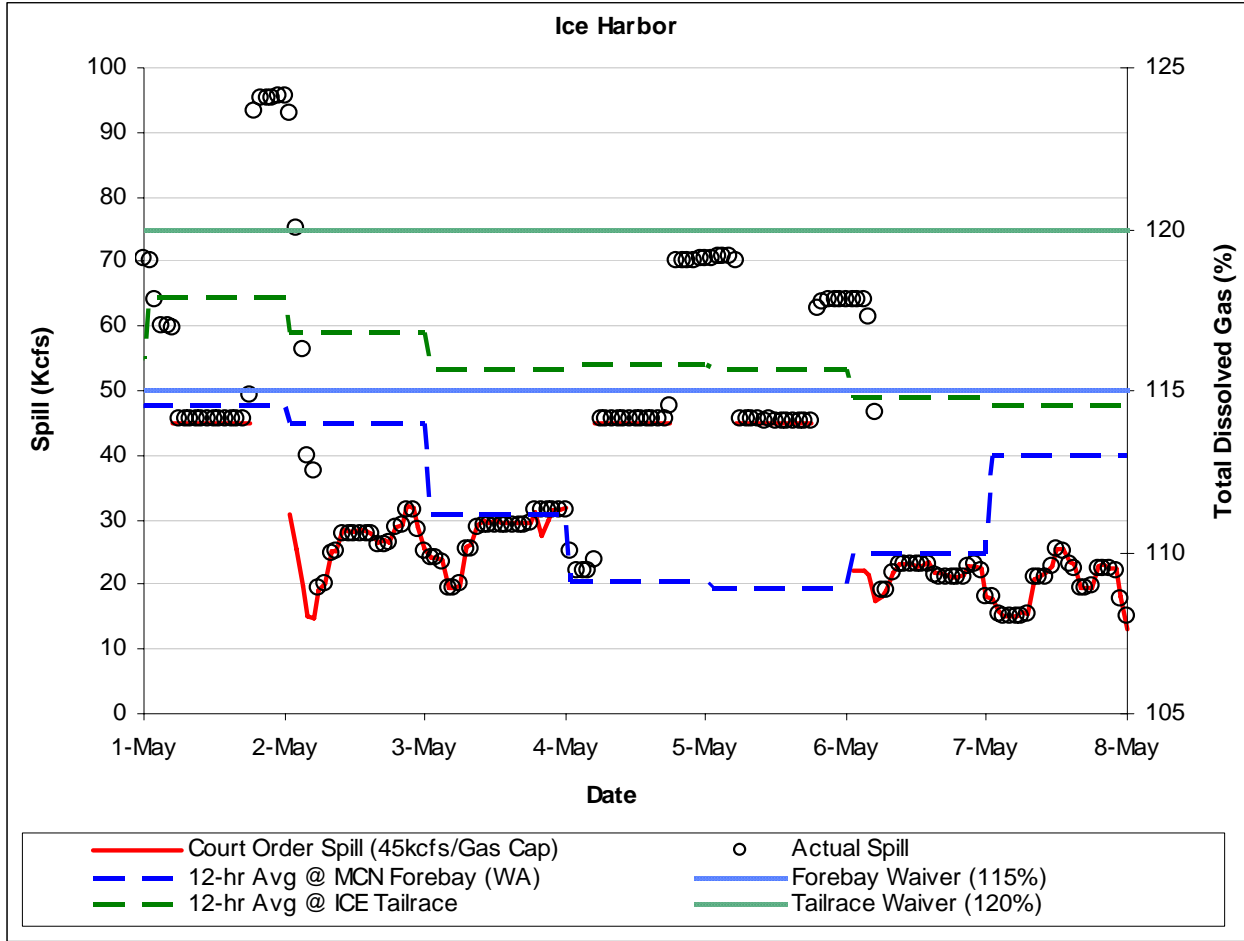
1-May	Court Order: 30%/30%; 24-hr Avg Spill = 26.9 kcfs (32.4%); Additional spill due to agreement for 14 days of gas cap night-time spill (3rd Day) TDG waiver <b>exceeded</b> @ LMN Forebay (12-hr Avg = 116.2%); Not exceeded @ LGS Tailrace (12-hr Avg = 117.9%)
2-May	Court Order: 30%/30%; 24-hr Avg Spill = 26.6 kcfs (31.9%); Additional spill due to agreement for 14 days of gas cap night-time spill (4th Day) TDG waiver <b>exceeded</b> @ LMN Forebay (12-hr Avg = 118.1%); Not exceeded @ LGS Tailrace (12-hr Avg = 118.3%)
3-May	Court Order: 30%/30%; 24-hr Avg Spill = 25.6 kcfs (28.0%); Additional spill due to agreement for 14 days of gas cap night-time spill (5th Day) TDG waiver <b>exceeded</b> @ LMN Forebay (12-hr Avg = 115.5%); Not exceeded @ LGS Tailrace (12-hr Avg = 116.8%)
4-May	Court Order: 30%/30%; 24-hr Avg Spill = 25.6 kcfs (29.7%); Additional spill due to agreement for 14 days of gas cap night-time spill (6th Day) TDG waivers not exceeded (12-hr Avg TDG = 116.3% @ LGS Tailrace and 114% @ LMN Forebay)
5-May	Court Order: 30%/30%; 24-hr Avg Spill = 24.8 kcfs (31.3%); Additional spill due to agreement for 14 days of gas cap night-time spill (7th Day) TDG waivers not exceeded (12-hr Avg TDG = 115.6% @ LGS Tailrace and 112% @ LMN Forebay)
6-May	Court Order: 30%/30%; 24-hr Avg Spill = 24.1 kcfs (34.6%); Additional spill due to agreement for 14 days of gas cap night-time spill (8th Day) TDG waivers not exceeded (12-hr Avg TDG = 116.1% @ LGS Tailrace and 111.8% @ LMN Forebay)
7-May	Court Order: 30%/30%; 24-hr Avg Spill = 24.3 kcfs (37%); Additional spill due to agreement for 14 days of gas cap night-time spill (9th Day) TDG waivers not exceeded (12-hr Avg TDG = 116.1% @ LGS Tailrace and 111.8% @ LMN Forebay)

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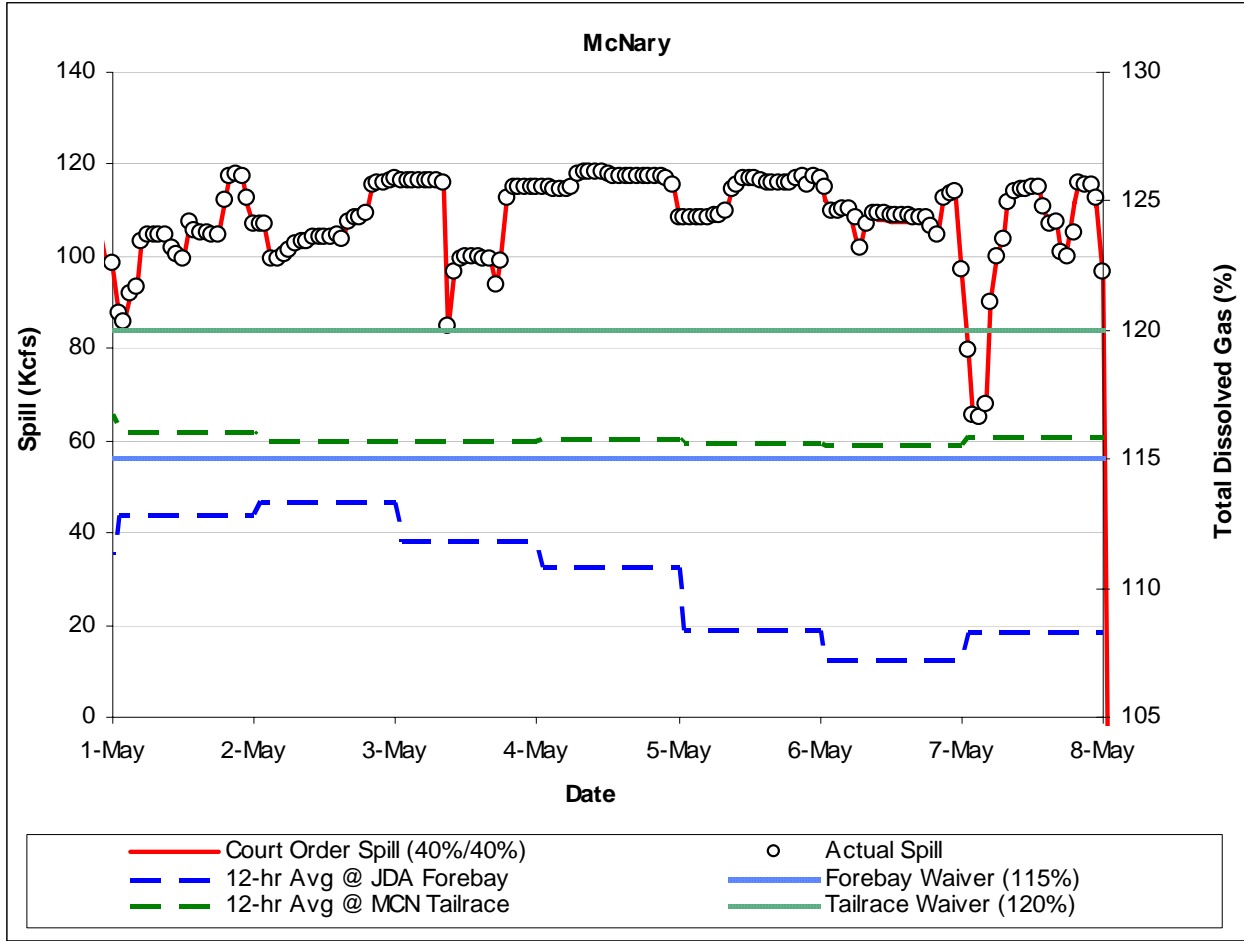
1-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 15.2 kcfs <i>Downstream forebay TDG higher than Tailrace</i> TDG waiver <b>exceeded</b> @ IHR Forebay (12-hr Avg = 115.6%); Not exceeded @ LMN Tailrace (12-hr Avg = 114.1%)
2-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 17.5 (4 hours high spill 18:00-21:00 provided to enhance passage of fish in forebay) TDG waiver <b>exceeded</b> @ IHR Forebay (12-hr Avg = 115.6%); Not exceeded @ LMN Tailrace (12-hr Avg = 116.4%)
3-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 16.0 kcfs TDG waivers not exceeded (12-hr Avg TDG = 116.4% @ LMN Tailrace and 112.7% @ IHR Forebay) <i>Last exceedance 5/2 @ IHR Forebay</i>
4-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 21.4 kcfs TDG waivers not exceeded (12-hr Avg TDG = 117.7% @ LMN Tailrace and 112.2% @ IHR Forebay) <i>Last exceedance 5/2 @ IHR Forebay</i>
5-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 21.4 kcfs TDG waivers not exceeded (12-hr Avg TDG = 116.9% @ LMN Tailrace and 111.8% @ IHR Forebay) <i>Last exceedance 5/2 @ IHR Forebay</i>
6-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 21.4 kcfs TDG waivers not exceeded (12-hr Avg TDG = 117.3% @ LMN Tailrace and 112.4% @ IHR Forebay) <i>Last exceedance 5/2 @ IHR Forebay</i>
7-May	Court Order: Gas Cap/Gas Cap; 24-hr Avg Spill = 22.8 kcfs TDG waiver <b>exceeded</b> @ LMN Tailrace (12-hr Avg TDG = 120.1%); Not exceeded @ IHR Forebay (12-hr Avg TDG = 113.7%)

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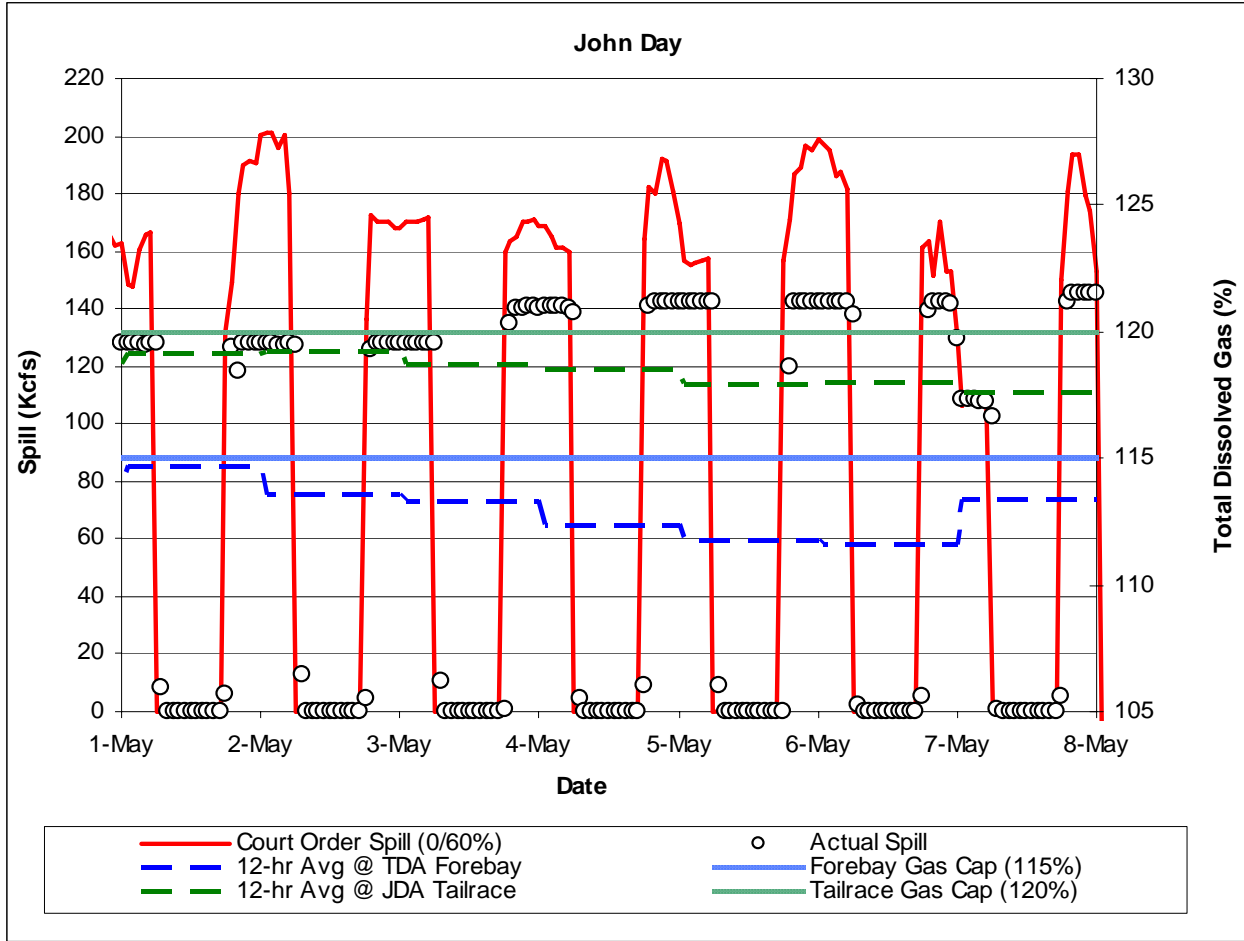
1-May	Court Order: 45 kcfs/Gas Cap; 24-hr Avg Spill = 61.7 kcfs TDG waivers not exceeded (12-hr Avg TDG = 117.9% @ IHR Tailrace and 114.5% @ MCN Forebay)
2-May	Court Order: 30%/30%; 24-hr Avg Spill = 33.9 kcfs (39.3%) TDG waivers not exceeded (12-hr Avg TDG = 116.8% @ IHR Tailrace and 114% @ MCN Forebay)
3-May	Court Order: 30%/30%; 24-hr Avg Spill = 27.6 kcfs (30.1%) TDG waivers not exceeded (12-hr Avg TDG = 115.7% @ IHR Tailrace and 111.2% @ MCN Forebay)
4-May	Court Order: 45 kcfs/Gas Cap; 24-hr Avg Spill = 47.1 kcfs TDG waivers not exceeded (12-hr Avg TDG = 115.8% @ IHR Tailrace and 109.1% @ MCN Forebay)
5-May	Court Order: 45 kcfs/Gas Cap; 24-hr Avg Spill = 55.3 kcfs TDG waivers not exceeded (12-hr Avg TDG = 115.7% @ IHR Tailrace and 108.9% @ MCN Forebay)
6-May	Court Order: 30%/30%; 24-hr Avg Spill = 29.6 kcfs (41.2%) TDG waivers not exceeded (12-hr Avg TDG = 114.8% @ IHR Tailrace and 110% @ MCN Forebay)
7-May	Court Order: 30%/30%; 24-hr Avg Spill = 19.8 kcfs (29.9%) TDG waivers not exceeded (12-hr Avg TDG = 114.5% @ IHR Tailrace and 113% @ MCN Forebay)

Flow-Spill Operations – May 1 – May 7, 2007  
 For FPAC Meeting (05/08/07)



1-May	Court Order: 40%/40%; 24-hr Avg Spill = 104.1 kcfs (40.2%) TDG waivers not exceeded (12-hr Avg TDG = 116.0% @ MCN Tailrace and 112.8% @ JDA Forebay)
2-May	Court Order: 40%/40%; 24-hr Avg Spill = 106.8 kcfs (40.1%) TDG waivers not exceeded (12-hr Avg TDG = 115.7% @ MCN Tailrace and 113.3% @ JDA Forebay)
3-May	Court Order: 40%/40%; 24-hr Avg Spill = 108.0 kcfs (39.9%) TDG waivers not exceeded (12-hr Avg TDG = 115.7% @ MCN Tailrace and 111.8% @ JDA Forebay)
4-May	Court Order: 40%/40%; 24-hr Avg Spill = 116.5 kcfs (40.1%) TDG waivers not exceeded (12-hr Avg TDG = 115.8% @ MCN Tailrace and 110.8% @ JDA Forebay)
5-May	Court Order: 40%/40%; 24-hr Avg Spill = 113.8 kcfs (40%) TDG waivers not exceeded (12-hr Avg TDG = 115.6% @ MCN Tailrace and 108.4% @ JDA Forebay)
6-May	Court Order: 40%/40%; 24-hr Avg Spill = 108.8 kcfs (40.3%) TDG waivers not exceeded (12-hr Avg TDG = 115.5% @ MCN Tailrace and 107.2% @ JDA Forebay)
7-May	Court Order: 40%/40%; 24-hr Avg Spill = 101.8 kcfs (39.75%) TDG waivers not exceeded (12-hr Avg TDG = 115.9% @ MCN Tailrace and 108.3% @ JDA Forebay)

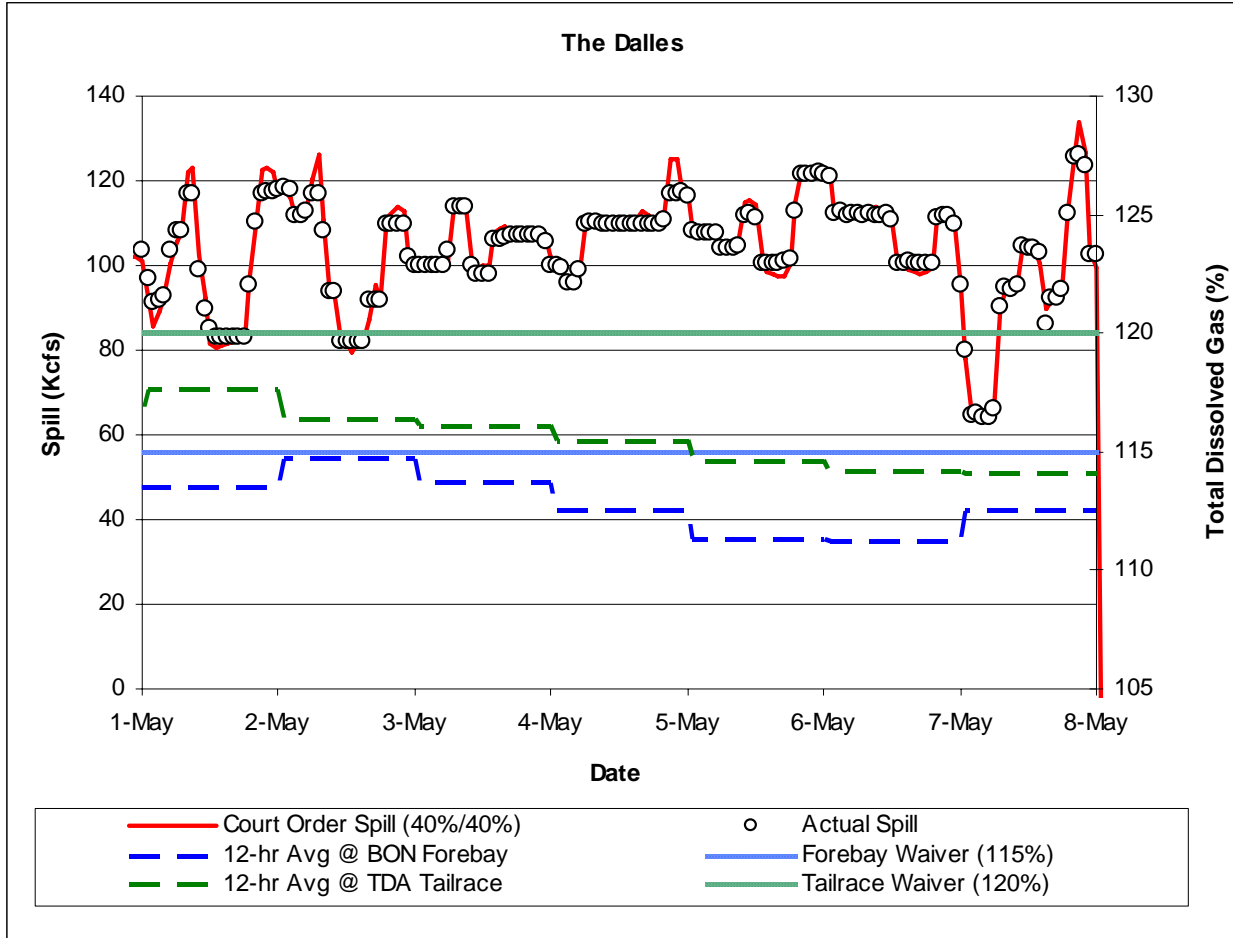
Flow-Spill Operations – May 1 – May 7, 2007  
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1-May	Court Order: 0 kcfs/60%; Avg night-time spill April 30 (19:00) to May 1 (06:00) = 127.8 Kcfs (48.4%) TDG waivers not exceeded (12-hr Avg TDG = 119.1% @ JDA Tailrace and 114.7% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
2-May	Court Order: 0 kcfs/60%; Avg night-time spill May 1 (19:00) to May 2 (06:00) = 126.9 kcfs (40.9%) TDG waivers not exceeded (12-hr Avg TDG = 119.2% @ JDA Tailrace and 113.6% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
3-May	Court Order: 0 kcfs/60%; Avg night-time spill May 2 (19:00) to May 3 (06:00) = 128.0 kcfs (45.1%) TDG waivers not exceeded (12-hr Avg TDG = 118.7% @ JDA Tailrace and 113.3% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
4-May	Court Order: 0 kcfs/60%; Avg night-time spill May 3 (19:00) to May 4 (06:00) = 139.9 kcfs (50.5%) TDG waivers not exceeded (12-hr Avg TDG = 118.5% @ JDA Tailrace and 112.4% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
5-May	Court Order: 0 kcfs/60%; Avg night-time spill May 4 (19:00) to May 5 (06:00) = 142.1 kcfs (50.6%) TDG waivers not exceeded (12-hr Avg TDG = 117.9% @ JDA Tailrace and 111.8% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
6-May	Court Order: 0 kcfs/60%; Avg night-time spill May 5 (19:00) to May 6 (06:00) = 140.1 kcfs (44.6%) TDG waivers not exceeded (12-hr Avg TDG = 118% @ JDA Tailrace and 111.6% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>
7-May	Court Order: 0 kcfs/60%; Avg night-time spill May 6 (19:00) to May 7 (06:00) = 123.4 kcfs (57.2%) TDG waivers not exceeded (12-hr Avg TDG = 117.6% @ JDA Tailrace and 113.4% @ TDA Forebay) <i>Last exceedance 4/22 @ JDA Tailrace</i>

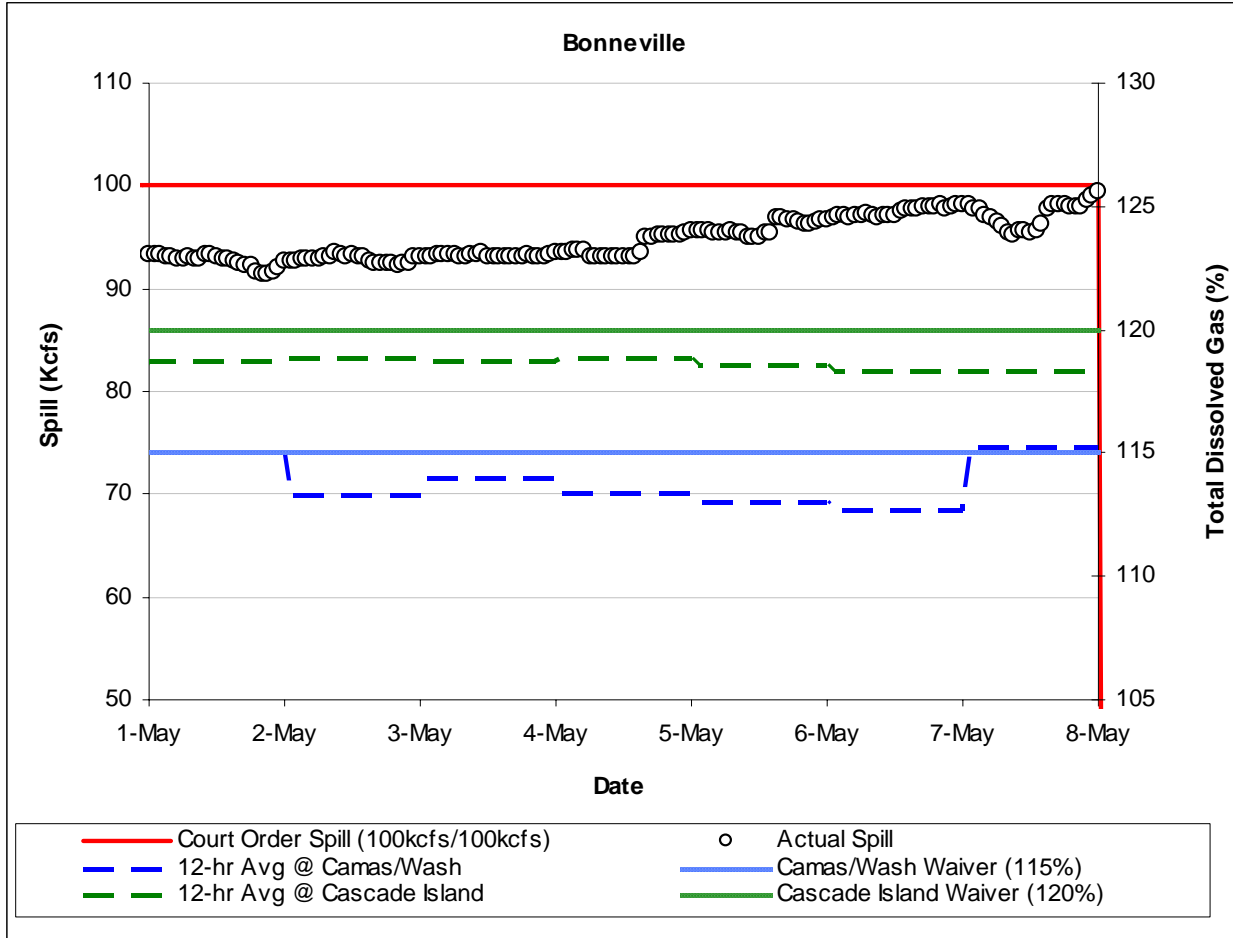


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1-May	Court Order: 40%/40%; 24-hr Avg Spill = 98.9 kcfs (39.9%) TDG waivers not exceeded (12-hr Avg TDG = 117.6% @ TDA Tailrace and 113.5% @ BON Forebay)
2-May	Court Order: 40%/40%; 24-hr Avg Spill = 101.3 kcfs (39.6%) TDG waivers not exceeded (12-hr Avg TDG = 116.4% @ TDA Tailrace and 114.7% @ BON Forebay)
3-May	Court Order: 40%/40%; 24-hr Avg Spill = 104.4 kcfs (39.7%) TDG waivers not exceeded (12-hr Avg TDG = 116.1% @ TDA Tailrace and 113.7% @ BON Forebay)
4-May	Court Order: 40%/40%; 24-hr Avg Spill = 108.6 kcfs (39.5%) TDG waivers not exceeded (12-hr Avg TDG = 115.4% @ TDA Tailrace and 112.5% @ BON Forebay)
5-May	Court Order: 40%/40%; 24-hr Avg Spill = 109.1 kcfs (39.9%) TDG waivers not exceeded (12-hr Avg TDG = 114.6% @ TDA Tailrace and 111.3% @ BON Forebay)
6-May	Court Order: 40%/40%; 24-hr Avg Spill = 108.2 kcfs (40.1%) TDG waivers not exceeded (12-hr Avg TDG = 114.2% @ TDA Tailrace and 111.2% @ BON Forebay)
7-May	Court Order: 40%/40%; 24-hr Avg Spill = 93.8 kcfs (39.9%) TDG waivers not exceeded (12-hr Avg TDG = 114.1% @ TDA Tailrace and 112.5% @ BON Forebay)

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1-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 92.7 TDG waivers not exceeded (12-hr Avg TDG = 118.7% @ CCIS and 115% @ CAMWAS)
2-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 92.8 kcfs TDG waivers not exceeded (12-hr Avg TDG = 118.8% @ CCIS and 113.3% @ CAMWAS)
3-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 93.3 kcfs TDG waivers not exceeded (12-hr Avg TDG = 118.7% @ CCIS and 114% @ CAMWAS)
4-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 94.1 kcfs TDG waivers not exceeded (12-hr Avg TDG = 118.8% @ CCIS and 113.4% @ CAMWAS)
5-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 95.9 kcfs TDG waivers not exceeded (12-hr Avg TDG = 118.6% @ CCIS and 113% @ CAMWAS)
6-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 97.5 kcfs TDG waivers not exceeded (12-hr Avg TDG = 118.3% @ CCIS and 112.7% @ CAMWAS)
7-May	Court Order: 100 kcfs/100 kcfs; 24-hr Avg Spill = 97.2 kcfs TDG waivers <b>exceeded</b> @ CAMWAS (12-hr Avg = 115.1%); Not @ CCIS (12-hr Avg TDG = 118.3%)