# DEEP CREEK HYDROELECTRIC STATION MARYLAND DEPARTMENT of the ENVIRONMENT WATER APPROPRIATION PERMIT NO. GA1992S009 (07) GARRETT COUNTY, MARYLAND

#### 2007 ANNUAL REPORT

January 2008

Prepared By:

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for

BROOKFIELD POWER PINEY & DEEP CREEK, LLC

### DEEP CREEK HYDROELECTRIC STATION MDE WATER APPROPRIATION PERMIT NO. GA1992S009 (07) ANNUAL REPORT 2007

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#### DEEP CREEK HYDROELECTRIC STATION MDE WATER APPROPRIATION PERMIT NO. GA1992S009 (07) ANNUAL REPORT 2007

#### 1.0 <u>SUMMARY</u>

Brookfield Power Piney & Deep Creek, LLC (Permittee) holds a Water Appropriation Permit that provides for the continued operation of the Deep Creek Hydroelectric Station. On April 1, 2007 the previous Water Appropriation Permit GA92S009(06) was superseded by a renewed Water Appropriations Permit GA1992S009(07). This renewed permit resulted in minor changes to Permit Conditions 17, 19, and 20. Permit Condition 23 requires the Permittee to submit an annual report to the MDE, which includes data and information as specified in Permit Conditions 15 through 19 and 21. Changes to the above referenced Permit Conditions are reflected in this annual report.

#### 1.1 LAKE LEVEL MONITORING

#### **End of Month Levels**

Appendix A contains daily water level data for 2007 in tabular and graphical format. Reservoir levels exceeded the desired end of month Upper Rule Band (URB) by 0.2 feet in August and exceeded the desired end of month Lower Rule Band (LRB) by 1.5 feet in October. This past October through mid-November, a variance of the LRB was implemented to carry out a much needed valve replacement. This LRB variance was approved by the Maryland Department of the Environment (MDE) via letter dated February 8, 2007. Appendix B provides a copy of this approval letter. Desired end of month reservoir levels during the remainder of the year did not exceed the desired end of month URB or LRB. Reservoir levels were below the URB for 2007 as follows:

TABLE 1 – Lake Level in Feet Below URB

MONTH OF YEAR	FEET ABOVE (+) or BELOW (-) URB
January	-1.1
February	-1.2
March	-0.5
April	-0.8
May	-0.6
June	-1.1
July	-0.6
August	+0.2
September	-1.4
October	-3.4
November	-2.4
December	-0.4

#### **Daily Levels**

The following describes each daily exceedance of the Upper and Lower Rule Bands. Appendix A provides a graphical and tabular summary of the daily exceedances of the Upper and Lower Rule Bands for 2007.

The Deep Creek Reservoir level was maintained within the Upper and Lower Rule Bands between elevations 2455.9 ft. msl. and 2460.5 ft. msl. from January 1 through August 21.

Between August 17 and August 22, the Deep Creek watershed received over 5" of precipitation causing the reservoir to rise above the URB by 0.2 to 0.4 ft. to a maximum elevation of 2459.6 ft. msl. from August 22 through August 31.

From September 1 through September 7, the reservoir remained above the URB by 0.1 to 0.5 feet between elevations 2458.6 ft. msl. and 2459.0 ft. msl.

The Deep Creek Reservoir remained at or below the URB from September 8 through December 12. During this period however, the reservoir fell below the LRB as further explained below.

From October 13 through November 15, the reservoir was below the LRB by 0.1 to 1.9 feet between elevations 2454.1 ft. msl and 2455.9 ft. msl. This variance was due to an MDE approved reservoir drawdown for valve maintenance. See Appendix B for variance approval documentation.

The Deep Creek Reservoir remained at or above the LRB from November 16 through the end of the calendar year.

Between December 3 and December 17, the Deep Creek Watershed received 6.72" of rain and an additional 5" of snow, causing the reservoir surface elevation to exceed the URB by 0.2 to 1.0 feet between elevations 2458.2 ft. msl. and 2458.9 ft. msl. from December 13 through December 19.

The Deep Creek Reservoir remained at or below the URB from December 20 through the end of the calendar year.

#### 1.2 <u>TEMPERATURE MONITORING</u>

The Permittee monitored water temperature in the Youghiogheny River in accordance with the "Deep Creek Station, Water Temperature Enhancement Plan" (approved June 8, 1996, revised September 2001). The Plan was designed to maintain river water temperatures below 25° C in the Youghiogheny River. By letters dated July 5, August 8, and September 5, 2007, the Permittee provided the MDE with temperature excursion dates at the Sang Run temperature monitoring station and an explanation for

those excursions. The primary reason for these excursions was due to the inherent unpredictability of the model. This model attempts to predict future temperatures of the Youghiogheny River based on air temperature readings, cloud cover factor, cloud cover forecast, river flow, and actual water temperature readings. Due to the multitude of parameters used in the predictions, inherent variability in the predicted temperatures exists.

The Permittee released water in accordance with the Water Temperature Enhancement Plan on 17 days in 2007, 5 of which were a combined temperature enhancement and whitewater release. Temperature enhancement releases occurred on June 2, 7, 10, 13, 17, 20, 26-28, July 10, and August 1 and 2. Combined releases occurred on June 8, 18, 30, and August 3 and 4.

The temperature enhancement protocol predicted water temperatures in excess of 25° C on June 7, 9, 13, 17, 20, 26-28, July 10, and August 1, and 2. Appendix C presents the Sang Run temperature excursion dates, the duration of each excursion, an explanation for the excursion and the maximum temperature for each date during the period of June 1 through August 31, 2007.

Water temperature at Sang Run reached 25° C or greater on June 9, 10, 12, 17, 20, 21, 25-28, July 8, 17, 31, and August 2, and 9 according to the Sang Run temperature data acquired by the Permittee.

The temperature enhancement protocol was not required by the temperature enhancement plan on July 6-9, 12-14, 16-22, 28-31, and August 6-15, 17, 18, and 21-29 as flows at the Oakland gage were greater than 100 cfs.

No maximum temperature readings were provided by Versar from June 1-7 for Sang Run. Appendix C presents 1) summary tables of the temperature exceedance dates at Sang Run, 2) the temperature enhancement release dates, 3) the maximum daily temperature comparison table (Brookfield and VERSAR data), and 4) the daily Deep Creek Station, Water Temperature Enhancement Plan data sheets.

#### 1.3 MINIMUM FLOW RELEASE MONITORING

The Permittee operated the flow bypass in accordance with the "Deep Creek Station Flow Bypass Operation Protocol" (May 1995, revised September 2001). The flow bypass protocol requires the Permittee to maintain a minimum flow of 40 cfs in the Youghiogheny River immediately downstream of the tailrace. Starting January 1, and continuing through December 30, the Permittee monitored the river flows at the Oakland gage. As required by the protocol, when calculated flows downstream of the tailrace are below 40 cfs, the Permittee may be required to open a bypass valve to release enough water to maintain 40 cfs.

The 2007 water year was an average precipitation year. The Permittee provided bypass flow to the Youghiogheny River below the project tailrace on 17 days.

The table in Appendix D summarizes flow bypass data for June through November 2007, when flows in the Youghiogheny River were less than 26 cfs. Flow data were obtained from the USGS recording at the Oakland gage, direct readings from the Oakland gage, or from the tailrace gage at the station, per guidance provided in the protocol. Valve openings (See Appendix D) were determined from Table 3 of the protocol and based on station operating status.

#### 1.4 <u>DISSOLVED OXYGEN MONITORING</u>

The Permittee operated the dissolved oxygen enhancement weir during 2007 in accordance with the "Dissolved Oxygen (DO) Enhancement Operations and Monitoring Protocol" approved by the MDE on January 6<sup>th</sup>, 1995. Data obtained from DO monitoring in 2007 are included in Appendix E.

#### 1.5 RELEASES UNSUITABLE FOR WHITEWATER RECREATION

Permit Condition 19 has changed significantly from the previous permit. Permit Condition 19 outlines several operating rules designed to enhance whitewater boating opportunities in the Youghiogheny River.

Permit Condition 19.A provides a standard whitewater release (WWR) schedule, a special WWR schedule, and a provision that allows the permittee to combine temperature enhancement releases with scheduled WWR. These conditions apply from April 15 through October 15, annually.

Permit Condition 19.B provides additional operating rules that condition the operations of the Deep Creek facility based on flows at the Friendsville gage and Deep Creek Lake levels.

More specifically, Permit Condition 19.B.V allows the Permittee to employ either a "3<sup>rd</sup> Hour Regulation" or an "All Hour Regulation" approach for plant operations in addition to the previously referenced conditions.

Additional details of these permit conditions can be found in Appendix F.

No releases unsuitable for whitewater recreation occurred during 2007.

#### **ALTERED WHITEWATER RELEASES**

The June 25, 2007 whitewater release was postponed due to low lake levels, (2460 ft. msl) and a June 29, 2007 whitewater release was added via email communication with Maryland Department of the Environment (See Appendix G).

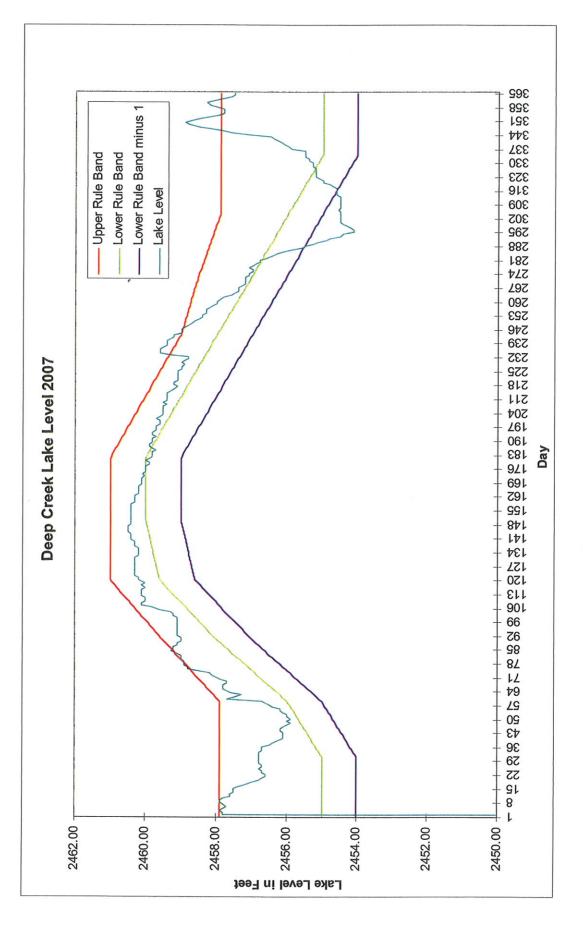
In addition, the July 6, 2007 whitewater release was curtailed due to high river flows in the Youghiogheny, and the July 7, 2007 whitewater release was reduced due to these high flows (Friendsville gage in excess of 800 cfs).

#### 1.6 ZEBRA MUSSEL MONITORING

Artificial substrates placed at the station intake area during 2007 showed no signs of zebra mussel infestation. Appendix H contains the 2007 Zebra Mussel Monitoring Report data sheet.

## APPENDIX A LAKE LEVEL DATA AND PLOT





DEEP CREEK LAKE LEVEL GRAPH - 2007

DEEP CREEK DAILY LAKE LEVEL TABLE

; ; ,	Kam Fall (in.)	0.00	0.88	0.35	0.10	0.05	0.02	0.05	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.30	0.43	0.10	0.03	0.75	0.00	0.00	80.0	0.90	0.10	0.00	0.05	0.00	0.00	0.00	0.00	4.92
, , ,	(ft. msl)	2457.7	2457.5	2457.3	2457.6	2457.7	2457.8	2457.8	2457.8	2457.7	2457.7	2457.9	2458.0	2458.1	2458.2	2458.5	2458.8	2458.8	2458.9	2458.9	2458.9	2459.0	2459.0	2459.0	2459.1	2459.2	2459.2	2459.2	2459.1	2459.1	2459.0	2459.0	Ił
	Day		2	m	4	S	9	7	∞	6	10	<del>,</del>	12	13	4	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
	Month	Mar																															
77	(in.)	0.03	0.02	0.13	0.00	0.00	0.00	0.02	90.0	0.00	0.00	0.00	0.00	0.02	0.80	60.0	0.00	0.00	0.00	0.00	0.01	0.55	0.00	0.11	0.09	0.00	0.88	0.00	0.00				2.81
Deep Creek Lake Level 2007	(ft. msl)	2456.8	2456.8	2456.7	2456.7	2456.7	2456.5	2456.4	2456.3	2456.1	2456.1	2456.1	2456.1	2456.2	2456.2	2456.1	2456.0	2455.9	2456.0	2455.9	2456.0	2456.0	2456.1	2456.2	2456.2	2456.4	2456.5	2456.6	2456.7			J	I
Creek I	Day	<del></del>	7	т	4	S	9	7	∞	6	10	11	12	13	14	15	16	17	8	19	20	21	22	23	24	25	56	27	28				
Deep	Month	Feb																															
Doin Foll	(in.)	N/C	0.54	0.00	0.00	0.16	0.25	0.07	0.65	0.11	0.17	0.00	0.00	0.20	0.50	0.58	0.64	0.00	0.00	0.16	0.20	0.11	0.19	0.12	0.00	0.00	0.00	0.03	0.25	0.13	0.00	0.02	5.08
lave Fore	(ff. msl)	S	2457.8	2457.8	2457.9	2457.8	2457.7	2457.8	2457.9	2457.9	2457.8	2457.6	2457.6	2457.5	2457.5	2457.5	2457.4	2457.2	2457.0	2456.8	2456.7	2456.6	2456.6	2456.7	2456.7	2456.8	2456.7	2456.7	2456.8	2456.8	2456.8	2456.8	
	Day	I	7	w .	4	5	9	7	∞	o ;	10	<del></del>	17	13	14	15	16	17	8 :	19	50	21	22	23	24	25	26	27	28	29	30	31	
	Month	Jan																															Total

; ;	Kain Fall (in.)	0.95	0.00	0.10	0.43	0.00	0.03	0.00	0.00	0.10	0.00	0.00	0.00	0.55	0.03	0.00	0.00	00.00	0.00	0.00	0.32	0.00	0.61	0.00	0.00	0.00	0.00	0.00	0.15	1.01	0.00		4.28
, , ,	(ft. msl)	2460.4	2460.4	2460.4	2460.4	2460.4	2460.4	2460.4	2460.3	2460.3	2460.3	2460.3	2460.2	2460.2	2460.2	2460.2	2460.2	2460.1	2460.1	2460.1	2460.1	2460.0	2460.1	2460.0	2460.0	2460.0	2460.0	2459.9	2459.9	2460.0	2459.9	•	•
	Day	Ţ	7	m	4	5	9	7	∞	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	56	30		
	Month	Inn																															
				•																													
07 Doi: E.u	(in.)	0.00	0.25	0.20	0.00	0.00	0.03	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.02	0.84	80.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45
Deep Creek Lake Level 2007	(ft. msl)	2460.2	2460.3	2460.3	2460.3	2460.3	2460.3	2460.3	2460.3	2460.3	2460.3	2460.3	2460.2	2460.2	2460.2	2460.2	2460.2	2460.3	2460.3	2460.3	2460.4	2460.4	2460.4	2460.4	2460.5	2460.5	2460.5	2460.5	2460.4	2460.4	2460.4	2460.4	
Creek ]	Day		7	m	4	2	9	7	∞	6	10	<del></del>	12	13	14	15	16	17	18	19	70	21	22	23	24	25	26	27	28	29	30	31	
Deep	Month	May																															
Roin Foll	(in.)	0.07	0.87	0.00	0.00	0.05	0.07	0.02	0.05	0.29	0.29	0.29	0.81	0.16	0.04	1.92	1.30	0.87	0.55	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.03	0.37	0.13	0.05	0.03		8.39
Lake Lovel	(ft. msl.)	2439.0	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.2	2459.2	2459.3	2459.6	2459.8	2460.1	2460.1	2460.0	2460.0	2460.0	2460.1	2460.1	2460.1	2460.1	2460.0	2460.1	2460.0	2460.1	2460.2	II	
	$\frac{Day}{1}$	(	7	m ·	4	2	9	_	∞	6	10		15	13	7	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
	Month	Apr																															Total

	Rain Fall	(in.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.26	0.00	0.00		1.84
	Lake Level	(ft. msl)	2459.0	7409.0	2459.0	2458.9	2458.8	2458.7	2458.6	2458.5	2458.4	2458.4	2458.3	2458.3	2458.3	2458.2	2458.1	2458.0	2458.0	2457.9	2457.8	2457.6	2457.5	2457.4	2457.4	2457.4	2457.3	2457.2	2457.2	2457.2	2457.2	2457.1		I
		Day	(	7	m	4	S	9	7	∞	6	10	+\ +1	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		
		Month	Sep																															
				•																													ı	I
07	Rain Fall	(in.)	0.00	0.00	0.00	0.00	0.00	1.02	00.0	0.00	0.40	0.50	0.05	0.00	00.00	0.00	0.00	00.00	0.85	0.00	0.00	0.27	3.90	60.0	0.02	0.00	0.00	0.05	0.03	0.05	0.00	0.00	0.05	7.28
Deep Creek Lake Level 2007	Lake Level	(ft. msl)	2459.4	4.604.0	2459.3	2459.2	2459.1	2459.2	2459.2	2459.1	2459.1	2459.1	2459.1	2459.1	2459.1	2459.0	2459.0	2458.9	2459.0	2458.9	2458.8	2458.8	2459.3	2459.6	2459.6	2459.6	2459.5	2459.4	2459.4	2459.4	2459.3	2459.2	2459.2	•
Creek L		<u>Day</u>	۰ ،	1 (		4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Deep		Month	Sny																															
; ; ,	Rain Fall	( <b>in.</b> )	00.0	00:0	0.00	0.00	0.37	1.25	0.00	0.00	0.00	0.00	0.45	0.64	0.00	0.00	0.00	0.75	0.00	0.00	0.16	0.59	0.00	0.00	0.00	0.00	0.65	0.00	0.21	0.47	1.20	0.00	0.00	6.74
1	Lake Level	(ff. msl)	2450.8	0.0460	2459.8	7.6257	2459.8	2459.9	2459.9	2459.8	2459.8	2459.8	2459.7	2459.8	2459.8	2459.7	2459.7	2459.7	2459.6	2459.6	2459.6	2459.7	2459.6	2459.5	2459.5	2459.5	2459.5	2459.5	2459.4	2459.5	2459.4	2459.4	2459.4	
	j	<u>Day</u>	, (	۱ ر	O 4	<b>4</b> 1	ν.	9	<b>!</b> ~	<b>∞</b>	6	10		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
	•	Month	5																															Total

	Rain Fall	(in.)	0.00	1.75	5"snow	0.00	0.35	0.00	0.05	0.44	1.64	0.22	0.00	0.28	1.52	0.00	0.20	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.72	0.00	0.10	8.17	59.49
	Lake Level	(ft. msl)	2455.5	2455.9	2456	2456.1	2456.2	2456.3	2456.4	2456.5	2457.1	2457.6	2457.8	2458.1	2458.5	2458.8	2458.9	2458.7	2458.5	2458.2	2457.9	2457.8	2457.8	2457.8	2458	2458.2	2458.3	2458.08	2457.83	2457.6	2457.5	2457.5	•	Year Total
		Day	٠, ر	1 m	4	S	9	7	∞	6	10	-	12	13	4	15	16	17	18	19	20	21	22	23	24	25	56	27	28	29	30	31		
		Month	3																															
				•																												ı		
07	Rain Fall	(ii)	000	0.00	0.00	0.00	0.00	0.03	00.00	0.00	0.22	0.00	0.18	0.20	0.00	1.45	0.15	0.00	0.20	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.12	0.87	0.00	0.00	0.00		3.49	
Deep Creek Lake Level 2007	Lake Level	(ft. msl)	2454.54	2454.5	2454.5	2454.5	2454.5	2454.5	2454.5	2454.5	2454.6	2454.6	2454.6	2454.6	2454.7	2454.8	2455	2455	2455.1	2455.2	2455.2	2455.2	2455.2	2455.2	2455.3	2455.3	2455.3	2455.4	2455.4	2455.5	2455.5	'		
Creek J		Day 1	۰ ح	m	4	ŝ	9	7	∞	6	10		12	13	14	15	16	17	18	19	20	21	22	23	24	25	56	27	28	56	30			
Deep		Month Nov	· >																															
; ;	Kain Fall	(iii)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.75	1.23	0.00	0.55	0.13	0.00	0.00	0.00	4.04	
# · · · · ·	Lake Level	( <b>ft. msl</b> ) 2457.1	2457	2457	2457.1	2457	2456.9	2456.8	2456.8	2456.6	2456.4	2456.3	2456.1	2455.9	2455.6	2455.5	2455.3	2455.2	2454.9	2454.8	2454.5	2454.4	2454.1	2454.1	2454.2	2454.3	2454.4	2454.5	2454.5	2454.5	2454.5	2454.5		
	ş	Day 1	7	$\epsilon$	4	S	9	7	∞ -	6	01		12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
		Month Oct																															Total	

SUMMARY OF DAILY EXCEEDANCES OF THE UPPER AND LOWER RULE BANDS

TABLE A-2 Summary of Daily Variances of the Upper and Lower Rule Bands - 2007

Date	Reservoir Level (Ft)	Upper Rule Band (Ft)	Lower Rule Band (Ft)	Δ (Ft)
August 1	2459.4	2459.0	2458.0	0.4
August 2	2459.4	2459.0	2458.0	0.4
August 3	2459.3	2459.0	2458.0	0.3
August 4	2459.2	2459.0	2458.0	0.2
August 5	2459.1	2459.0	2458.0	0.1
August 6	2459.2	2459.0	2458.0	0.2
August 7	2459.2	2459.0	2458.0	0.2
August 8	2459.1	2459.0	2458.0	0.1
August 9	2459.1	2459.0	2458.0	0.1
August 10	2459.1	2459.0	2458.0	0.1
August 11	2459.1	2459.0	2458.0	0.1
August 12	2459.1	2459.0	2458.0	0.1
August 13	2459.1	2459.0	2458.0	0.1
August 21	2459.3	2459.0	2458.0	0.3
August 22	2459.6	2459.0	2458.0	0.6
August 23	2459.6	2459.0	2458.0	0.6
August 24	2459.6	2459.0	2458.0	0.6
August 25	2459.5	2459.0	2458.0	0.5
August 26	2459.4	2459.0	2458.0	0.4
August 27	2459.4	2459.0	2458.0	0.4
August 28	2459.4	2459.0	2458.0	0.4
August 29	2459.3	2459.0	2458.0	0.3
August 30	2459.2	2459.0	2458.0	0.2
August 31	2459.2	2459.0	2458.0	0.2
September 1	2459.0	2458.5	2457.0	0.5
September 2	2459.0	2458.5	2457.0	0.5
September 3	2459.0	2458.5	2457.0	0.5
September 4	2458.9	2458.5	2457.0	0.4

TABLE A-2 Summary of Daily Variances of the Upper and Lower Rule Bands - 2007

Date	Reservoir Level (Ft)	Upper Rule Band (Ft)	Lower Rule Band (Ft)	Δ (Ft)
September 5	2458.8	2458.5	2457.0	0.3
September 6	2458.7	2458.5	2457.0	0.2
September 7	2458.6	2458.5	2457.0	0.1
October 13	2455.9	2457.9	2456.0	-0.1
October 14	2455.6	2457.9	2456.0	-0.4
October 15	2455.5	2457.9	2456.0	-0.5
October 16.	2455.3	2457.9	2456.0	-0.7
October 17	2455.2	2457.9	2456.0	-0.8
October 18	2454.9	2457.9	2456.0	-1.1
October 19	2454.8	2457.9	2456.0	-1.2
October 20	2454.5	2457.9	2456.0	-1.5
October 21	2454.4	2457.9	2456.0	-1.6
October 22	2454.1	2457.9	2456.0	-1.9
October 23	2454.1	2457.9	2456.0	-1.9
October 24	2454.2	2457.9	2456.0	-1.8
October 25	2454.3	2457.9	2456.0	-1.7
October 26	2454.4	2457.9	2456.0	-1.6
October 27	2454.5	2457.9	2456.0	-1.5
October 28	2454.5	2457.9	2456.0	-1.5
October 29	2454.5	2457.9	2456.0	-1.5
October 30	2454.5	2457.9	2456.0	-1.5
October 31	2454.5	2457.9	2456.0	-1.5
November 1	2454.5	2457.9	2455.0	-0.5
November 2	2454.5	2457.9	2455.0	-0.5
November 3	2454.5	2457.9	2455.0	-0.5
November 4	2454.5	2457.9	2455.0	-0.5
November 5	2454.5	2457.9	2455.0	-0.5
November 6	2454.5	2457.9	2455.0	-0.5

TABLE A-2 Summary of Daily Variances of the Upper and Lower Rule Bands - 2007

Date	Reservoir Level (Ft)	Upper Rule Band (Ft)	Lower Rule Band (Ft)	Δ (Ft)
November 7	2454.5	2457.9	2455.0	-0.5
November 8	2454.5	2457.9	2455.0	-0.5
November 9	2454.5	2457.9	2455.0	-0.5
November 10	2454.6	2457.9	2455.0	-0.4
November 11	2454.6	2457.9	2455.0	-0.4
November 12	2454.6	2457.9	2455.0	-0.4
November 13	2454.6	2457.9	2455.0	-0.4
November 14	2454.7	2457.9	2455.0	-0.3
November 15	2454.8	2457.9	2455.0	-0.2
December 13	2458.1	2457.9	2455.0	0.2
December 14	2458.5	2457.9	2455.0	0.6
December 15	2458.8	2457.9	2455.0	0.9
December 16	2458.9	2457.9	2455.0	1.0
December 17	2458.7	2457.9	2455.0	0.8
December 18	2458.5	2457.9	2455.0	0.6
December 19	2458.2	2457.9	2455.0	0.3

# APPENDIX B LAKE LEVEL RULE BAND VARIANCE APPROVAL DOCUMENTATION



#### MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Boulevard • Baltimore MD 21230 410-537-3000 • 1-800-633-6101

Martin O'Malley Governor Shari T. Wilson Acting Secretary

Anthony G. Brown Lieutenant Governor

February 8, 2007

Mr. Kenneth N. Kemp, P. E. Brookfield Power 225 Greenfield Parkway, Suite 201 Liverpool, NY 13088

Dear Mr. Kemp:

The Maryland Department of the Environment is in receipt of your letter dated January 19, 2007 requesting a deviation from the Rule Band in order to carry out much needed valve replacement. We also received your email of February 5, 2007 regarding the anticipated water level on October 14 during the drawdown period.

We approve the initiation of a drawdown on October 8, 2007 to lower the lake level below the Lower Rule Band and the achievement of elevation 2454 by October 22, 2007. Your letter of January 19 explained the reasons for the drawdown and potential impacts on whitewater and fishery recreation on the Youghigheny River as required in Brookfield's Water Appropriation and Use Permit - Condition 14.

Condition 22 of the Permit contains specific notification requirements for generation releases citing particularly Hoyes Run and Sang Run as locations where hazard warnings are warranted. A notice regarding the timing and duration of this continual release should be posted at all sites where the general hazard posting is located. We recommend that such posting be completed by September 8, 2007.

Finally, we discussed the need to put out a notice in the local paper (*The Republican*) concerning the drawdown. We are recommending that an ad be placed in the editions that come out prior to Memorial Day, Fourth of July and Labor Day.

Mr. Kenneth N. Kemp Page 2 February 8, 2007

If you have any questions or comments, please call me at (410) 537-3714.

Sincerely

John Grace, Chief-

Source Protection and Appropriation Division

Water Supply Program

#### JG:cpj

cc: Mr. Jeff Ausher, Brookfield Power

Mr. Glenn Neiport, Brookfield Power

Mr. Tom Uncher, Brookfield Power

Mr. Greg Golden, MDNR

Ms. Carolyn Mathews, MDNR

Mr. Rich McLean, MDNR

Mr. John Wilson, MDNR

Mr. John Forman, Deep Creek Policy and Review Board

Mr. Scott Johnson, Property Owners Asso., Deep Creek Lake

Mr. Herb Sachs, MDE

#### APPENDIX C

DAILY MAXIMUM SANG RUN TEMPERATURES, TEMPERATURE ENHANCEMENT PLAN SANG RUN TEMPERATURE EXCEEDANCES, AND DAILY TEMPERATURE PLAN SHEETS

Daily maximum river water temperatures in the Youghiogheny River at Sang Run are presented in the tables in this appendix. These data were collated and provided by Versar, Inc., consultant to the MDE Power Plant Assessment Division (PPAD).

The column labeled "SMAX" lists the arithmetic means of the daily maximum water temperatures, in degrees C, measured by two "Tempmentors" placed in the river by the MDE. The column labeled "PMAX" lists the maximum water temperatures, in degrees C, measured by the Permittee's temperature monitor at the Sang Run Bridge. PPAD and Versar analyze the data to evaluate the Water Temperature Enhancement Plan used by the Permittee to determine the need and timing of daily temperature releases.

Days when temperatures exceeded 25° C and days when temperature enhancement releases were made are summarized in the following tables. Daily Temperature Enhancement Plan sheets for each of these dates are also enclosed.

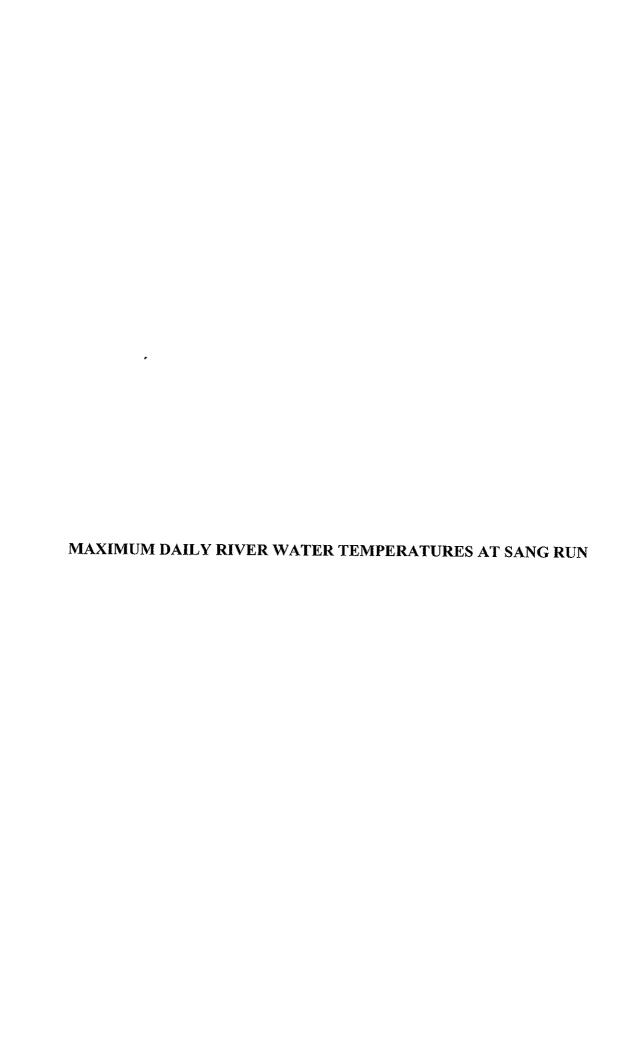


TABLE C-1

			DEEP C	REEK STA	ATION			
		YOUGHIOG	HENY RIVE	R TEMPE	RATURE DA	ATA 2005		
JUNE	SMAX	PMAX	JULY	SMAX	PMAX	AUGUST	SMAX	PMAX
1	N/A	21.68	1	23.76	24.50	1	25.94	24.95
2	N/A	23.68	2	21.81	20.37	2	26.55	25.84
3	N/A	20.70	3	23.93	24.67	3	24.63	23.74
4	N/A	20.78	4	21.98	22.60	4	23.07	22.89
5	N/A	21.11	5	19.92	20.68	5	21.47	22.34
6	N/A	22.94	6	19.43	20.08	6	22.49	22.69
7	N/A	24.72	7	20.90	21.87	7	24.11	24.28
8	22.06	21.75	8	25.33	25.96	8	23.67	23.28
9	25.59	26.40	9	24.02	22.97	9	25.41	25.44
10	25.50	25.42	10	24.80	24.67	10	22.65	22.91
11	22.23	20.98	11	22.65	22.91	11	22.15	23.15
12	24.80	25.29	12	22.15	22.84	12	22.82	23.87
13	24.63	24.39	13	20.24	19.93	13	21.89	21.62
14	20.32	20.80	14	21.15	21.22	14	23.25	23.67
15	18.37	19.15	15	23.85	23.78	15	23.76	24.59
16	23.59	24.06	16	21.81	22.76	16	21.47	21.16
17	25.94	25.72	17	24.63	25.13	17	21.73	21.91
18	23.93	23.41	18	23.42	24.08	18	20.73	20.97
19	24.46	24.88	19	22.23	22.45	19	20.24	20.69
20	25.15	26.32	20	20.24	20.98	20	20.73	20.83
21	24.63	25.02	21	19.92	21.25	21	19.19	19.89
22	20.73	20.22	22	23.76	24.53	22	19.43	19.98
23	20.40	19.32	23	19.67	20.48	23	20.90	21.31
24	20.00	20.45	24	19.43	19.69	24	21.65	21.86
25	25.06	25.55	25	22.32	22.51	25	22.49	22.06
26	25.85	25.11	26	22.32	22.53	26	23.59	24.54
27	26.20	25.66	27	20.73	20.68	27	21.89	22.29
28	24.98	25.42	28	21.73	21.65	28	22.40	22.14
29	19.67	20.08	29	22.15	22.18	29	23.42	22.75
30	22.90	22.14	30	21.31	22.45	30	24.37	23.88
			31	25.24	26.11	31	21.06	21.38

# DEEP CREEK TEMPERATURE ENHANCEMENT PLAN SANG RUN TEMPERATURE EXCEEDANCES

#### TABLE C-2

ı				nperature Excursions to August 31, 2007
Date	Duration	Max. Temp (C)	Cause	Remarks
			JU	YE 2007
6/9/07	4 hrs. 10 min.	26.4	Model uncertainty	The protocol was conducted, and did not require a release on this day.
6/10/07	1 hr.	25.42	Model uncertainty	A one hour temperature release was made on this day in accordance with the protocol from 14:30 to 15:30.
6/12/07	2 hrs. 20 min.	25.29	Model uncertainty	The protocol was conducted, and did not require a release on this day.
6/17/07	50 min.	25.72	Model uncertainty	Based on the results of the protocol at 14:00, a release was mandated starting no later than 14:30 for one hour. A temperature release was made on this day in accordance with the protocol from 14:00 to 15:00.
6/20/07	1hr. 50 min.	26.32	Model uncertainty	Based on the results of the protocol at 15:00, a release was mandated starting no later than 15:30 for one hour. A temperature release was made on this day in accordance with the protocol from 15:30 to 16:30 pm.
6/21/07	10 min	25.02	Model uncertainty	The protocol was conducted, and did not require a release on this day.
6/25/07	3 hrs. 10 min.	25.55	Model uncertainty	The protocol was conducted, and did not require a release on this day.
6/26/07	20 min.	25.11	Model uncertainty	A temperature release was made on this day in accordance with the protocol from 12:30 to 14:30.
27/07	50 min.	25.66	Model uncertainty	A temperature release was made on this day in accordance with the protocol from 12:30 to 14:30.
6/28/07	50 min.	25.42	Model uncertainty	A one hour temperature release was made on this day in accordance with the protocol from 14:30 to 15:30.
			JUI	.Y 2007
7/8/07	4 hrs.	25.96	(1) Model uncertainty	The protocol was conducted, and did not require a release on this day.
7/17/07	1 hr. 10 min.	25.13	(1) Model uncertainty	The protocol was conducted, and did not require a release on this day.
7/31/05	2 hrs.	26.11	(1) Model uncertainty	The protocol was conducted, and did not require a release on this day.
			AUGI	UST 2007
8/2/05	1hr. 10 min.	25.84	(1) Model uncertainty	A two hour temperature enhancement release was made beginning at 12:30 per the protocol.
8/9/05	1 hr.	25.44	(1) Model uncertainty	The protocol was conducted, and did not require a release on this day.
	C	ategory (	1) Completed established	protocol; temperature exceeded 25° C.

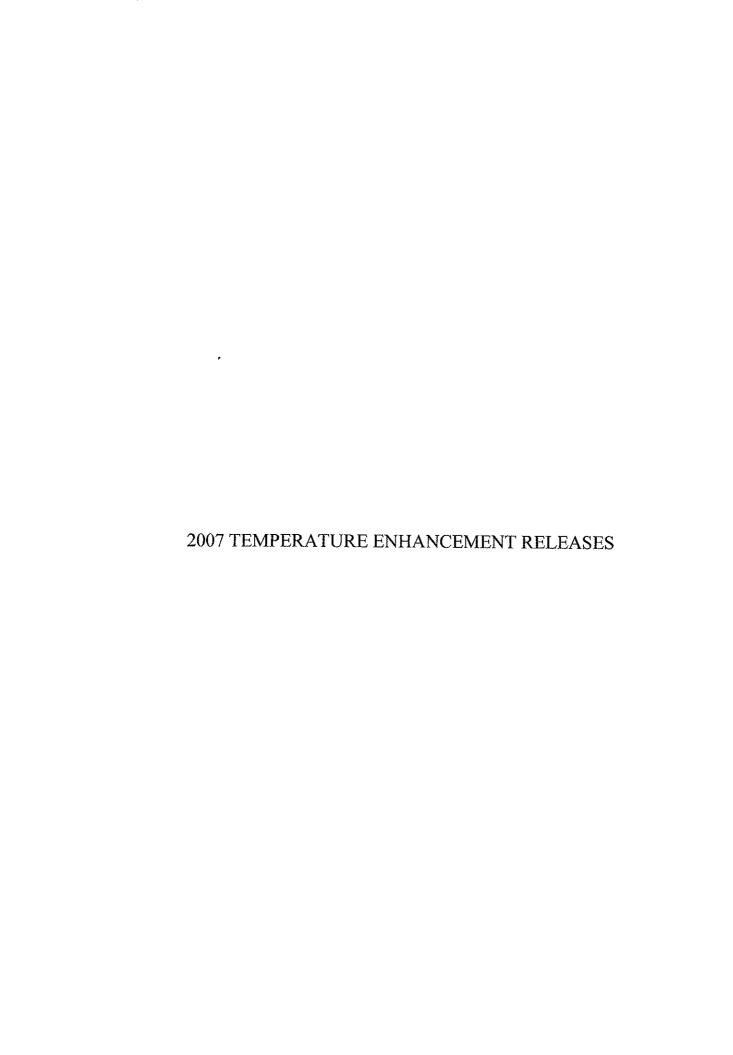


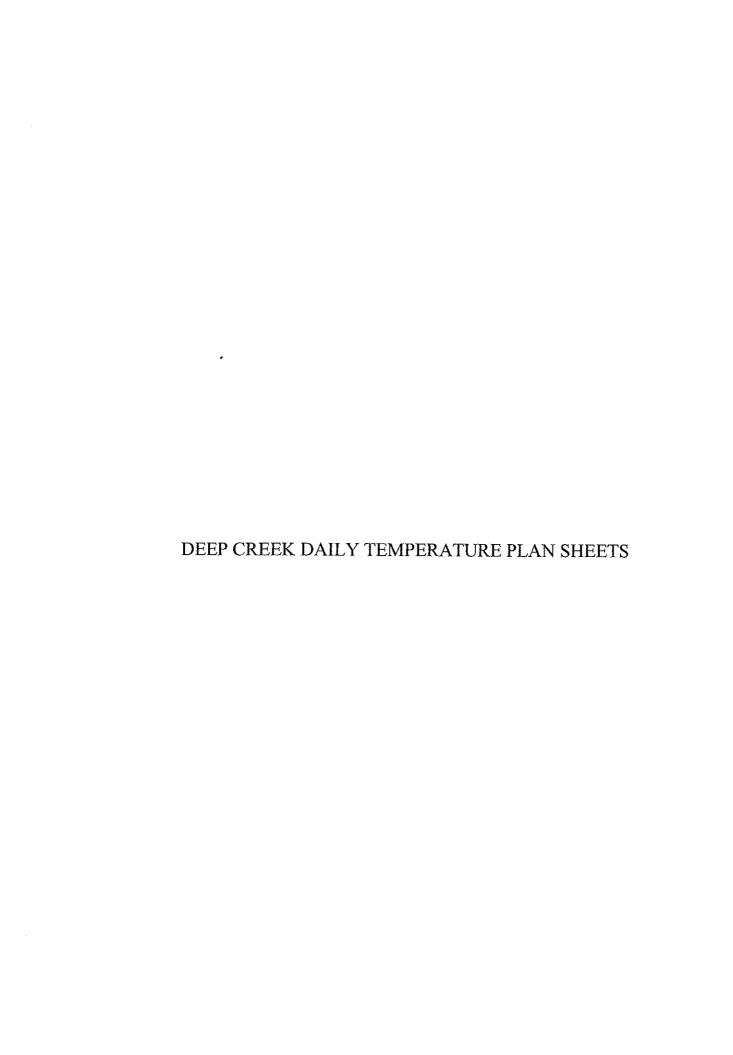
TABLE C-3

2007 DATES &	TIMES OF TEMPE	RATURE ENHAN	CEMENT RELEASES
DATE	START TIME	STOP TIME	RIVER FLOW (CFS)
June 2, 2007	1220	1323	54
June 7, 2007	1415	1520	62
June 10, 2007	1410	1530	43
June 13, 2007	1401	1505	43
June 17, 2007	1400	1500	32
June 20, 2007	1525	1630	30
June 26, 2007	1227*	1430	21
June 27, 2007	1229	1433*	20
June 28, 2007	1400	1507	19
July 10, 2007	1230	1430	80
August 1, 2007	1235*	1435*	82
August 2, 2007	1552	1716	82

TABLE C-4

2007 COMBINED TEMPERATURE ENHANCEMENT & WHITEWATER RELEASES		
DATE	START TIME	STOP TIME
June 8, 2007	1100	1430
June 18, 2007	1100	1400
June 30, 2007	1100	1430
August 3, 2007	1059	1400*
August 4, 2007	0958	1400

<sup>\*</sup>Estimated from generation - not logged.



Simulate a Ra

80

= CFS River Flow at Oakland

June 1, 2007

83 SHWRS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	3839707216	Chack Again at 0000
0700	(23 to 26.4)	Check Again at 0900
0900	22:009	Check Again at 1100
	(23 to 25.9)	
1100	(22 to 25 4)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
	(23 to 25.3)	Shookingalii at 1400
1400	15.88	No Further Predictions Necessary Today
4500	(23 to 25.2)	
1500	50 001 000 FF	PA-AF

Print Info for file

Tair °C	28.33	Air Temp, Elkins WV - Degree C	Т
CCF	64	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	18.42	River Temp Sang Run @700	
Т9	18.66	River Temp Sang Run @900	
T11	19.96	River Temp Sang Run @1100	
T12	20.94	River Temp Sang Run @1200	
T14	16.20	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	80.00	River Flow at Oakland	

Simulate a Ra

54

= CFS River Flow at Oakland

June 2, 2007

84 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	Check Again at 0900
	(23 to 26.4)	•
0900	(23 to 25.9)	Check Again at 1100
1100	(20,020,0)	Check Again at 1200
	(23 to 25.4)	
1200	25.47 (23 to 25.3)	Release ASAP - not later than 1230 for 1 hour
1400	(20 to 20.0)	<del></del>
	(23 to 25.2)	
1500		

Print Info for file

Tair °C	28.89	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	18.22	River Temp Sang Run @700	
Т9	18.38	River Temp Sang Run @900	
T11	19.89	River Temp Sang Run @1100	
T12	21.49	River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	54.00	River Flow at Oakland	

Simulate a Ra

48

= CFS River Flow at Oakland

June 3, 2007

70 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21,39	No Further Predictions Necessary Today
0900	(23 to 26.4)	
1100	(23 to 25.9)	~~
1200	(23 to 25.4)	
1400	(23 to 25.3)	<del></del>
1500	(23 to 25.2)	

p	ri	nŧ	Info	for	file
		425	11110	101	1110

Tair °C	21.11	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	18.60	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	48.00	River Flow at Oakland	ı

80 = CFS River Flow at Oakland

June 4, 2007

76 PTCLDY

Simulate a Ra

Print Info for file

Predicted Maximum	
River Water	
Temperature	
Degree C	Deep Creek Action
taxaataankei oo uteto oo oo too oo oo	
- 52.00.000 52.000 500.000 500.000 500.000 500.000 500.000 500.000 500.000 500.000 500.000 500.000 500.000 500	No Further Predictions Necessary Today
(23 to 26.4)	
	u na
(23 to 25.9)	
	<del></del>
(23 to 25.3)	
	***
(23 to 25 2)	
44	***
	Maximum River Water Temperature Degree C  22.09 (23 to 26.4) (23 to 25.9) (23 to 25.4) (23 to 25.3) (23 to 25.2)

Tair °C	24.44	Air Temp, Elkins WV - Degree C	Т
CCF	36	Cloud Cover Factor, Elkins WV	
T7	17.66	River Temp Sang Run @700	Г
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	1
Q	80.00	River Flow at Oakland	

Simulate a Ra

95

= CFS River Flow at Oakland

June 5, 2007

**TSTRMS** 

	Predicted	
	Maximum	
	River Water	
	Temperature	
Time	Degree C	Deep Creek Action
0700	18.99	No Further Predictions Necessary Today
0700	(23 to 26.4)	No Future Fredictions Necessary Today
0900	(20 to 20.4)	74
	(23 to 25.9)	
1100	,	
	(23 to 25.4)	
1200	E-1000	
4400	(23 to 25.3)	
1400	(23 to 25.2)	<del></del>
1500	(23 to 25.2)	<del></del>

Print Info for file

Tair °C	20.00	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	18.11	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	95.00	River Flow at Oakland

Simulate a Ra

66

= CFS River Flow at Oakland

June 6, 2007

73 PTCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21,80	No Further Predictions Necessary Today
0900	(23 to 26.4)	
0300	(23 to 25.9)	
1100	(23 to 25.4)	••
1200	- <u>-</u> -	
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Print Info for file

Tair °C	22.78	Air Temp, Elkins WV - Degree C	
CCF	36	Cloud Cover Factor, Elkins WV	
T7	16.74	River Temp Sang Run @700	- 1
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	ı
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	66.00	River Flow at Oakland	

\_\_\_\_

62

= CFS River Flow at Oakland

June 7, 2007

SUNNY

	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700	(23 to 26.4)	Check Again at 0900
0900	(23 to 25.9)	Check Again at 1100
1100	(23 to 25.4)	Check Again at 1200
1200	(23 to 25.3)	Check Again at 1400
1400	25.62	Release ASAP - not later than 1430 for 1 hour
1500	(23 to 25.2)	

Print Info for file

Simulate a Ra

Tair °C	29.44	Air Temp, Elkins WV - Degree C
CCF	1	Cloud Cover Factor, Elkins WV
T7	14.94	River Temp Sang Run @700
Т9	15.10	River Temp Sang Run @900
T11	16.89	River Temp Sang Run @1100
T12	18.48	River Temp Sang Run @1200
T14	22,21	River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	62.00	River Flow at Oakland

Simulate a Ra

48

= CFS River Flow at Oakland

June 8, 2007

95 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9) 26.36	Release at 1230 for 2 Hours
1200	(23 to 25.4)	
	(23 to 25.3)	<del></del>
1400	(23 to 25.2)	
1500	<b></b>	MW

Print Info for file

Tair °C	35.00	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	17.53	River Temp Sang Run @700
T9	17.96	River Temp Sang Run @900
T11	19.66	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	48.00	River Flow at Oakland

43

1500

= CFS River Flow at Oakland June 9, 2007

Simulate a Ra

Predicted Maximum River Water Temperature Time Degree C **Deep Creek Action** 0700 \$\$\$\$2KII/ Check Again at 0900 (23 to 26.4) 0900 22.95 No Further Predictions Necessary Today (23 to 25.9) 1100 (23 to 25.4) 1200 (23 to 25.3) 1400 (23 to 25.2)

Print Info for file

Tair °C CCF	25.56 100	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	78 VARCLDY	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
T7	18.73	River Temp Sang Run @700		
Т9	18.79	River Temp Sang Run @900		
T11		River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	43.00	River Flow at Oakland		

Simulate a Ra

43

= CFS River Flow at Oakland

June 10, 2007

77 PTCLDY

	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3) <b>25.53</b>	Release ASAP - not later than 1430 for 1 hour
1500	(23 to 25.2)	ma.

Print Info for file

Tair °C	25.00	Air Temp, Elkins WV - Degree C	
CCF	36	Cloud Cover Factor, Elkins WV	
T7	16.29	River Temp Sang Run @700	
Т9	16.60	River Temp Sang Run @900	
T11	18.48	River Temp Sang Run @1100	
T12	19.55	River Temp Sang Run @1200	
T14	22.95	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	43.00	River Flow at Oakland	

Simulate a Ra

33

= CFS River Flow at Oakland

June 11, 2007

78 PTCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3) 17,78	No Further Predictions Necessary Today
1500	(23 to 25.2)	<u></u>

Print Info for file

Tair °C	25.56	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	15.96	River Temp Sang Run @700
Т9	16.30	River Temp Sang Run @900
T11	18.27	River Temp Sang Run @1100
T12	19.74	River Temp Sang Run @1200
T14	17.28	River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	33.00	River Flow at Oakland

Simulate a Ra

Print Info for file

29

= CFS River Flow at Oakland

June 12, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	2.0	Check Again at 0900
	(23 to 26.4)	<del>-</del>
0900	(23 to 25.9)	Check Again at 1100
1100	20.0022593	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
.200	(23 to 25.3)	Shook Again at 1100
1400	(22 to 25 2)	Check Again at 1500
1500	(23 to 25.2)	Check Again Tomorrow at 0700

Tair °C CCF	25.56 36	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	78 PTCLDY	Air Temp, Elkins WV - Degree F Cloud Cover. Elkins WV
T7	16.14	River Temp Sang Run @700	FICEDI	Cloud Cover, Eikilis WV
T9	16.25	River Temp Sang Run @900		
T11	18.60	River Temp Sang Run @1100		
T12	20.08	River Temp Sang Run @1200		
T14	22.45	River Temp Sang Run @1400		
T15	23.61	River Temp Sang Run @1500		
Q	29.00	River Flow at Oakland		

Simulate a Ra

43

= CFS River Flow at Oakland

June 13, 2007

**TSTRMS** 

	Predicted Maximum	
Time	River Water Temperature Degree C	Deep Creek Action
	Shirtee of the antimodel on the second of the second	
0700	100 to 00 to	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
0000	(23 to 25.9)	Silosit gain at 7100
1100	99 90 YANG S	Check Again at 1200
1200	(23 to 25.4)	Charle Araba at 1400
1200	(23 to 25.3)	Check Again at 1400
1400	25.48	Release ASAP - not later than 1430 for 1 hour
	(23 to 25.2)	
1500		M-25

Print Info for file

Tair °C	26.11	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	18.14	River Temp Sang Run @700	
Т9	18.40	River Temp Sang Run @900	
T11	20.28	River Temp Sang Run @1100	
T12	21.45	River Temp Sang Run @1200	
T14	23.67	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	43.00	River Flow at Oakland	

Simulate a Ra

62

= CFS River Flow at Oakland

June 14, 2007

TSTRMS

	Predicted	
	Maximum River Water	
	Temperature	
Time	Degree C	Deep Creek Action
0700	22.25	No Further Predictions Necessary Today
0000	(23 to 26.4)	
0900	(23 to 25.9)	
1100	<b></b>	
1200	(23 to 25.4)	
	(23 to 25.3)	
1400	(22 to 25 2)	<del></del>
1500	(23 to 25.2)	

Print Info for file

******		
Tair °C	25.56	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	18.55	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	62.00	River Flow at Oakland

Simulate a Ra

60

= CFS River Flow at Oakland

June 15, 2007

73 HAZE

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21.95	No Further Predictions Necessary Today
0900	(23 to 26.4)	
1100	(23 to 25.9)	
1200	(23 to 25.4)	
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Print Info for file

Tair °C	22,78	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	16.47	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	60.00	River Flow at Oakland

Simulate a Ra

38

= CFS River Flow at Oakland

June 16, 2007

82 HAZE

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	26 200 De 110	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3)	Check Again at 1500
1500	(23 to 25.2)	Check Again Tomorrow at 0700

Print Info for file

Tair °C	27.78	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	15.35	River Temp Sang Run @700
T9	15.70	River Temp Sang Run @900
T11	17.55	River Temp Sang Run @1100
T12	18.49	River Temp Sang Run @1200
T14	21.80	River Temp Sang Run @1400
T15	23.08	River Temp Sang Run @1500
Q	38.00	River Flow at Oakland

Simulate a Ra

32

= CFS River Flow at Oakland

June 17, 2007

86 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	200	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
	(23 to 25.9)	Official Again at 1100
1100	(23 to 25.4)	Check Again at 1200
1200	Marie Victoria	Check Again at 1400
1400	(23 to 25.3) 25.68	Release ASAP - not later than 1430 for 1 hour
1500	(23 to 25.2)	

Print Info for file

Tair °C	30.00	Air Temp, Elkins WV - Degree C	T
CCF	100	Cloud Cover Factor, Elkins WV	
T7	16.07	River Temp Sang Run @700	ł
Т9	16.29	River Temp Sang Run @900	1
T11	18.32	River Temp Sang Run @1100	1
T12	19.52	River Temp Sang Run @1200	1
T14	22.67	River Temp Sang Run @1400	ı
T15		River Temp Sang Run @1500	
Q	32.00	River Flow at Oakland	

Simulate a Ra

27

= CFS River Flow at Oakland

June 18, 2007

89 TSTRMS

	Predicted Maximum	
	River Water	
	Temperature	
Time	Degree C	Deep Creek Action
	901 PR 1001 POSETTO PER CO 1 CO	
0700	257.0	Check Again at 0900
	(23 to 26.4)	<u>.</u>
0900	an data sada sama sa	Check Again at 1100
1400	(23 to 25.9)	5.4
1100	26.69	Release at 1230 for 2 Hours
4000	(23 to 25.4)	
1200	attigen i kantantin attigen i territoria	<del></del>
4400	(23 to 25.3)	
1400	(00 to 05 0)	NA
1500	(23 to 25.2)	
1500		<del></del> -

Print Info for file

Tair °C	31.67	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	18.27	River Temp Sang Run @700
Т9	18.55	River Temp Sang Run @900
T11	20.84	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	27.00	River Flow at Oakland

Simulate a Ra

24

= CFS River Flow at Oakland

June 19, 2007

87 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3)	
	(23 to 25.2)	Check Again at 1500
1500	[ N 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Check Again Tomorrow at 0700

Print Info for file

Tair °C	30.56	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	18.55	River Temp Sang Run @700
Т9	19.11	River Temp Sang Run @900
T11	20.10	River Temp Sang Run @1100
T12	21.00	River Temp Sang Run @1200
T14	22.27	River Temp Sang Run @1400
T15	22.89	River Temp Sang Run @1500
Q	24.00	River Flow at Oakland

Simulate a Ra

30

= CFS River Flow at Oakland

June 20, 2007

77 HAZE

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3)	Check Again at 1500
1500	(23 to 25.2) <b>25.73</b>	Release ASAP - not later than 1530 for 1 hour

Print Info for file

Tair °C	25.00	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	19.18	River Temp Sang Run @700
T9	19.21	River Temp Sang Run @900
T11	20.57	River Temp Sang Run @1100
T12	21.51	River Temp Sang Run @1200
T14	23.41	River Temp Sang Run @1400
T15	24.68	River Temp Sang Run @1500
Q	30.00	River Flow at Oakland

Simulate a Ra

43

= CFS River Flow at Oakland

June 21, 2007

80 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
0700	22.57	No Further Predictions Necessary Today	
	(23 to 26.4)	·····,	
0900	(22 to 25 0)	**	
1100	(23 to 25.9) (23 to 25.4)	8 NA	
1200	<b></b>		
1400	(23 to 25.3)		
1500	(23 to 25.2)	wa.	

Print Info for file

Tair °C	26.67	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	16.18	River Temp Sang Run @700	
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	43.00	River Flow at Oakland	

35 = CFS River Flow at Oakland

June 22, 2007

75 VARCLDY Simulate a Ra

Print Info for file

	Predicted Maximum River Water	
Time	Temperature Degree C	Deep Creek Action
0700	22:58 (23 to 26.4)	No Further Predictions Necessary Today
0900	14/2012-	
1100	(23 to 25.9)	
1200	(23 to 25.4)	a va
1400	(23 to 25.3)	<b></b> -
1500	(23 to 25.2)	_ <del>-</del>

Tair °C	23.89	Air Temp, Elkins WV - Degree C	—
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	17.93	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	35.00	River Flow at Oakland	

Simulate a Ra

43

= CFS River Flow at Oakland

June 23, 2007

76 SUNNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
	(23 to 26.4)	\$7,000,7 \(\frac{1}{2}\) and \(\frac{1}{2}\).
0900	(22 to 25 0)	Check Again at 1100
1100	(23 to 25.9) (23 to 25.4)	Check Again at 1200
1200		Check Again at 1400
1400	(23 to 25.3) 17.02	No Further Predictions Necessary Today
1500	(23 to 25.2)	

Print Info for file

Tair °C	24.44	Air Temp, Elkins WV - Degree C	
CCF	1	Cloud Cover Factor, Elkins WV	
T7	15.40	River Temp Sang Run @700	
Т9	15.62	River Temp Sang Run @900	
T11	17.42	River Temp Sang Run @1100	
T12	18.44	River Temp Sang Run @1200	
T14	16.23	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	43.00	River Flow at Oakland	

J..... 04 0007

27 =

= CFS River Flow at Oakland

June	24,	2007	
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81 RAIN

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.96	No Further Predictions Necessary Today
0900	(23 to 26.4)	
	(23 to 25.9)	<del>-</del>
1100	(23 to 25.4)	<del></del>
1200	"	
1400	(23 to 25.3)	u
1500	(23 to 25.2)	an .

Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV

Simulate a Ra

Print info for file

Tair °C	27.22	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
<b>T</b> 7	15.27	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	27.00	River Flow at Oakland

22 = CFS River Flow at Oakland

June 25, 2007

Print	Info	for	file

Simulate a Ra

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3)	Check Again at 1500
1500	(23 to 25.2)	Check Again Tomorrow at 0700

Tair °C	27.22	Air Temp, Elkins WV - Degree C	81
CCF	100	Cloud Cover Factor, Elkins WV	RAIN
Τ7	17.20	River Temp Sang Run @700	
Т9	17.55	River Temp Sang Run @900	
T11	18.72	River Temp Sang Run @1100	
T12	19.64	River Temp Sang Run @1200	
T14	22.39	River Temp Sang Run @1400	
T15	23.52	River Temp Sang Run @1500	
Q	22.00	River Flow at Oakland	

Simulate a Ra

21

= CFS River Flow at Oakland

June 26, 2007

87 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	(5)	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
0300	(23 to 25.9)	Check Again at 1100
1100	26.52	Release at 1230 for 2 Hours
1200	(23 to 25.4)	,
1400	(23 to 25.3)	A to
1500	(23 to 25.2)	<del></del>

Print Info for file

Tair °C	30.56	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	19.20	River Temp Sang Run @700
T9	19.20	River Temp Sang Run @900
T11	21.30	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	21.00	River Flow at Oakland

20

= CFS River Flow at Oakland

June 27, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	1,35	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9) <b>26.</b> 80	Release at 1230 for 2 Hours
1200	(23 to 25.4)	<b>"</b> -
1400	(23 to 25.3)	мы
1500	(23 to 25.2)	MA.

Tair °C	30.00	Air Temp, Elkins WV - Degree C	86 A
CCF	100	Cloud Cover Factor, Elkins WV	TSTRMS C
T7	19.20	River Temp Sang Run @700	
T9	19.56	River Temp Sang Run @900	
T11	21.81	River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	20.00	River Flow at Oakland	

Print Info for file

Simulate a Ra

19 = CFS River Flow at Oakland

June 28, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0,00	(23 to 26.4)	Offeck Again at 0900
0900	2005207777777	Check Again at 1100
	(23 to 25.9)	
1100	(23 to 25.4)	Check Again at 1200
1200	(23 to 23.4)	Check Again at 1400
	(23 to 25.3)	Chroth Gam at 1100
1400	26.03	Release ASAP - not later than 1430 for 1 hour
1500	(23 to 25.2)	

Tair °C CCF	27.78 100	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	82 TSTRMS	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
T7	19.04	River Temp Sang Run @700		<del></del>
T9	19.52	River Temp Sang Run @900		
T11	20.16	River Temp Sang Run @1100		
T12	21.25	River Temp Sang Run @1200		
T14	23.86	River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	19.00	River Flow at Oakland		

Simulate a Ra

Print Info for file

= CFS River Flow at Oakland

24

June 29, 2007

Print Info for file

Simulate a Ra

	Predicted Maximum	
	River Water	
	Temperature	
Time	Degree C	Deep Creek Action
0700	(23 to 26.4)	Check Again at 0900
0900	(23 to 25.4)	Check Again at 1100
1100	<b>22.58</b> (23 to 25.4)	No Further Predictions Necessary Today
1200	(23 to 25.3)	<del></del>
1400	(23 to 25.2)	wa
1500	(20 10 20.2)	

Tair °C	23.89	Air Temp, Elkins WV - Degree C	75	Air Temp, Elkins WV - Degree F
CCF	100	Cloud Cover Factor, Elkins WV	TSTRMS	Cloud Cover, Elkins WV
T7	19.39	River Temp Sang Run @700		
Т9	19.57	River Temp Sang Run @900		
T11	19.87	River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	24.00	River Flow at Oakland		

Simulate a Ra

64

= CFS River Flow at Oakland

June 30, 2007

81 SUNNY

Time	Predicted Maximum River Water Temperature Degree C	. Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
	(23 to 25.9)	
1100	<b>25.50</b> (23 to 25.4)	Release at 1230 for 2 Hours
1200	2.4	
1400	(23 to 25.3)	na.
1500	(23 to 25.2)	<del></del>

Print Info for file

T-:- 90	07.00		**********
Tair °C	27.22	Air Temp, Elkins WV - Degree C	
CCF	1	Cloud Cover Factor, Elkins WV	
T7	18.48	River Temp Sang Run @700	
T9	18.77	River Temp Sang Run @900	
T11	20.19	River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	64.00	River Flow at Oakland	

Simulate a Ra

36

= CFS River Flow at Oakland

July 1, 2007

77 SUNNY

Time	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700	(22 to 26 4)	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9) (23 to 25.4)	Check Again at 1200
1200	10077.011	Check Again at 1400
1400	(23 to 25.3)	Check Again at 1500
1500	(23 to 25.2)	Check Again Tomorrow at 0700

Print Info for file

T 1 00			
Tair °C	25.00	Air Temp, Elkins WV - Degree C	
CCF	1	Cloud Cover Factor, Elkins WV	
Т7	17.84	River Temp Sang Run @700	
Т9	17.67	River Temp Sang Run @900	
T11	19.37	River Temp Sang Run @1100	1
T12	20.64	River Temp Sang Run @1200	
T14	21.90	River Temp Sang Run @1400	
T15	22.98	River Temp Sang Run @1500	
Q	36.00	River Flow at Oakland	

Simulate a Ra

24

= CFS River Flow at Oakland

July 2, 2007

79 SUNNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
	(23 to 25.9)	_
1100	(23 to 25.4)	Check Again at 1200
1200	(23 to 25.3)	Check Again at 1400
1400	<b>18.</b> 10	No Further Predictions Necessary Today
1500	(23 to 25.2)	<u></u>

Print Info for file

Tair °C	26.11	Air Temp, Elkins WV - Degree C	
CCF	1	Cloud Cover Factor, Elkins WV	
T7	16.36	River Temp Sang Run @700	
Т9	16.02	River Temp Sang Run @900	
T11	17.79	River Temp Sang Run @1100	
T12	19.10	River Temp Sang Run @1200	
T14	17.19	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	24.00	River Flow at Oakland	

Simulate a Ra

18

= CFS River Flow at Oakland

July 3, 2007

78 MOCLDY

I '	Maximum River Water Femperature Degree C	Deep Creek Action
0700		Check Again at 0900
make a second	(23 to 26.4)	•
0900	(23 to 25.9)	Check Again at 1100
1100	<b>22.</b> 79	No Further Predictions Necessary Today
of the company	(23 to 25.4)	
1200	(23 to 25.3)	
1400		
1500	(23 to 25.2)	

Print Info for file

Tair °C	25.56	Air Temp, Elkins WV - Degree C
CCF	64	Cloud Cover Factor, Elkins WV
T7	15.66	River Temp Sang Run @700
T9	16.14	River Temp Sang Run @900
T11	17.43	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	18.00	River Flow at Oakland

16

= CFS River Flow at Oakland

July 4, 2007

PTCLDY

	Predicted Maximum River Water	
	Temperature	
Time	Degree C	Deep Creek Action
0700	(23 to 26.4)	Check Again at 0900
0900	(23 to 25.9)	Check Again at 1100
1100	(23 to 25.4)	Check Again at 1200
1200	(23 to 25.3)	Check Again at 1400
1400	<b>21</b> .86 (23 to 25.2)	No Further Predictions Necessary Today
1500		

Print Info for file

Simulate a Ra

Tair °C	28.89	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	17.48	River Temp Sang Run @700
T9	17.41	River Temp Sang Run @900
T11	18.54	River Temp Sang Run @1100
T12	19.28	River Temp Sang Run @1200
T14	19.83	River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	16.00	River Flow at Oakland

. . - ----

75 TSTRMS

18 =

= CFS River Flow at Oakland

July 5, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4) 22.65	No Further Predictions Necessary Today
1100	(23 to 25.9)	Nu.
1200	(23 to 25.4)	<del></del>
1400	(23 to 25.3)	<del></del>
1500	(23 to 25.2)	MA

Print Info for file

Simulate a Ra

*****			
Tair °C	23.89	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	18.80	River Temp Sang Run @700	
T9	18.55	River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	18.00	River Flow at Oakland	

Simulate a Ra

Print Info for file

1540

= CFS River Flow at Oakland

July 6, 2007

79 SUNNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>22.</b> 95	Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	•
0900	(22 to 25 0)	~a
1100	(23 to 25.9)	ww.
1200	(23 to 25.4)	<b></b>
1400	(23 to 25.3)	
1500	(23 to 25.2)	<del></del>

Tair °C	26.11	Air Temp, Elkins WV - Degree C
CCF	1	Cloud Cover Factor, Elkins WV
<b>T</b> 7	19.04	River Temp Sang Run @700
Т9	~~	River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15	~~	River Temp Sang Run @1500
Q	1540.00	River Flow at Oakland

SUNNY

373

= CFS River Flow at Oakland

July 7, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	<b>v</b> =
1200	(23 to 25.4)	n=
1400	(23 to 25.3)	***
1500	(23 to 25.2)	

Print Info for file

Simulate a Ra

Tair °C	28.33	Air Temp, Elkins WV - Degree C
CCF	1	Cloud Cover Factor, Elkins WV
T7	18.02	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15	**	River Temp Sang Run @1500
Q	373.00	River Flow at Oakland

Simulate a Ra

178

= CFS River Flow at Oakland

July 8, 2007

SUNNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>20</b>	Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	
0900	(22 to 25 0)	***
1100	(23 to 25.9)	***
	(23 to 25.4)	
1200		wa
1400	(23 to 25.3)	
1400	(23 to 25.2)	~~
1500		45

Print Info for file

Tair °C	<b>33</b> .89	Air Temp, Elkins WV - Degree C
CCF	1	Cloud Cover Factor, Elkins WV
T7	18.94	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	178.00	River Flow at Oakland

115

= CFS River Flow at Oakland

July 9, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	219	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	ww.
1100	(23 to 25.9)	••
1200	(23 to 25.4)	
1400	(23 to 25.3)	·
1500	(23 to 25.2)	

Tair °C	33.89	Air Temp, Elkins WV - Degree C	93
CCF	1	Cloud Cover Factor, Elkins WV	SUNNY
T7	19.44	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	115.00	River Flow at Oakland	

Print Info for file

Simulate a Ra

Simulate a Ra

80

= CFS River Flow at Oakland

July 10, 2007

91 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
2000	(23 to 26.4)	·
0900	(23 to 25.9)	Check Again at 1100
1100	<b>26</b> .01	Release at 1230 for 2 Hours
4000	(23 to 25.4)	
1200	(23 to 25.3)	<b></b>
1400	(20.5.20.0)	
4 # 0.0	(23 to 25.2)	
1500	18.25(3.0) 50	

Print Info for file

Tair °C	32.78	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	<b>2</b> 0.25	River Temp Sang Run @700	
Т9	20.40	River Temp Sang Run @900	1
T11	<b>2</b> 1.25	River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	80,00	River Flow at Oakland	

= CFS River Flow at Oakland

80

Ju	ly	1	1	,	20	07
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Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	and some constraint	Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3)	Check Again at 1500
1500	(23 to 25.2) 22.87	No Further Predictions Necessary Today

Tair °C CCF	<b>27</b> .22 100	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	81 TSTRMS	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
T7	21.37	River Temp Sang Run @700		
T9	21.47	River Temp Sang Run @900		
T11	21.64	River Temp Sang Run @1100		
T12	21.64	River Temp Sang Run @1200		
T14	21.97	River Temp Sang Run @1400		
T15	22.11	River Temp Sang Run @1500		
Q	80.00	River Flow at Oakland		

Simulate a Ra

Print Info for file

367

= CFS River Flow at Oakland

July 12, 2007

76 MOCLDY Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21.51 (23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	
1100	(23 to 25.4)	<del></del>
1200	(23 to 25.3)	
1400	(23 to 25.2)	
1500	(20 to 20.2)	

year-1			
Tair °C	24.44	Air Temp, Elkins WV - Degree C	
CCF	64	Cloud Cover Factor, Elkins WV	
T7	19.90	River Temp Sang Run @700	j
T9		River Temp Sang Run @900	- 1
T11		River Temp Sang Run @1100	- 1
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	367.00	River Flow at Oakland	

156 = CFS Riv

= CFS River Flow at Oakland

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>20</b> .02	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)  (23 to 25.9)	
1100	(23 to 25.4)	<b>~-</b>
1200	(23 to 25.4) '	
1400	(23 to 25.2)	
1500	(20 to 20.2)	~~

Tair °C	23.89	Air Temp, Elkins WV - Degree C	75	Air Temp, Elkins WV - Degree F
CCF	100	Cloud Cover Factor, Elkins WV	TSTRMS	Cloud Cover, Elkins WV
T7	18.05	River Temp Sang Run @700		_
Т9		River Temp Sang Run @900		
T11		River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	156.00	River Flow at Oakland		

Simulate a Ra

Print Info for file

Simulate a Ra

106

= CFS River Flow at Oakland

July 14, 2007

87 SUNNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	
1200	(23 to 25.4)	au.
1400	(23 to 25.3)	
1500	(23 to 25.2)	<u></u>

Print Info for file

Tair °C	30.56	Air Temp, Elkins WV - Degree C
	30.50	
CCF	1	Cloud Cover Factor, Elkins WV
T7	17.33	River Temp Sang Run @700
<b>T</b> 9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	<b>10</b> 6.00	River Flow at Oakland

Simulate a Ra

82

= CFS River Flow at Oakland

July 15, 2007

82 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
0700	<b>22.</b> 20	No Further Predictions Necessary Today	
0900	(23 to 26.4)		
1100	(23 to 25.9)	<del></del> -	
1200	(23 to 25.4)	<u></u>	
1400	(23 to 25.3)		
1500	(23 to 25.2)		

Print Info for file

Section			
Tair °C	<b>27</b> .78	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	18.66	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	82.00	River Flow at Oakland	

Simulate a Ra

**2**33

= CFS River Flow at Oakland

July 16, 2007

81 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>21</b> .72	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0000	(23 to 26.4)	,
0900	(23 to 25.9)	<del>-</del>
1100	***	
1200	(23 to 25.4)	_
.200	(23 to 25.3)	<del>-</del>
1400	(22 to 25 2)	<del></del>
1500	(23 to 25.2)	***

Print Info for file

Tair °C	<b>2</b> 7.22	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T7</b>	19.90	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	233.00	River Flow at Oakland	Į

Simulate a Ra

156

= CFS River Flow at Oakland

July 17, 2007

90 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>22.</b> 99	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
0900	(23 to 25.9)	<del></del>
1100	(23 to 25.4)	
1200		
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Print Info for file

Tair °C	32.22	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	18.89	River Temp Sang Run @700	
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15	-~	River Temp Sang Run @1500	
Q	<b>15</b> 6.00	River Flow at Oakland	

Simulate a Ra

106

= CFS River Flow at Oakland

July 18, 2007

86 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>22.</b> 86	Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	
0900		uu.
4400	(23 to 25.9)	
1100	(23 to 25.4)	••
1200	(23 to 25.4)	<u></u>
	(23 to 25.3)	<del></del>
1400	-	Min
	(23 to 25.2)	
1500	## S	<del></del>

Print Info for file

Tair °C	30.00	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	20.62	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	<b>10</b> 6.00	River Flow at Oakland	

101 = CFS River Flow at Oakland

July 19, 2007

77 SHWRS Simulate a Ra

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>2</b> 1.78	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	au .
1100	(23 to 25.9)	
1200	(23 to 25.4)	<b></b>
1400	(23 to 25.3)	<u></u>

Print Info for file

Tair °C	<b>25</b> .00	Air Temp, Elkins WV - Degree C	
CCF	64	Cloud Cover Factor, Elkins WV	
T7	20.18	River Temp Sang Run @700	<u> </u>
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12	n-u-	River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	ľ
T15		River Temp Sang Run @1500	
Q	101.00	River Flow at Oakland	

(23 to 25.2)

1500

Simulate a Ra

373

= CFS River Flow at Oakland

July 20, 2007

72 PTSUNY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>21</b> .08	Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	,
0900		
4400	(23 to 25.9)	
1100	(23 to 25.4)	
1200	(23 (0 25.4)	
, 0	(23 to 25.3)	
1400		
	(23 to 25.2)	
1500	4 St. 10 St. 1-4 St. 10 St	

Print Info for file

Tair °C	<b>2</b> 2.22	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	19.18	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	373.00	River Flow at Oakland

218

= CFS River Flow at Oakland

July 21, 2007

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>2</b> 1.24	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	~
1100	(23 to 25.9)	
1200	(23 to 25.4)	
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Tair °C CCF	23.89 36	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	75 HAZE	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
<b>T</b> 7	18.05	River Temp Sang Run @700		
Т9		River Temp Sang Run @900		
T11		River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14	*-	River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	218.00	River Flow at Oakland		

133 = CFS River Flow at Oakland

July 22, 2007

76

HAZE

Print Info for file

Simulate a Ra

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	<b>2</b> 1.07	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	u
1100	(23 to 25.9)	
1200	(23 to 25.4)	
1400	(23 to 25.3)	**
1500	<b>(23</b> to 25.2)	

Tair °C	24.44	Air Temp, Elkins WV - Degree C	
CCF	36	Cloud Cover Factor, Elkins WV	
T7	17.02	River Temp Sang Run @700	
Т9	ļ <u>.</u>	River Temp Sang Run @900	
T11		River Temp Sang Run @1100	ľ
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	133.00	River Flow at Oakland	

Simulate a Ra

93

= CFS River Flow at Oakland

July 23, 2007

76 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	20.11	No Further Predictions Necessary Today
0900	(23 to 26.4)	
1100	(23 to 25.9)	
-	 (23 to 25.4)	
1200	(23 to 25.3)	<del></del>
1400	(23 to 25.2)	
1500	(20 to 20.2)	MM

Print Info for file

Tair °C	24.44	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	16.95	River Temp Sang Run @700	
Т9	~	River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	93.00	River Flow at Oakland	

Simulate a Ra

75

= CFS River Flow at Oakland

July 24, 2007

73 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	20.31	No Further Predictions Necessary Today
0,00	(23 to 26.4)	110 / diasos / founditions (1000000ary Foundy
0900		<del></del>
1100	(23 to 25.9)	
1100	(23 to 25.4)	<del></del>
1200		
	(23 to 25.3)	
1400	(23 to 25.2)	<del></del> -
1500	(23 to 25.2)	

Print Info for file

Tair °C	22.78	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
<b>T</b> 7	16.99	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	75.00	River Flow at Oakland

Simulate a Ra

Print Info for file

78

= CFS River Flow at Oakland

July 25, 2007

77 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	20.89	No Further Predictions Necessary Today
	(23 to 26.4)	
0900	(22 to 25 O)	w so
1100	(23 to 25.9)	
1200	(23 to 25.4)	
1400	(23 to 25.3)	
1,400	(23 to 25.2)	
1500		A#

Tair °C	25.00	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	16.94	River Temp Sang Run @700	ſ
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	ŀ
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	78.00	River Flow at Oakland	

Simulate a Ra

90

= CFS River Flow at Oakland

July 26, 2007

TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
0700	20.81	No Further Predictions Necessary Today	
0000	(23 to 26.4)		
0900	(23 to 25.9)	<del></del>	
1100			
1200	(23 to 25.4)		
	(23 to 25.3)		
1400	(23 to 25.2)		
1500	(20 to 20.2)	<del></del>	

Print Info for file

Tair °C	25.56	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
<b>T</b> 7	17.61	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	90.00	River Flow at Oakland

70

1500

= CFS River Flow at Oakland

July 27, 2007

77 TSTRMS Simulate a Ra

Print Info for file

	Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
Ì	0700	21.97	No Further Predictions Necessary Today	
		(23 to 26.4)	,	
	0900	(22 to 25 0)	<del></del>	
	1100	(23 t0 25.9)	<u></u>	
		(23 to 25.4)		
1	1200		<b></b>	
ı	1400	1000007		
ļ	1400	(23 to 25.2)	<del></del>	
	0900 1100 1200 1400	(23 to 25.9) (23 to 25.4) (23 to 25.3)	  	

Tair °C	25.00	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	19.19	River Temp Sang Run @700	
T9		River Temp Sang Run @900	
T11	**	River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	70.00	River Flow at Oakland	

Simulate a Ra

272

= CFS River Flow at Oakland

July 28, 2007

84 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21.91	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	
	(23 to 25.4)	-
1200	(23 to 25.3)	<del></del>
1400	(23 to 25.2)	<del></del>
1500		<b></b>

Print Info for file

Tair °C	28.89	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	18.87	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	272.00	River Flow at Oakland

Simulate a Ra

145 = CFS River Flow at Oakland

July 29, 2007

80 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21.59	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26,4)	<del></del>
1100	(23 to 25.9)	***
1200	(23 to 25.4)	
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Print Info for file
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	Tair °C	26.67	Air Temp, Elkins WV - Degree C	
	CCF	100	Cloud Cover Factor, Elkins WV	
	Т7	20.04	River Temp Sang Run @700	
	Т9		River Temp Sang Run @900	
	T11		River Temp Sang Run @1100	
	T12		River Temp Sang Run @1200	
1	T14		River Temp Sang Run @1400	
	T15		River Temp Sang Run @1500	
	Q	145.00	River Flow at Oakland	

175 = CFS River Flow at Oakland

July 30, 2007

80 TSTRMS Simulate a Ra

Print Info for file

	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700	21.32 (23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	
1100	(23 to 25.4)	•••
1200	(23 to 25.3)	••
1400	(23 to 25.2)	w.
1500	(2010/2012)	

Tair °C	26.67	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	19.25	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	175.00	River Flow at Oakland	ĺ

Simulate a Ra

109

= CFS River Flow at Oakland

July 31, 2007

83 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	21.96	Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	Tomporation Claim Not No quinda Today 7 to N 2/100000 100 01 0
0900	4-	
1400	(23 to 25.9)	
1100	(23 to 25.4)	un.
1200	(23 to 23.4)	
,	(23 to 25.3)	
1400		wn
	(23 to 25.2)	
1500		

Print Info for file

Tair °C	28.33	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	19.56	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14	**	River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	109.00	River Flow at Oakland

Simulate a Ra

82

= CFS River Flow at Oakland

August 1, 2007

85 MOSUNNY

ours
<u>י</u>

Print Info for file

Tair °C	29.44	Air Temp, Elkins WV - Degree C	
CCF	9	Cloud Cover Factor, Elkins WV	
T7	19.44	River Temp Sang Run @700	ı
Т9	19.46	River Temp Sang Run @900	
T11	20.88	River Temp Sang Run @1100	
T12	21,64	River Temp Sang Run @1200	1
T14	24.45	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	82.00	River Flow at Oakland	ŀ

Simulate a Ra

82

= CFS River Flow at Oakland

August 2, 2007

87 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
0700		Check Again at 0900	
0000	(23 to 26.4)	•	
0900	(23 to 25.9)	Check Again at 1100	
1100	26.15	Release at 1230 for 2 Hours	
1200	(23 to 25.4)		
	(23 to 25.3)		
1400	(23 to 25.2)	<b></b>	
1500	(20 (0 23.2)	<del></del>	

Print Info for file

Tair °C	30.56	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	20.40	River Temp Sang Run @700	
T9	20.40	River Temp Sang Run @900	
T11	21.75	River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	82.00	River Flow at Oakland	

Simulate a Ra

60

= CFS River Flow at Oakland

August 3, 2007

89 PTCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
0700		Check Again at 0900	
0900	(23 to 26.4) 26.25 (23 to 25.9)	Release at 1100 for 2 Hours	
1100	(23 to 25.4)	wa	
1200	(23 to 25.3)	•n	
1400			
1500	(23 to 25.2)	~~	

Print Info for file

<del></del>		<del></del>
Tair °C	31.67	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
T7	20.44	River Temp Sang Run @700
T9	20.64	River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	60.00	River Flow at Oakland

Simulate a Ra

48

= CFS River Flow at Oakland

August 4, 2007

90 MOCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action	,
0700		Check Again at 0900	
0900	(23 to 26.4) 26.22	Release at 1100 for 2 Hours	
1100	(23 to 25.9)	, n. n.	
1200	(23 to 25.4)		
1400	(23 to 25.3)		
1500	(23 to 25.2)	w.	

Print Info for file

Tair °C	32.22	Air Temp, Elkins WV - Degree C	
CCF	64	Cloud Cover Factor, Elkins WV	
T7	20.54	River Temp Sang Run @700	
Т9	20.64	River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12	•••	River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	48.00	River Flow at Oakland	

41 = CFS River Flow at Oakland August 5, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
0900	(23 to 26.4)	Check Again at 1100
1100	(23 to 25.9)	Check Again at 1200
1200	(23 to 25.4)	Check Again at 1400
1400	(23 to 25.3) 22.95	No Further Predictions Necessary Today
1500	(23 to 25.2)	

Tair °C	26.67	Air Temp, Elkins WV - Degree C	80	Air Temp, Elkins WV - Degree F
CCF	100	Cloud Cover Factor, Elkins WV	TSTRMS	Cloud Cover, Elkins WV
T7	21.15	River Temp Sang Run @700		_
Т9	21.16	River Temp Sang Run @900		
T11	21.37	River Temp Sang Run @1100		
T12	21.33	River Temp Sang Run @1200		
T14	21.71	River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	41.00	River Flow at Oakland		

Simulate a Ra

Print Info for file

241

= CFS River Flow at Oakland

August 6, 2007

**TSTRMS** 

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	(23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	
1100	(23 to 25.4)	on.
1200	(23 to 25.3)	
1400	(23 to 25.2)	••
1500	(25 to 25.2)	

Tair °C	31.11	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	20.65	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11	***	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	241.00	River Flow at Oakland

200

= CFS River Flow at Oakland

August 7, 2007

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	/22 to 26 (1)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4) (23 to 25.9)	<b></b>
1100	(23 to 25.4)	
1200	(23 to 25.4) (23 to 25.3)	M to
1400	(23 to 25.2)	413
1500	(20 to 20.2)	**-

-			
Tair °C	31.67	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	21.10	River Temp Sang Run @700	ı
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	- 1
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	200.00	River Flow at Oakland	

Simulate a Ra

Print Info for file

121

= CFS River Flow at Oakland

August 8, 2007

91 PTCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	\$\$02:0000000000000000000000000000000000	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4) (23 to 25.9)	
1100	(23 to 25.4)	
1200		
1400	(23 to 25.3)	
1500	(23 to 23.2)	<b></b>

Tair °C	32.78	Air Temp, Elkins WV - Degree C	
CCF	36	Cloud Cover Factor, Elkins WV	
T7	21.67	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	ı
T12		River Temp Sang Run @1200	
T14	~~	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	121.00	River Flow at Oakland	

272

= CFS River Flow at Oakland

August 9, 2007

87 TSTRMS Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
	(23 to 25.9)	
1100	(23 to 25.4)	<b></b>
1200		
1400	(23 to 25.3)	
1500	(23 to 25.2)	MM.

	T	· · · · · · · · · · · · · · · · · · ·	
Tair °C	30.56	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	22.08	River Temp Sang Run @700	ľ
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	ı
T12		River Temp Sang Run @1200	1
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	272.00	River Flow at Oakland	ľ

233.8510122 = CFS River Flow at Oakland

August 10, 2007

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Doon Crook Action
THIC	Degree o	Deep Creek Action
0700	22.37 (23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900		
1100	(23 to 25.9)	
1200	(23 to 25.4)	<del></del>
1400	(23 to 25.3)	
	(23 to 25.2)	
1500	\$300 DATE ##	<u> </u>

Tair °C	26.67	Air Temp, Elkins WV - Degree C	80
CCF	100	Cloud Cover Factor, Elkins WV	TSTRMS
T7	22.36	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12	•••	River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	233.85	River Flow at Oakland .	

Simulate a Ra

474.9360423 = CFS River Flow at Oakland

August 11, 2007

82 VARCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.14	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	p va
1100	(23 to 25.9)	
1200	(23 to 25.4)	ин
1400	(23 to 25.3)	au.
1500	(23 to 25.2)	

Print Info for file

Tair °C	27.78	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
T7	20.62	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	474.94	River Flow at Oakland

Simulate a Ra

286.1277195 = CFS River Flow at Oakland

August 12, 2007

83 PTCLDY

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
	(23 to 26.4)	
0900	(22 to 25 0)	<b>***</b>
1100	(23 to 25.9)	•••
	(23 to 25.4)	
1200	Walker St.	W.P.
4400	(23 to 25.3)	
1400	(23 to 25.2)	<del></del>
1500	(2010 20.2)	

Print Info for file

·			
Tair °C	28.33	Air Temp, Elkins WV - Degree C	
CCF	36	Cloud Cover Factor, Elkins WV	
T7	19.93	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	l
T15		River Temp Sang Run @1500	
Q	286.13	River Flow at Oakland	

Simulate a Ra

Print Info for file

188.2368624 = CFS River Flow at Oakland

August 13, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	<del></del>
1100	(23 to 25.9)	
	(23 to 25.4)	
1200	(23 to 25.3)	
1400	(23 to 25.2)	
1500		

Tair °C CCF	29.44 36	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	85 PTCLDY	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
T7	20.11	River Temp Sang Run @700		······································
T9	***	River Temp Sang Run @900		
T11		River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	188.24	River Flow at Oakland		

141.9906013 = CFS River Flow at Oakland

August 14, 2007

Simulate a Ra

Print Info for file

	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700	(23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	~~
1100	(23 to 25.4)	••
1200	(23 to 25.3)	<del></del>
1400	(23 to 25.2)	<del></del>
1500		

Tair °C	28.33	Air Temp, Elkins WV - Degree C	83
CCF	1	Cloud Cover Factor, Elkins WV	SUNNY
T7	18.98	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12	**	River Temp Sang Run @1200	
T14	~~	River Temp Sang Run @1400	
T15	**	River Temp Sang Run @1500	
Q	141.99	River Flow at Oakland	

Simulate a Ra

Print Info for file

111.1423853 = CFS River Flow at Oakland

August 15, 2007

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.65	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
	(23 to 25.9)	
1100	(23 to 25.4)	n=
1200		
1400	(23 to 25.3)	an
1500	(23 to 25.2)	
1500	Barrell Attended	

Tair °C	28.33	Air Temp, Elkins WV - Degree C	83	Air Temp, Elkins WV - Degree F
CCF	36	Cloud Cover Factor, Elkins WV	PTCLDY	Cloud Cover, Elkins WV
T7	18.00	River Temp Sang Run @700		<del>_</del>
T9		River Temp Sang Run @900		
T11		River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15	**	River Temp Sang Run @1500		
Q	111.14	River Flow at Oakland		

Simulate a Ra

93

= CFS River Flow at Oakland

August 16, 2007

89 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Check Again at 0900
	(23 to 26.4)	Ç
0900	22.94	No Further Predictions Necessary Today
4400	(23 to 25.9)	
1100	(23 to 25.4)	<del></del>
1200		
	(23 to 25.3)	
1400	(23 to 25.2)	
1500		AN

Print	Info	for	file
			1117

Tair °C	31.67	Air Temp, Elkins WV - Degree C
CCF	100	Cloud Cover Factor, Elkins WV
<b>T</b> 7	19.52	River Temp Sang Run @700
Т9	19.51	River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	93.00	River Flow at Oakland

Simulate a Ra

197

= CFS River Flow at Oakland

August 17, 2007

83 SHWRS

Predicted Maximum River Water Temperature Degree C	Deep Creek Action
	Temperature Plan not Required Today - Flow Exceeds 100 CFS
(23 to 26.4)	
	••
A Warner of the same of the sa	••
(23 to 25.4)	·
(23 to 25.3)	
	••
(23 to 25.2)	
	Maximum River Water Temperature Degree C  (23 to 26.4)  (23 to 25.9)  (23 to 25.4)

Print Info for file

T-:- 20	20.00	A L TO POST A LANGE TO THE STATE OF THE STAT
Tair °C	28.33	Air Temp, Elkins WV - Degree C
CCF	64	Cloud Cover Factor, Elkins WV
T7	21.02	River Temp Sang Run @700
Т9		River Temp Sang Run @900
T11	****	River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14	***	River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	197.00	River Flow at Oakland

103

= CFS River Flow at Oakland

August 18, 2007

78 SUNNY Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.73	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
0900	(23 to 25.9)	<del></del>
1100		••
1200	(23 to 25.4)	
	(23 to 25.3)	<del></del>
1400		AW
1500	(23 to 25.2)	<u></u>

Tair °C	25.56	Air Temp, Elkins WV - Degree C	
CCF	1	Cloud Cover Factor, Elkins WV	
T7	18.91	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	103.00	River Flow at Oakland	

Simulate a Ra

78

= CFS River Flow at Oakland

August 19, 2007

74 SHWRS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	20.52	No Further Predictions Necessary Today
	(23 to 26.4)	, ,
0900	(23 to 25.9)	<b></b>
1100	(23 to 25.9)	***
	(23 to 25.4)	
1200		
1400	(23 to 25.3)	
1-700	(23 to 25.2)	<del></del>
1500		

Print Info for file

Tair °C	23.33	Air Temp, Elkins WV - Degree C	
CCF	64	Cloud Cover Factor, Elkins WV	
T7	15.41	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	78.00	River Flow at Oakland	

70 = CFS River Flow at Oakland

August 20, 2007

69 SHWRS Simulate a Ra

Print Info for file

Predicted Maximum River Water Temperature Degree C	Deep Creek Action	
20.98	No Further Predictions Necessary Today	
	<del></del> -	
(23 to 25.4)		
(23 to 25.3)		
(23 to 25.2)		
	Maximum River Water Temperature Degree C  20.98 (23 to 26.4)  (23 to 25.9)  (23 to 25.4)  (23 to 25.3)	Maximum River Water Temperature Degree C  20.98 (23 to 26.4)  (23 to 25.9)  (23 to 25.4)  (23 to 25.3)

	T		
Tair °C	20.56	Air Temp, Elkins WV - Degree C	
CCF	64	Cloud Cover Factor, Elkins WV	
T7	18.47	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	i
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	70.00	River Flow at Oakland	

Simulate a Ra

1260

= CFS River Flow at Oakland

August 21, 2007

79 TSTRMS

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	20.90 (23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	**
1100	(23 to 25.4)	
1200	(23 to 25.3)	•••
1400	(23 to 25.2)	
1500	(23 to 23,2)	-n

Print Info for file

	T		
Tair °C	26.11	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	18.53	River Temp Sang Run @700	
Т9	***	River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	1260.00	River Flow at Oakland	

1990

= CFS River Flow at Oakland

August 22, 2007

83 TSTRMS Simulate a Ra

Print Info for file

	Predicted Maximum River Water Temperature	
Time	Degree C	Deep Creek Action
0700	21.99 (23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	••
1100	(23 to 25.4)	<b>~-</b>
1200		w
1400	(23 to 25.3) (23 to 25.2)	<b>~-</b>
1500	(20 to 20:2)	

Tair °C	28.33	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	19.63	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	1990.00	River Flow at Oakland	l

745

= CFS River Flow at Oakland

August 23, 2007

84 TSTRMS Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.13	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	u
1200	(23 to 25.4)	
1400	(23 to 25.3)	***
1500	(23 to 25.2)	<del></del>

Tair °C	28.89	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	19.51	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	ľ
T15		River Temp Sang Run @1500	
Q	745.00	River Flow at Oakland	- 1

448

= CFS River Flow at Oakland

August 24, 2007

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	<u></u>
1200	(23 to 25.4)	<b></b>
1400	(23 to 25.3)	n=
1500	(23 to 25.2)	

Tair °C	34.44	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	20.43	River Temp Sang Run @700	Ī
T9		River Temp Sang Run @900	:
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	448.00	River Flow at Oakland	

256

= CFS River Flow at Oakland

August 25, 2007

Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700		Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	
1100	(23 to 25.9)	ww
1200	(23 to 25.4)  (23 to 25.3)	
1400		-m
1500	(23 to 25.2)	

Tair °C	35.56	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	Ì
T7	20.67	River Temp Sang Run @700	
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14	~-	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	256.00	River Flow at Oakland	

200

= CFS River Flow at Oakland

August 26, 2007

77 TSTRMS Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Door Charles Actions
Time	Degree 0	Deep Creek Action
0700	21.67	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	~~
1100	(23 to 25.9)	
1200	(23 to 25.4)	~~
1400	(23 to 25.3)	
1500	(23 to 25.2)	

Tair °C	25.00	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	21.86	River Temp Sang Run @700	
Т9		River Temp Sang Run @900	ı
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14	~-	River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	200.00	River Flow at Oakland	

168

= CFS River Flow at Oakland

August 27, 2007

83 TSTRMS Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.12	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0000	(23 to 26.4)	
0900	(23 to 25 0)	A-U
1100	(23 to 25.9)	
1700	(23 to 25.4)	ww.
1200	3547 - 47 - 477 ES	~~
	(23 to 25.3)	
1400		<b></b>
	(23 to 25.2)	
1500	**************************************	

Tair °C	28.33	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
T7	20.01	River Temp Sang Run @700	ľ
T9		River Temp Sang Run @900	
T11	~-	River Temp Sang Run @1100	- 1
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	168.00	River Flow at Oakland	

August 28, 2007

84 PTSUNY

133

= CFS River Flow at Oakland

-

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
	<u> </u>	
0700	(22 to 26 t)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 26.4)	<b></b>
	(23 to 25.9)	
1100		
1	(23 to 25.4)	
1200	335 - <b>~</b>	
	(23 to 25.3)	
1400		
İ	(23 to 25.2)	
1500	Mary 15 miles No.	<del></del>

Simulate a Ra

Print Info for file

Tair °C	28.89	Air Temp, Elkins WV - Degree C
CCF	36	Cloud Cover Factor, Elkins WV
<b>T</b> 7	19.80	River Temp Sang Run @700
T9		River Temp Sang Run @900
T11		River Temp Sang Run @1100
T12		River Temp Sang Run @1200
T14		River Temp Sang Run @1400
T15		River Temp Sang Run @1500
Q	133.00	River Flow at Oakland

Simulate a Ra

106

= CFS River Flow at Oakland

August 29, 2007

Time	Predicted Maximum River Water Temperature	Door Over It Andien
THIE	Degree C	Deep Creek Action
0700	(23 to 26.4)	Temperature Plan not Required Today - Flow Exceeds 100 CFS
0900	(23 to 25.9)	<del></del>
1100	(23 to 25.4)	<del></del>
1200	(23 to 25.3)	
1400	(23 to 25.2)	<b></b>
1500		w.

Tair °C	30.00	Air Temp, Eikins WV - Degree C	86	Air Temp, Elkins WV - Degree F
CCF	36	Cloud Cover Factor, Elkins WV	PTSUNY	Cloud Cover, Elkins WV
<b>T</b> 7	19.98	River Temp Sang Run @700		<u>—</u>
T9		River Temp Sang Run @900		
T11	~~	River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15	***	River Temp Sang Run @1500		
Q	106.00	River Flow at Oakland		

Print Info for file

93

= CFS River Flow at Oakland

August 30, 2007

83 TSTRMS Simulate a Ra

Print Info for file

Time	Predicted Maximum River Water Temperature Degree C	Deep Creek Action
0700	22.76	No Further Predictions Necessary Today
0900	(23 to 26.4)	<del></del>
1100	(23 to 25.9)	<u></u>
1200	(23 to 25.4)	
1400	(23 to 25.3)	<u></u>
	(23 to 25.2)	<del></del>
1500		

Tair °C	28.33	Air Temp, Elkins WV - Degree C	
CCF	100	Cloud Cover Factor, Elkins WV	
<b>T</b> 7	21.08	River Temp Sang Run @700	
T9		River Temp Sang Run @900	
T11		River Temp Sang Run @1100	
T12		River Temp Sang Run @1200	
T14		River Temp Sang Run @1400	
T15		River Temp Sang Run @1500	
Q	93.00	River Flow at Oakland	

August 31, 2007

85 = CFS River Flow at Oakland


	Predicted Maximum	
	River Water	
1	Temperature	
Time	Degree C	Deep Creek Action
0700	no or of three deadless for the notice	
0700	(00.4-00.4)	Check Again at 0900
0900	(23 to 26.4)	Ohash Amely at 4400
0900	(23 to 25.9)	Check Again at 1100
1100	20.37	No Further Predictions Necessary Today
1 1100	(23 to 25.4)	110 s di tilei i redictions Necessary roday
1200		
	(23 to 25.3)	
1400	22	u
	(23 to 25.2)	
1500		ма

Tair °C CCF	27.22 36	Air Temp, Elkins WV - Degree C Cloud Cover Factor, Elkins WV	81 HAZE	Air Temp, Elkins WV - Degree F Cloud Cover, Elkins WV
<b>T</b> 7	21.32	River Temp Sang Run @700		·
T9	21.32	River Temp Sang Run @900		
T11	18.28	River Temp Sang Run @1100		
T12		River Temp Sang Run @1200		
T14		River Temp Sang Run @1400		
T15		River Temp Sang Run @1500		
Q	85.00	River Flow at Oakland		

Simulate a Ra

Print Info for file

# APPENDIX D FLOW BYPASS OPERATION RECORD

TABLE D-1

		Youghiogheny River By	oass Flow Provision	
MONTH	DAY	Flow at Oakland	Bypass Flow Required	% Valve Open
June	28	19	11	35
July	3	18	12	36
July	4	16	15	40
July	5	18	12	36
September	25	18	12	36
September	26	17	14	39
September	27	16	15	40
October	2	19	11	35
October	3	17	14	39
October	4	16	15	40
October	5	15	17	42
October	6	13	20	47
October	7	13	20	47
October	8	12	21	48
October	9	12	21	48
October	10	15	17	42
October	11	16	15	40

# USGS PROVISIONAL WATER DATA FOR THE OAKLAND GAGE GAGE NO. 03075500

FROM JANUARY 1, 2007 THROUGH DECEMBER 31, 2007

TABLE D.

USGS - Oakland Gage No. 03075500 Discharge, cubic feet per second (Mean)

1		T	Τ	T	T	Ţ	T	Т	Т	T	Г	T	T	T	T	T	T	T	T	T	Ϊ	i ·	1	T		Γ	T	Г	T	T	T	Ŧ
Š	ב ב	190	162	2278	994	641	454	337	383	894	3840	2500	1250	916	3030	1250	1050	994	647	483	437	393	328	323	603	437	383	342	284	466	431	
Nex	<u>}</u>	58	52	45	41	38	09	103	70	29	73	64	58	88	142	759	616	352	301	233	197	178	156	151	121	109	106	099	431	301	233	
***	3	22	19	17	16	15	13	13	12	12	15	16	18	22	19	17	18	19	18	17	21	26	18	15	29	431	171	328	156	115	82	(I
CoS	3	80	64	56	48	46	41	36	33	35	32	35	139	62	39	38	56	38	32	27	25	24	21	20	20	18	17	16	86	89	30	
N Site	?	82	82	09	48	14	241	200	121	272	234	475	286	188	142	111	93	197	103	78	70	1260	1990	745	448	256	200	168	133	106	93	10
111	;	36	24	18	16	18	1540	373	178	115	80	80	367	156	106	82	233	156	106	101	373	218	133	93	75	78	06	70	272	145	175	400
us]		80	54	48	80	95	99	62	48	43	43	33	29	43	62	09	38	32	27	24	30	43	35	43	27	22	21	20	19	24	64	
Mav		184	171	162	142	124	130	106	95	88	85	78	70	99	58	54	52	197	98	590	268	207	165	142	124	133	101	80	70	89	62	
Apr		205	323	218	190	184	171	162	156	145	142	133	194	383	297	590	1750	1000	1430	1090	894	673	501	388	319	284	248	256	280	237	207	
Mar		566	2660	3260	1420	910	625	437	503	317	346	1810	1410	0	1710	1860	1710	1370	963	726	1370	1320	940	823	837	859	669	480	410	306	250	202
Feb		135	142	139	106	109	106	123	126	120	118	118	115	112	123	129	126	115	118	109	101	616	1220	669	384	340	1870	1040	669			<u>\</u>
Jan		268	365	295	254	229	317	268	542	801	591	397	317	903	1060	1720	1640	1130	780	625	466	306	306	295	233	217	145	193	190	151	158	7,55
Month	Day of Month		2	3	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	· ·

The above data obtained from the automated U.S. Geological Survey database have not received Director's approval and as such are provisional and subject to revision. The data are released on the condition that neither the USGS nor the United States Government may be held liable for any damages resulting from its use.

# APPENDIX E

RECORD OF
DISSOLVED OXYGEN MONITORING

DEEP CREEK STATION
DISSOLVED OXYGEN MONITORING LOG

•	Compression		Some of the second		0 0000	7078,0		2028.0		1	2000	() o Y () Y		2028.0	(	2000	2440		2028.0		3010.	0.000		2028,0	-	2028.0		
	NON-OPERATION	TAILEACE BLEY		2021.9	2031 9		2021 7	2021.8	2021.8	2022.0	2000 0	٠ <u>١</u>	7707	2021.8	2021.8	2021 8	2000	PITOY	2021.7	2021.6	20216		2021-6	2021.7	2021,8	2021.8	7.821 8	
٠	SLUICE	GATE POSITION		4 of En	4 crew	1 20 11	7 CPEN	y ofen	4 OPEN	1 alon	40000	2 %		2020	Hopen	YONEN	11 - 300 -	4 OFFET	4 oren	rodo h	40000	11 206	7 0/CW	Hopen	Yopen	40000	4000	
DEEP CREEK STATION DISSOLVED OXYGEN MONITORING LOG	TIMES OF	Generation			11:00-14:00						11:00-14:00		14:20 -16.30			11:00-14:00	144		14:15-18:30		00:44:00:11			14100-15100		00-61-00-11		
DISSOLVED OXY	NO. UNITES	GENERATING	•	None	2	NONE	7	1	NaME	Nowe	7	Nowe	7	11.77	None	7	NONE	)	4	None	7	NOW		1	None	7	NONE	
	EMIS M UPTO	DO (E/e/1)	0 1 0	4	78.6	8.79	9.56	ļ	0 00	0.97	يره	08.00	9.27	7 78		7.78	9.00	943	7.20	8.58	9.31	8.30	0	2,0	770	8.75	7.53	
	DO MEASUREMENTS NSTREAM PROM WE	TIME PEAP	\$		12.0	12.3	12.3	12.5	1 3	3 3	197	122	12.7	11.50		2,5	13.7	17.2		10.5	13,1	13.6	138	3 9	2	9 ()	2	
ft. MSL)	M OC P	TINE	\$5:01	, ,	11:52	14:26	13:05	/3:57	10:52	1 / 367	10:11	14:41	14:41	10151		11:48	14:52	14:47	fore	06:01	12,000	14:32	14:42	10142	11.20	0/1	hrihi	
	SHATION SS	DO (188/4)	56.95	7 711		7.56	7.33	7.63	8.16	800	9,00	7,94	7.73	6.81	7	707	7.22	7.74	,	1/1/	644	7.67	7,53	8.42	7	620	<u>ነ</u>	
	READINGS	TEMP OC	17.0	756	7	25.7	27.4	25.2	21.8	322	1 3 7	10° X	24.5	25,6	24.1	, <u>co</u>	28:3	24.5	277.5	84.1	7.77	25.0	25.9	19.8	19.3		3	
(Instrument Calibrated to 2000	CAL.	PIME	10:30	11:30		14:23	13:03	13:54	16:01	11: 40	#. 4 F. 13	14:50	14:39	(0:43	72,11	1 1 2	14:50	54:4/	10.37	\	14.41	14:30	14:30	(0.31	11:78	14:36	07.6	
(Instr	JUNE	7267	1-9	1-9	1	C/2000	7-9	2-9	4-9	5-7	3		1-9	8-9	8-9	0	6,0	0/-9	//- 7 19 M	100	<u>.</u>	11-9	6-13	31-9 D	6-15	1	180 2	

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		8 2	ÀSTIS	75.52	977		2028.0			0 8000	2.07	***************************************		20280				2027.9			- 1	2028.0		2028.0	26280			
	11.00	WALLRACE PAILRACE ELET	a compa	6100	2000	7001.0	2021.6	2021-6	777	2021.7	7. 1500		2021.7	2021.7	C : C 0 C	1 12 2	2021.6	2021.6	2021.6	2021.6		2021.6	2021.6	2021.6	20217	0 1000	٠   ``	<b>イラタこっ</b>
	STITTOE	GATE		40002	d ablai		4 oren	4 opto	Hopen	40000	goota		70000	40per	40%	2006	2010 -	4 OPEN	4 attes	4 oren	11000	7 1500	4 afters	Hopen	Yopen	y mary	Crafe h	1. 1. 1
DEST CREEK STATION DISSOLVED OXYGEN MONITORING LOG	TIMES OF	Generation		14:00-15:00		'	00:41 - 00:11			00:41-00:11	A		ĺ	00:61-00:11				12:30-14:30		The second secon	12:30-14:20			14100-15:00	11:00- 14:00			
DISSOLVED OXY	NO. UNITS	GENERATING	,	7	NOWE	2		NONE	Nove	7	NoviE	Nowe		1	NONE	NONE	-	4	NOWE	NONE	4	AlexIE	Sand C	7	7	NONE	Neve	
	TEMTS		0	1:5	7.54	9.02	1		0.0	804	7.53	6.57	178	10.01	7.97	6.4	08.8		181	2.06	2.88	7.72	1 1	2,5 %	8,24	7.50	6.33	
	DO MEASUREMENTS	THE TEMP	2 22	22	17.5	12.9	_	╁	<del> </del>	1.21	14.3	10.6	179	7 (4)	15.4	12.0	13 /	2	1.4.1	9//	13.3	15.2	121	0 ·	1,5,1	14.2	<u>es</u>	
ft. MSL)	DO DOMESTICA	PDG	1////////	12011	10:36	11:34	14:35	10125		11 - 18	14:55	10:42	11.36	11.00	14.55	12:02	13:06	27.11.	17,54	77:05	13:30	14:52	14: 39	11:20	11:50	81:61	10:43	
	SKATION 3S	DO (@g/1)	721		7.43	7.47	737	7.7	0 22	7 92	().,	2.10	8.10	200	200	2	7.42	7 32	200	7.37	7.23	6:79	ンペ	1	<u> </u>	70")	スペ	
Calibrated to 2000	READINGS		24.8	,	26.1	26.4	27.1	23.3	30 6	22.2	10.	26.5	220	27.7	0 000	41.6	26.8	27.1	666	0 0	7.80	31.8	25.8			25-1	127	
(Instrument Cal	CAL. READINGS	TINE	(4.30	•	١	11:32	14:33	10:28	11. If.	76.77		8	11.28	CC.H	, 4, 6,	00.7/	13:04	14:50	2 : 2 : 2	14:03	95:71	14:50	14:20	11.36	14.11.		15:01	
(Instr	JUNE	a 2007	147-17-9	07. 1	67.18	608	8/29 28	6-22	6-22	6-22	(,73	<del></del>	6-73	4-73	<del>-</del> }	9	6-26	6-26	C-30		( او	•	6-03	6-79	25	s - 1		

DISSOLVED OXYGEN MONITORING LOG DEEP CREEK STATION

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20.28.0 2028,0 2028. D OPERATI TAILEAC 2028.0 ELEY 20281 20280 2026, NOM-OPERATING TAILRACE 2021.6 2022.0 2022.0 ڑ 2021.6 2622.0 1021.8 2022 c) 2021.8 2022.7 <u></u> 2020 2022. 2022. 2022. 2021.6 2022 2021.9 BLEV 2623, 3017 2021 2012. J. OFTEN Yopen y oven 4 open 400en POSITION 4 cone. LOSSO 7 4 open E S Now K Hopen 4 OPEN OTALK Mario h 40000 40,000 Hopen SLUICE Loyer GATE 40,000 Hopen 7 :30-14:30 14:00 0076/ 00:1/-1:50 -14:00 -14:00 TIMES OF GENERATION 14:00 Į 3 7 00:11 00.7 //:ec 20 NO. UNITES GENERATING  $\bigcirc$ 4  $\mathcal{N}$ 0 7 N N 0 1 N O 0  $\mathcal{O}$ 0 O 6.93 7.37 5.82 60 W 7.77 76 0 かん 6:20 (mg/1)83.3 Ś 0.0 ير پر 5,60 5.15 5.04 7.39 DOWNSTREAM FROM WEIR 5.88 b MEASUREMENTS ė N √3 Ţ, 11.6 N 15.2 14.0 4.00 OC C 13.33 13.4 60 2 ij 7.75 Ø 3 74.4 五 2,2 3 1 W 1 Ţ 14:36 10:50 11:33 8 14:30 10:37 (7:11 10:35 11:33 74:35 6:47 16:41 11:47 11:53 10:39 13:13 14.35 14:50 TIME 15:01 KSI) 6.3 12.25 (Instrument Calibrated to 2000 ft. 7.46 00.16. 2.06 7.33 30.8 765 7.68 8.13 8.0% 7.66 77 *80* 721 **♦** DO (日本/1) <u>ښ</u> 27 INSTRUMENT CALIBRATION 7 13.6 S 50 1 N 1 Ø Ø ~ READINGS 22.4 23,2 27.0 7.7 22 3 24.5 22.6 21.8 22.3 24.5 26.9 TES. 23.9 24.5 26.1 237 21.4 20.7 <u>ښ</u> 246 N 75:01 14:33 10:29 14:34 14.38 14:33 10:32 305 1.36 1:3 ر. در. TIME (1.17) 14:23 14.22 10:34 10.33 07:01 11.45 11.38 7.13 JUNEA 2.10 7 <u>~</u> . خ ا 30 4 1 5 2 7,9 . ا 7.10 14.1 1887 と

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DESCRIPTION DISSOLVED OXYGEN MONITORING LOG

	OPERAMI			2027.8	-			2026,3			2028.0			-	2027.7			2000	2023 7		75.28.4		Administration and security of		20.23.4		2528.4
	NON-OPERATING	TAILRACE BLEV	1	9.7707	30000	2 0000			- 1	2022.3	2022. 3	2022.2	I V	١٠٠٠	2021.7	2021.9		3		4021.4	2021.9	2021.9	2027 14	7,000	1	2022.2	2011.2
	SLUICE	CATE POSITION		Y OPEN	JOPEN	Your	4000	No.	70201	7 over	40160	40,60	4000	2 2 2	7 0/00	4010	C1-35070 Z	2 CLOSED	2 C. 105 Cd	2 - 5 (656)	2-6"0pen	2-ccosto 26" opta	2-cusero	2-coseo	2-6-3ed	2-6"02V	2.6 900
DESCUVED OXYGEN MONITORING LOG	TIMES OF	Generation	11500 -111.	00: 4/- 02- //			11:00-14:00				11:00-14:00			20 - 12 m. 60 - 12				14:00-17:00		111.	00.71-00-11			08:27-04:77			00/41.00/11
OISSOUVED OXY	STIMO ON OR	GENERALI-NG	-		С	O	Ę	0	0	, ,	1	0	0	,		0	0	7	0	6	(	0	0	7	0	, ,	1
	TENTS M VETR	(ng/1)	6.76	07 7	27.0	4.18	5.17	26.4	3.95	7 23	20.00	5.14	4.01	507	7	4.64	4.78	7.14	3,60	269		4.48	3.67	6.99	250	782	12:0
	DO MEASUREM NSTREAM FROM	TIME TEMP DO	14.6	15.2	· · ·	11.5	13.3	13.9	11.2	4 // 2	17. (	15.6	1.21	14.8	1,5	<u> </u>	12.1	14.8	11.9	14.6	3 7	2.0	12.9	14.1	11.5	バス	1, 1,
MSI	C OC STANS	TIME	11:29	14:40	2/ 2/1	10,30	11:30	14:30	10x31	11:46		14:53	10:30	11:32	14123	17-76	13:34	14:31	(0:35	11:53	10.7.	/4.30	10:31	11:45	10:39	11.53	> 4 / T
to 2000 ft.	HATLON S	DO (ER/1)	7.99	7.75	1	3.8.7	8.62	18.31	8.28	8.27	2 0		8.57	8.57	617	11:0	7.92	7.38	8.13	7,99	9.22	100	1.88	7.87	8.00	793	
	READINGS	TERP OC	22.8	23.8	Š	21.7	00	0,16	20.9	27.1	000	66.5	7.61	19.2	2.9		23.3	23.5	21.7	2.5	212		73.5	23.6	22.7	22.9	
(Instrument Calibrated	CAL. READINGS	TIPE	11:27	14.35	1 .	5 . 8.0	11:23	14:25	10:28	14:11	111.20		10:23	11:30	14:30	(2.3.	15-51	14:29	10:26	11:46	14:28	00.4	10.27	04:11	10:31	11,415	
(Irstr	4705	2007	7-16	17-16	7.25	7	2.7 × 2.0	\$ 7.20	7-21	1.71	7.31	1 1	C 7.1	1-23	7-23	7	77.1	7.26	1777 awo	D 7-22	DOK 7-27	10	71	8 /278	80 27 - 30 80 27 - 30	Ø; - € 20	uer

DISSOLVED OXYGEN MONITORING LOG DEEP CREEK STATION

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TAILRAC OPERATI 2028-5 2028.4 2028.2 ELEY 2028.4 2028.5 2023 2028-5 2028.5 70284 NON-OPERATING  $\bigcirc$ N N 2022.4 扌 Ч TAILRACE 2021.9 Q 2021.9 2021-8 W 2022.4 2021.8 3 10 × 1. B ELSY 2022 2022, 2022. ₩ 2023 2022 2023 2022 2021 2023 2023 2022 2021. 2622 20050 2 4. opta 2-cesse 0 2-6"0060 2-CL0SED 2-6"0PES 2.C. 0860 2.Cosser 2.6"offer 2-CC567 2-c20560 2-6"0PEN 2-cusser 2-6" often 2-4005ED 2-6" OKN 2-(405,60 2-6"0164 2-c20360 2-6" 00650 2-CC8500 2-6"Open 2-60x2 2. - Closed Z-costo 2-6"00er POSITION 2-6"0,000 2-6 900 2-6"0000 2-616.50 A.Cleson そってからの 4. A. あるこう SLUICE GATE 14:00 001 54:61-56:21 17:00 . 80 14:00 -/41.00 24:41-ؿ 7 GENERATION TIMES OF 12:30-14 Ì ( 13:00-١ ĺ 00:11 7:30 20:11 00:11 0:00 11.60 STIM GENERATING 0 0 5  $\bigcirc$ 0 d OablaQ 0 0 3.63 6.32 3.10 4.62 a. N 3.70 5.20 3.15 3.04 S - S S 56.6 7 ú Ø 6.2 DOWNSTREAM FROM WEIR 'n d N DO MEASUREMENTS ڼ Ċ 6 S ď ~ W 3.0 81:21 14.7 Ø 13.2 ~ 00 13.2 0.5/ E S 0.0 6.5 Ç  $\circ$ ĻΛ  $\sim$ 15.4 ٣. 143 Ŕ Ñ ń 15. Ñ, <u>ب</u>ر -0 Ŕ ž ~~ (v.) 17:35 10:33 13:03 Q 3,7 **₹** 11:32 13:12 34 64:81 3 08:38 4.32 14:30 2 10:34 12.04 10:3 M THE 14:35 M (Instrument Galibrated to 2000 ft. MSL) 15.15 7 13: Ó 0 22 19 7 7.74 7.74 7.96 S 1,88 7.76 Š 7.68 <u>~</u> ~3 ~1 7.31 59 7.57 7,6 INSTRUMENT CALIBRATION (mg/1) M 0.0 7.58 V ~ ~ 1 ( READINGS 22,6 23 G 25.3 24.4 25.2 79.7 ó ò S ď, TENTO CO 24.9 24.3 25.4 ٠,٠ Ö 28.4 25. ら 18 V. 7  $\hat{\vec{\gamma}}$ N 2 15 2 10:29 11:30 79:29 7 13:10 12:16 09:36 14:42 11:29 11:52 0.28 14:22 14.20 TIME 1350 でなら 8:01 M 10:3 67;H N 14.8 3 2007 8-01 40-8.02 8-03 40-8 100 ACC. 2/20 803 9.00 40-8 1  $\iota_{\sim}$ \$-0 K 8-06 80-8 8-09 \_ 1

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DISSOLVED OXYCEN MONITORING LOG DEED CREEK STATION

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# DISSOLVED DXYGEN MONITORING LOG

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Instrument Calibrated to 2000 ff. MSU

# DISSOLVED OXYGEN MONITORING LOG

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# APPENDIX F

WATER APPROPRIATION AND USE PERMIT GA1992S009(07)

# STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

# WATER APPROPRIATION AND USE PERMIT

PERMIT NUMBER: GA1992S009(07)

EFFECTIVE DATE:

APRIL 1, 2007

EXPIRATION DATE:

APRIL 1, 2019

FIRST APPROPRIATION: JANUARY 1, 1925





HEREINAFTER REFERRED TO AS THE "PERMITTEE", IS AUTHORIZED BY THE WATER MANAGEMENT ADMINISTRATION, HEREINAFTER REFERRED TO AS THE "ADMINISTRATION" PURSUANT TO THE PROVISIONS OF TITLE 5 OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND (1996 REPLACEMENT VOLUME) AS AMENDED, TO APPROPRIATE AND USE WATERS OF THE STATE SUBJECT TO THE FOLLOWING CONDITIONS:

- ALLOCATION THE WATER WITHDRAWAL GRANTED BY THIS PERMIT IS LIMITED TO: A DAILY AVERAGE OF 94,000,000 GALLONS ON A YEARLY BASIS AND A MAXIMUM DAILY WITHDRAWAL OF 420,000,000 GALLONS.
- 2. USE - THE WATER IS TO BE USED FOR HYDROELECTRIC GENERATION, TEMPERATURE ENHANCEMENT, WHITEWATER BOATING ENHANCEMENT, AND MAINTENANCE OF MINIMUM FLOWS IN THE YOUGHIOGHENY RIVER.
- 3. SOURCE - THE WATER SHALL BE TAKEN FROM DEEP CREEK LAKE.
- 4. LOCATION - THE POINT(S) OF WITHDRAWAL SHALL BE LOCATED AT THE EXISTING INTAKE STRUCTURE AT THE DEEP CREEK LAKE DAM. THREE MILES WEST OF THAYERVILLE, GARRETT COUNTY, MARYLAND.

CONTINUED ON PAGE 2

# PERMIT NUMBER: GA1992S009(07) PAGE NUMBER TWO

- FACILITY TO CONDUCT INSPECTIONS AND EVALUATIONS NECESSARY TO ASSURE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT. THE PERMITTEE SHALL PROVIDE SUCH ASSISTANCE AS MAY BE NECESSARY TO EFFECTIVELY AND SAFELY CONDUCT SUCH INSPECTIONS AND EVALUATIONS.
- 6. PERMIT REVIEW THE PERMITTEE WILL BE QUERIED EVERY THREE YEARS (TRIENNIAL REVIEW) REGARDING WATER USE UNDER THE TERMS AND CONDITIONS OF THIS PERMIT. FAILURE TO RETURN THE TRIENNIAL REVIEW QUERY WILL RESULT IN SUSPENSION OR REVOCATION OF THIS PERMIT.
- 7. PERMIT RENEWAL THIS PERMIT WILL EXPIRE ON THE DATE INDICATED ON THE FIRST PAGE OF THIS PERMIT. IN ORDER TO RENEW THE PERMIT THE PERMITTEE SHALL FILE A RENEWAL APPLICATION WITH THE ADMINISTRATION NO LATER THAN 45 DAYS PRIOR TO THE EXPIRATION.
- 8. PERMIT SUSPENSION OR REVOCATION THIS PERMIT MAY BE SUSPENDED OR REVOKED BY THE ADMINISTRATION UPON VIOLATION OF THE CONDITIONS OF THIS PERMIT, OR UPON VIOLATION OF ANY REGULATION PROMULGATED PURSUANT TO TITLE 5 OF THE ENVIRONMENT ARTICLE, ANNOTATED CODE OF MARYLAND (1996 REPLACEMENT VOLUME) AS AMENDED.
- 9. CHANGE OF OPERATIONS ANY ANTICIPATED CHANGE IN APPROPRIATION WHICH MAY RESULT IN A NEW OR DIFFERENT USE, QUANTITY, SOURCE, OR PLACE OF USE OF WATER SHALL BE REPORTED TO THE ADMINISTRATION BY THE PERMITTEE BY SUBMISSION OF A NEW APPLICATION.
- 10. ADDITIONAL PERMIT CONDITIONS THE ADMINISTRATION MAY AT ANYTIME (INCLUDING TRIENNIAL PERMIT REVIEW OR WHEN A CHANGE APPLICATION IS SUBMITTED) REVISE ANY CONDITION OF THIS PERMIT OR ADD ADDITIONAL CONDITIONS CONCERNING THE CHARACTER, AMOUNT, MEANS AND MANNER OF THE APPROPRIATION OR USE, WHICH MAY BE NECESSARY TO PROPERLY PROTECT, CONTROL AND MANAGE THE WATER RESOURCES OF THE STATE. CONDITION REVISIONS AND ADDITIONS WILL BE ACCOMPLISHED BY ISSUANCE OF A REVISED PERMIT.
- 11. NON-TRANSFERRABLE THIS PERMIT IS NON-TRANSFERRABLE. A NEW OWNER MAY ACQUIRE AUTHORIZATION TO CONTINUE THIS APPROPRIATION BY FILING A NEW APPLICATION WITH THE ADMINISTRATION.
  AUTHORIZATION WILL BE ACCOMPLISHED BY ISSUANCE OF A NEW PERMIT.

# PERMIT NUMBER: GA1992S009(07) PAGE NUMBER THREE

- 12. FLOW MEASUREMENT THE PERMITTEE SHALL MEASURE ALL WATER USED UNDER THIS PERMIT BY A METHOD WHICH SHALL BE APPROVED BY THE ADMINISTRATION. THE PERMITTEE SHALL MAINTAIN A DAILY LOG, SUBJECT TO INSPECTION BY AN AUTHORIZED REPRESENTATIVE OF THE ADMINISTRATION.
- 13. WITHDRAWAL REPORTS THE PERMITTEE SHALL SUBMIT TO THE ADMINISTRATION, SEMI-ANNUALLY (JULY-DECEMBER, NO LATER THAN JANUARY 31 AND JANUARY-JUNE, NO LATER THAN JULY 31), WATER USE RECORDS. THESE RECORDS SHALL SHOW THE TOTAL QUANTITY OF WATER RELEASED EACH MONTH UNDER THIS PERMIT.
- 14. RULE BAND AND OPERATION PROTOCOLS THE PERMITTEE SHALL OPERATE THE DEEP CREEK HYDROELECTRIC PROJECT (PROJECT)
  ACCORDING TO THE PROJECT OPERATING RULES SPECIFIED THROUGHOUT THIS PERMIT SUCH THAT WATER ELEVATIONS IN DEEP CREEK LAKE ARE MAINTAINED WITHIN THE OPERATING RULE BAND, EXCEPT IN THE EVENT OF UNUSUAL OR EMERGENCY CONDITIONS AS DEFINED BELOW. THE UPPER AND LOWER RULE BANDS ARE THE HIGHEST AND LOWEST DESIRABLE RESERVOIR LEVELS AT THE END OF EACH MONTH. THE UPPER AND LOWER END OF EACH MONTH ARE DEFINED IN THE FOLLOWING TABLE. WHEN LAKE LEVELS ARE ABOVE THE UPPER RULE BAND, THE PERMITTEE MAY RELEASE WATER AS NEEDED TO DRAW DOWN THE LAKE TO A LEVEL WITHIN THE RULE BAND. ELEVATIONS ARE GIVEN IN FEET ABOVE MEAN SEA LEVEL.

#### PROJECT OPERATING RULE BAND

MONTH	UPPER BAND ELEVATIONS	LOWER BAND ELEVATIONS
JANUARY	2457.9	2455.0
FEBRUARY	2457.9	2456.0
MARCH	2459.5	2458.0
APRIL	2461.0	2459.6
MAY	2461.0	2460.0
JUNE	2461.0	2460.0
JULY	2460.0	2459.0
AUGUST	2459.0	2458.0
SEPTEMBER	2458.5	2457.0
OCTOBER	2457.9	2456.0
NOVEMBER	2457.9	2455.0
DECEMBER	2457.9	2455.0

IN THE EVENT OF UNUSUAL OR EMERGENCY CONDITIONS, THE NORMAL MONTHLY OPERATING RULES MAY BE MODIFIED OR SUSPENDED UNTIL SUCH TIME AS UNUSUAL OR EMERGENCY CONDITIONS NO LONGER EXIST. UNUSUAL OR EMERGENCY CONDITIONS ARE DEFINED AS:

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#### 14. CONT'D

- (A) A SYSTEM EMERGENCY, DEFINED AS MAXIMUM EMERGENCY GENERATION UNDER THE PENNSYLVANIA-NEW JERSEY-MARYLAND INTERCONNECTION (PJM) HIERARCHY OF EMERGENCY ORDERS, OR EMERGENCY LOADING OF SPINNING RESERVE CAPACITY, OR EMERGENCY CONTROL OF TRANSMISSION FACILITY LOADING;
- (B) A SITE EMERGENCY SUCH AS FAILURE OR PROBABLE FAILURE OF THE DAM THAT REQUIRES MAXIMUM RELEASE FOR RAPID DRAWDOWN OF THE RESERVOIR;
- (C) A SITE EMERGENCY OR OTHER FORCED (UNSCHEDULED) OUTAGE REQUIRING SHUTDOWN OF THE INTAKE, POWER TUNNEL, PENSTOCKS, OR GENERATING UNITS, RESULTING IN THE INABILITY TO GENERATE OR TO OPERATE THE PROPOSED MINIMUM RELEASE BYPASS:
- (D) MAINTENANCE OF THE DAM OR REPAIR OF LAKE SHORELINE EROSION WHICH REQUIRES LOWERING OF LAKE LEVEL BELOW THE LOWER RULE BAND TO ALLOW ACCESS OR TO CONTROL INFLOW;
- (E) ACTUAL OR FORECAST EXTRAORDINARILY HIGH RUNOFF OR RAINFALL WHICH REQUIRES UNLIMITED GENERATION IN ORDER TO KEEP THE LAKE LEVEL BELOW THE UPPER RULE BAND AND/OR AVOID SPILLING OVER THE TOP OF THE DAM.

THE DURATION AND TIMING OF PLANNED OUTAGES SHALL BE APPROVED IN ADVANCE BY THE ADMINISTRATION. IN PROPOSING PLANNED OUTAGES, THE PERMITTEE SHALL DETAIL REASONS WHY THE OUTAGE IS NECESSARY AS WELL AS HOW THE OUTAGE WILL IMPACT THE FISHERY AND WHITEWATER RECREATION IN THE YOUGHIOGHENY RIVER. TO THE EXTENT POSSIBLE, PLANNED OUTAGES SHALL NOT OCCUR DURING MID-APRIL THROUGH MID-OCTOBER.

- 15. LAKE LEVEL MONITORING AND REPORTING THE PERMITTEE SHALL MEASURE AND RECORD THE WATER ELEVATIONS IN THE DEEP CREEK LAKE AT APPROXIMATELY THE SAME TIME EACH DAY. THE PERMITTEE SHALL REPORT THE RESULTS OF WATER-LEVEL MONITORING TO THE ADMINISTRATION ON AN ANNUAL BASIS, AND SHALL MAINTAIN A DAILY LOG OF MEASUREMENTS, SUBJECT TO INSPECTION BY THE ADMINISTRATION.
- 16. TEMPERATURE ENHANCEMENT IN THE YOUGHIOGHENY RIVER THE PERMITTEE SHALL IMPLEMENT A PLAN APPROVED BY THE DEPARTMENT FOR USING PROJECT OPERATION, OR A COMBINATION OF MINIMUM FLOW RELEASES AND PROJECT OPERATION, TO MAINTAIN WATER TEMPERATURES LESS THAN 25 DEGREES C IN THE YOUGHIOGHENY RIVER BETWEEN THE PROJECT TAILRACE AND SANG RUN, DURING THE MONTHS OF JUNE, JULY

# PERMIT NUMBER: GA1992S009(07) PAGE NUMBER FIVE

- 16. CONT'D AND AUGUST. THE PLAN MUST INCLUDE A TRIGGERING MECHANISM AND REAL-TIME MONITORING OF RIVER TEMPERATURE. THE PLAN MUST INCLUDE A PROTOCOL FOR PREDICTING TEMPERATURE RELEASES ON THE MORNING OF THE RELEASE, AS EARLY AS THREE HOURS IN ADVANCE. THE PERMITTEE SHALL REPORT TO THE DEPARTMENT ALL OCCURRENCES OF WATER TEMPERATURES EQUALING OR EXCEEDING 25 DEGREES C WITHIN 30 DAYS OF THE DATE OF OCCURRENCE, INCLUDING PROPOSED MEASURES OR CHANGES TO THE PLAN TO PRECLUDE FUTURE INCIDENTS WHERE WATER TEMPERATURE EQUALS OR EXCEEDS 25 DEGREES C. THE PERMITTEE SHALL INCLUDE THE RESULTS OF TEMPERATURE MONITORING IN AN ANNUAL THE PERMITTEE SHALL, IN CONSULTATION WITH THE DEPARTMENT, CONTINUE TO REFINE OR REVISE THE PLAN WITH THE OBJECTIVE OF MAINTAINING WATER TEMPERATURES IN THE RIVER BETWEEN THE PROJECT TAILRACE AND SANG RUN BELOW 25 DEGREES C AT ALL TIMES DURING THE MONTHS OF JUNE, JULY AND AUGUST.
- MINIMUM FLOW RELEASES THE PERMITTEE SHALL MAINTAIN AND OPERATE A BYPASS SYSTEM AT THE PROJECT TO MAINTAIN A MINIMUM FLOW OF 40 CFS IN THE YOUGHIOGHENY RIVER DOWNSTREAM OF THE PROJECT TAILRACE. THE MINIMUM FLOW SHALL BE MAINTAINED AT ALL TIMES BELOW THE TAILRACE. A REDUCTION IN THE MINIMUM FLOW BELOW 40 CFS MAY BE REQUESTED OF THE ADMINISTRATION WHEN RESERVOIR LEVELS ARE ONE FOOT OR MORE BELOW THE LOWER RULE BAND. THE PERMITTEE SHALL ESTIMATE FLOW IN THE YOUGHIOGHENY RIVER IMMEDIATELY BELOW THE TAILRACE AT APPROXIMATELY THE SAME TIME EACH DAY. A REPORT OF FLOW ESTIMATES AND THE OCCURRENCE OF BYPASS RELEASES SHALL BE SUBMITTED TO THE DEPARTMENT IN AN ANNUAL REPORT, AND A DAILY LOG OF SUCH RELEASES SHALL BE MAINTAINED, SUBJECT TO INSPECTION BY AN AUTHORIZED REPRESENTATIVE OF THE ADMINISTRATION. PERMITTEE SHALL PROVIDE A CONTINUOUS FLOW INTO THE TAILRACE OF APPROXIMATELY 9 CFS DURING THE MONTHS OF JUNE, JULY AND AUGUST, EVEN WHEN THERE IS NO MINIMUM BYPASS FLOW AS REQUIRED BY THIS CONDITION.
- 18. DISSOLVED OXYGEN MITIGATION THE PERMITTEE SHALL MAINTAIN AND OPERATE A TAILRACE WEIR DESIGNED TO INCREASE DISSOLVED OXYGEN LEVELS IN ALL PROJECT DISCHARGES ABOVE MARYLAND WATER QUALITY STANDARDS AS OUTLINED IN COMAR 26.08.02 (5 PPM MINIMUM, 6 PPM DAILY AVERAGE). THE PERMITTEE SHALL MONITOR DISSOLVED OXYGEN LEVELS OF PROJECT DISCHARGES BY A METHOD APPROVED BY THE ADMINISTRATION DURING JUNE 1 TO OCTOBER 1. THE RESULTS OF DISSOLVED OXYGEN MONITORING SHALL BE SUBMITTED TO THE DEPARTMENT IN AN ANNUAL REPORT. THE PERMITTEE SHALL MAINTAIN A LOG OF MEASUREMENTS, SUBJECT TO INSPECTION BY AN AUTHORIZED REPRESENTATIVE OF THE ADMINISTRATION.

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#### 19. RELEASES FOR WHITEWATER RECREATION

- A) WHITEWATER RELEASES. THERE ARE TWO TYPES OF SCHEDULED WHITEWATER RELEASES (WWR); STANDARD AND SPECIAL RELEASES. ALL WWR ARE SUBJECT TO THE RULE BAND AND OPERATION REQUIREMENTS IN CONDITION 14, THE TEMPERATURE ENHANCEMENT RELEASE (TER) REQUIREMENTS IN CONDITION 16 AND THE PARAMETERS DEFINED BELOW IN PARAGRAPH B. THE INTENT OF WWR IS TO ENHANCE RECREATIONAL WHITEWATER ENJOYMENT FROM THE PROJECT TAILRACE TO FRIENDSVILLE.
  - STANDARD WWR. WITH THE EXCEPTION OF THE SPECIAL WWR CONDITIONS IN PARAGRAPH II) BELOW, STANDARD WWR WILL OCCUR ON SUNDAYS, MONDAYS, FRIDAYS, AND SATURDAYS BETWEEN APRIL 15TH AND OCTOBER 15TH IN ACCORDANCE WITH THE FOLLOWING TABLE AND MAY BE MODIFIED BY ITEMS II) AND III) BELOW.

<u>MONTH</u> APRIL	<u>SUNDAY</u> NONE	MONDAY NONE	FRIDAY ALL FRIDAYS AFTER APRIL 14TH (1000 HR TO 1300 HR)	SATURDAY NONE
TAY	NONE	1ST TWO MONDAYS (1000 HR TO 1300 HR)	1ST THREE FRIDAYS (1000 HR TO 1300 HR)	1ST SATURDAY (1000 HR TO 1300 HR)
MEMORIAL DAY WEEKEND	ODD NUMBERED YEARS (1000 HR TO 1300 HR)	ODD NUMBERED YEARS (1000 HR TO 1300 HR)	EVEN NUMBERED YEARS (1000 HR TO 1300 HR)	EVEN NUMBERED YEARS (1000 HR TO 1300 HR)
JUNE	NONE	EVERY MONDAY (1100 HR TO 1400 HR)	EVERY FRIDAY (1100 HR TO 1400 HR)	LAST TWO SATURDAYS (1100 HR TO 1400 HR)
JULY	NONE	EVERY MONDAY (1100 HR TO 1400 HR)	EVERY FRIDAY (1100 HR TO 1400 HR)	EVERY SATURDAY (1100 HR TO 1400 HR) (see also Special WWR below)
AUGUST	NONE	EVERY MONDAY (1100 HR TO 1400 HR)	EVERY FRIDAY (1100 HR TO 1400 HR)	EVERY SATURDAY (1100 HR TO 1400 HR)
SEPTEMBER	NONE	EVERY MONDAY (1000 HR TO 1300 HR)	EVERY FRIDAY (1000 HR TO 1300 HR)	FIRST TWO SATURDAYS (1000 HR TO 1300 HR)
JTOBER	NONE	ALL MONDAYS BEFORE OCTOBER 16TH (1000 HR TO 1300 HR)	ALL FRIDAYS BEFORE OCTOBER 16TH (1000 HR TO 1300 HR)	FIRST SATURDAY (1000 HR TO 1300 HR)

## PERMIT NUMBER: GA1992S009(07) PAGE NUMBER SEVEN

- II) SPECIAL WWR. SPECIAL WWR MUST BE REQUESTED IN WRITING TO MDE NO LATER THAN 30 CALENDAR DAYS BEFORE THE SPECIAL WWR AND WILL, AT A MINIMUM, INCLUDE:
  - + ANNUAL TEAM FRIENDSVILLE UPPER YOUGH RACE WWR.
    THE FOURTH SATURDAY WWR IN JULY WILL BE AN
    EXTENDED SIX (6) HOUR CONTINUOUS RELEASE BETWEEN
    1100 HOURS AND 1700 HOURS TO ACCOMMODATE THE
    ANNUAL TEAM FRIENDSVILLE UPPER YOUGH RACE. THE
    ANNUAL TEAM FRIENDSVILLE UPPER YOUGH RACE WWR IS
    CONTINGENT ON THE LAKE LEVEL ELEVATION BEING
    HIGHER THAN THE ONE (1) FOOT BELOW THE LOWER RULE
    BAND ON THE DAY OF THE WWR.
  - + GAULEY WEEK WWR. GAULEY WEEK RELEASES INCLUDE CONTINUOUS THREE (3) HOUR RELEASES FROM 1000 HOURS TO 1300 HOURS ON TUESDAY, WEDNESDAY, AND THURSDAY OF THE WEEK BEFORE THE GAULEY FESTIVAL, WEEKEND IN SUMMERSVILLE, WEST VIRGINIA. THE GAULEY FESTIVAL WEEKEND IS TYPICALLY SCHEDULED DURING THE SECOND HALF OF SEPTEMBER. EACH DAY OF THE GAULEY WEEK WWR IS CONTINGENT ON THE LAKE LEVEL ELEVATION BEING HIGHER THAN THE LOWER RULE BAND.
- III) SYNCHRONIZATION OF WWR WITH TER. THE EXTENT PRACTICABLE AND AT THE DISCRETION OF THE PERMITTEE, ANY WWR MAY BE SYNCHRONIZED WITH ANY TER THAT MAY BE REQUIRED DURING THE MONTHS OF JUNE, JULY, AND AUGUST. SYNCHRONIZATION MEANS COMMENCING A WWR UP TO ONE (1) HOUR EARLIER TO MORE ACCURATELY COINCIDE WITH A TER. IN THE EVENT THE PERMITTEE EXPECTS TO SYNCHRONIZE A WWR WITH A TER ON A GIVEN DAY, IT SHALL PLACE NOTICE OF THE SAME ON A RECORDED MESSAGE, ACCESSIBLE TO THE PUBLIC BY TELEPHONE AS SOON AS THE DECISION TO SYNCHRONIZE IS MADE.
- B) FROM APRIL 15TH THROUGH OCTOBER 15TH, THE FOLLOWING ADDITIONAL OPERATING RULES WILL ALSO BE IN EFFECT:
  - THE PERMITTEE SHALL NOT OPERATE THE PROJECT FOR HYDROELECTRIC GENERATION BEFORE 1300 HOURS WHEN NATURAL FLOWS AS MEASURED AT FRIENDSVILLE USGS GAGE 03076500 (FRIENDSVILLE) ARE BETWEEN 1300 AND 2500 CFS UNLESS AN UNUSUAL OR EMERGENCY CONDITION EXISTS, OR LAKE EXCEEDS THE UPPER RULE BAND.

### PERMIT NUMBER: GA1992S009(07) PAGE NUMBER EIGHT

- II) WHEN NATURAL FLOWS AS MEASURED AT FRIENDSVILLE ARE GREATER THAN 600, BUT LESS THAN 1300 CFS, AND LAKE ELEVATION IS WITHIN THE RULE BANDS SPECIFIED IN CONDITION 14, POWERHOUSE DISCHARGE SHALL BE NO GREATER THAN THE MAXIMUM DISCHARGE OF ONE TURBINE FOR THE FIRST THREE (3) HOURS OF SCHEDULED GENERATION.
- III) DURING WEEKS THAT CONTAIN A SATURDAY RELEASE, THE PERMITTEE SHALL MAKE RELEASES ON SATURDAYS WHEN THE LAKE LEVEL IS HIGHER THAN ELEVATION THAT IS ONE FOOT BELOW THE LOWER RULE BAND, AND ON SUNDAYS, MONDAYS AND FRIDAYS WHEN THE LAKE LEVEL IS ABOVE THE LOWER RULE BAND.
- THE PERMITTEE SHALL MAKE RELEASES ON FRIDAYS WHEN THE LAKE LEVEL IS HIGHER THAN AN ELEVATION THAT IS ONE FOOT BELOW THE LOWER RULE BAND, AND ON SUNDAYS AND MONDAYS WHEN THE LAKE LEVEL IS ABOVE THE LOWER RULE BAND.
  - V) THE PERMITTEE MAY VARY POWERHOUSE DISCHARGE DURING ANY WWR IN ACCORDANCE WITH EITHER OF THE FOLLOWING TWO APPROACHES EXCEPT DURING THE ANNUAL TEAM FRIENDSVILLE UPPER YOUGH RACE WWR AND EXCEPT WHEN A WWR IS SYNCHRONIZED WITH A TER.
    - (1) 3RD HOUR REGULATION APPROACH
      - + WHEN NATURAL FLOW AS MEASURED AT
        FRIENDSVILLE IS LESS THAN 600 CFS,
        POWERHOUSE DISCHARGE MAY VARY BETWEEN 320
        CFS AND MAXIMUM DISCHARGE OF TWO TURBINES
        DURING THE THIRD HOUR OF ANY WWR SO LONG AS
        POWERHOUSE DISCHARGE DURING THE FIRST TWO
        HOURS OF THE WWR IS HELD CONSTANT AT MAXIMUM
        DISCHARGE OF TWO TURBINES.
      - + WHEN NATURAL FLOW AS MEASURED AT
        FRIENDSVILLE IS GREATER THAN 600 CFS BUT
        LESS THAN 1300 CFS, POWERHOUSE DISCHARGE MAY
        VARY BETWEEN 220 CFS AND MAXIMUM DISCHARGE
        OF ONE TURBINE DURING THE THIRD HOUR OF ANY
        WWR SO LONG AS POWER HOUSE DISCHARGE DURING
        THE FIRST TWO HOURS OF THE WWR IS HELD
        CONSTANT AT MAXIMUM DISCHARGE OF ONE
        TURBINE.

### PERMIT NUMBER: GA1992S009(07) PAGE NUMBER NINE

- (2) ALL HOUR REGULATION APPROACH.
  - + WHEN NATURAL FLOW AS MEASURED AT
    FRIENDSVILLE IS LESS THAN OR EQUAL TO 200
    CFS, POWERHOUSE DISCHARGE WILL BE HELD
    CONSTANT AT MAXIMUM DISCHARGE OF TWO
    TURBINES FOR ALL THREE HOURS OF ANY WWR.
  - + WHEN NATURAL FLOW AS MEASURED AT
    FRIENDSVILLE IS BETWEEN 200 AND 300 CFS,
    POWERHOUSE DISCHARGE MAY VARY BETWEEN 440
    CFS AND MAXIMUM DISCHARGE OF TWO TURBINES
    DURING ANY PART OF ANY THREE HOUR WWR.
  - + WHEN NATURAL FLOW AS MEASURED AT
    FRIENDSVILLE IS BETWEEN 300 AND 600 CFS,
    POWERHOUSE DISCHARGE MAY VARY BETWEEN 320
    AND MAXIMUM DISCHARGE OF TWO TURBINES DURING
    ANY PART OF ANY THREE HOUR WWR.
  - + WHEN NATURAL FLOW AS MEASURED AT
    FRIENDSVILLE IS GREATER THAN 600 CFS BUT
    LESS THAN 1300 CFS, POWERHOUSE DISCHARGE MAY
    VARY BETWEEN 220 CFS AND MAXIMUM DISCHARGE
    OF ONE TURBINE DURING ANY PART OF ANY THREE
    HOUR WWR.
- 20. ANNOUNCEMENT OF EXPECTED RELEASES ON EACH THURSDAY, THE PERMITTEE SHALL PLACE ON A RECORDED MESSAGE ACCESSIBLE TO THE PUBLIC BY TELEPHONE, A FORECAST OF EXPECTED RELEASES FOR THE FOLLOWING WEEK. EACH MORNING, BETWEEN 0700 AND 0800 HOURS, THE PERMITTEE SHALL PLACE ON THE RECORDED MESSAGE INFORMATION ON THE SCHEDULED RELEASES FOR THE NEXT 48 HOURS.
- 21. ZEBRA MUSSEL MONITORING THE PERMITTEE SHALL IMPLEMENT A ZEBRA MUSSEL (DREISSENA POLYMORPHA) MONITORING PROGRAM APPROVED BY THE ADMINISTRATION. THE RESULTS OF SUCH MONITORING SHALL BE SUBMITTED IN AN ANNUAL REPORT.
- 22. NOTICE OF GENERATION RELEASES AT STRATEGIC LOCATIONS, SELECTED IN CONSULTATION WITH THE ADMINISTRATION AND INCLUDING THE SANG RUN AND HOYES RUN ACCESS AREAS, THE PERMITTEE SHALL PROMINENTLY DISPLAY WARNING NOTICES REGARDING THE HAZARD OF RAPID WATER LEVEL FLUCTUATIONS ASSOCIATED WITH WATER RELEASES FROM DEEP CREEK LAKE.

## PERMIT NUMBER: GA1992S009(07) PAGE NUMBER TEN

- 23. ANNUAL REPORT THE PERMITTEE SHALL SUBMIT AN ANNUAL REPORT TO THE ADMINISTRATION NO LATER THAN JANUARY 31 OF EACH YEAR. THE REPORT SHALL INCLUDE THE FOLLOWING DATA FOR THE PREVIOUS CALENDAR YEAR:
  - A) LAKE LEVEL MONITORING (CONDITION 15);
  - B) TEMPERATURE MONITORING (CONDITION 16);
  - C) MINIMUM FLOW RELEASE MONITORING (CONDITION 17);
  - D) DISSOLVED OXYGEN MONITORING (CONDITION 18);
  - E) RELEASES UNSUITABLE FOR WHITEWATER RECREATION (CONDITION 19);
  - F) ZEBRA MUSSEL MONITORING (CONDITION 21).
- 24. PERMIT SUPERSESSION THIS PERMIT HAS BEEN REVIEWED AND REVISED AND SUPERSEDES THE APPROPRIATION AND USE GRANTED BY THE FOLLOWING PRIOR PERMIT ISSUED TO:

  BRASCAN POWER PINEY AND DEEP CREEK LLC ON APRIL 27, 2005 (GA1992S009(06))

BY AUTHORITY OF THE DIRECTOR WATER MANAGEMENT ADMINISTRATION

John W. Grace, Chief

SOURCE PROTECTION AND APPROPRIATION DIV

### APPENDIX G

WHITEWATER RELEASE EMAIL COMMUNICATON WITH MARYLAND DEPARTMENT OF THE ENVIRONMENT

#### Jones, Scott

From:

Becker, Eric J [eric.becker@brookfieldpower.com]

Sent:

Thursday, January 03, 2008 10:44 AM

To: Cc: Curtis, Scott Jones, Scott

Subject:

FW: permit deviation support document

#### fyi

----Original Message----From: Zarrella, Antonio

Sent: Friday, June 29, 2007 11:03 AM

To: Becker, Eric J; Roy, Vaughn

Subject: FW: permit deviation support document

#### Fyi...

----Original Message----

From: John Grace [mailto:jgrace@mde.state.md.us]

Sent: Friday, June 29, 2007 10:39 AM

To: Zarrella, Antonio

Cc: Kemp, Ken; Uncher, Thomas

Subject: Re: permit deviation support document

#### Dear Mr. Zarrella,

This email is to confirm, that based on the consensus of all the stakeholders on today's conference call, MDE is authorizing a one time deviation from rule band conditions, to allow Brookfield Power to execute a whitewater release on Friday June 29, 2007 and to change Monday's release (July 2, 2007) from one dependent on the Lower Rule Band level to a scheduled release. The unique conditions that are present during this year, including the later lowering of the lake level are also the basis for this decision as noted during today's call.

If you have any questions please call me at (410) 537-3714

John Grace Water Supply Program

10:02 AM >>>

>>> "Zarrella, Antonio" <antonio.zarrella@brookfieldpower.com> 06/29/07

John, please send a confirmation for the discussed level excursion as stated in this morning's conference call, thanks and call with any issues,

Tony Zarrella 315-247-0253

The information contained in this communication may be confidential, is intended only for the use of the recipient named above, and may be legally privileged. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, 'r copying of this communication, or any of its contents, is strictly prohibited. If you have received this communication in error, please re-send this communication to the sender and delete the original message and any copy of it from your computer system. Thank you.

### APPENDIX H

ZEBRA MUSSEL MONITORING REPORT

CPU Laboratory
Resing Airport Building

(610) 375-5046



## Zebra Mussel Monitoring Report

(official use only - leave blank) ZM Monitoring Network #; 1.) RANDY GARLETTS 2.) BROOKFIELD POWER (COMPANY OR AFFILIATION) 4.) IN RIVERVIEW OBKLEND, MO TERRACE 5.) DEEP CREEK POWER PLANT (NAME OF STATION) Physical / Chemical / and Biological Data 9.) Date and time this data was collected (circle year, month, day, & hour) '96 '99 '00 '01 (Or) Month: 01 02 03 04 05 06 07 08 09 10 1 12 01 02 03 04 (63) 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Hour. Qui 30am (if before 7am) 07 08 09 10 11 12 (noon) 13 (1pm) 14 (2pm) 15 (3pm) 16 (4pm) 17 18 \_\_\_\_\_ (if after 6pm) 12.) (DISSOLVED OXYGEN mg/l) 18.) How far above the natural substrate is the sampler? (in meters) 19.) How many days was the sampler exposed to the water prior to collecting this data? \_\_\_32\_\_\_ 20.) Are zebra mussels present at this site? (X NO) (YES) - if yes, comment below and notify the Zebra Mussel Monitoring Coordinator immediately. 21.) Other organisms observed on the sampler / site? (please list) 22.) Comments (if more space is needed, continue on the back of this form):

GPU Laboratory
Residing Airport Building

(610) 375-5046



# Zebra Mussel Monitoring Report

(official use only - feave blank) ZM Monitoring Network #:

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(ADDRESS)			
5.) DEFO CREEK POWÉR	PURNT		
(NAME OF	STATION)		
	Physical / Chemi	cal / and Biolog	ical Data
6.)			
6.) (STATION LATITUDE)	(·)(§	ATION LONGITUDE)	8.)(8.VER MILE INDEX)
9.) Date and time this data		·	ANDRE INCEST
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19.) How many days was the s	empler exposed to	the water prior to	collecting this data? 27
Zebra Mussel Monitoring Coordina	It at this site? ( <u>X</u> ior <u>im</u> mediately.	NO) (	YES) - if yes, comment below and notify the
21.) Other organisms observed	i on the sampler / s	ite? (please list)	NONE
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22 \ Commonte (15			
22.) Comments (if more space i	s needed, continue	on the back of the	nis form):
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GPU Laboratory Randing Airport Building (610) 375-5046



# Zebra Mussel Monitoring Report

(official use only - leave blank) ZM Manitaring Network #:

1) KANDY GARLETTS	· · · · · · · · · · · · · · · · · · ·
(COLLECTOR'S NAME)	A
2) Rames and Or an	
2.) BROOKFIELD POWER	3.) <u>301-387-6616</u>
(COMPANY OR AFFICIATION)	(PHONE NUMBER)
4.) 14 RIVERVIEW TERRACE	PAKLENO, MO
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5.) DEEP CREEK POINER PLANT	
(NAME OF STATION)	
y man an arrangey	
Physical /	/ Chemical / and Biological Data
•	
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9.) Date and time this data was collect	ted (circle year, month, day & hour)
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20.) Are zebra mussals present at this site	2 ( ) NO. ( NO. ( NO. )
Zebra Mussel Monitoring Coordinator immediatel	e? (X NO) (YES) - if yes, comment below and notify the
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21.) Other organisms observed on the san	npler / site? (please list) NANE
	TO THE TAX PROPERTY OF THE PRO
22.) Comments (if more annual	· —
	continue on the back of this form):

GPU Laboratory Reading Airport Building (610) 375-5046



# Zebra Mussel Monitoring Report

(afficial use only - leave blank) ZM Monitoring Network #:

	The state of the s
1.) RANDY GARLETTS	
(COLLECTOR'S NAME)	
2.) BROOKFIELD POWER	3.) 301-387-6616
(COMPANY OR AFFILIATION)	
4.) 14 PILLEDUEL TERRIE	(PHONE NUMBER)
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(ADDRESS)	41
5.) DEEP CREEK POWER PLANT	
(NAME OF STATION)	
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Physical / c	Chemical / and Biological Data
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18.) How far above the natural substrate is	the sampler? /in matern)
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19.) How many days was the sampler expo	sed to the water prior to collecting this data? 27
20.) Are zebra mussels present at this site:	2 / Y NOV / See
Zebra Mussel Monitoring Coordinator Immediately.	(125) - if yes, comment below and notify the
21.) Other organisms observed on the same	pler/site? (please list) A/AAR
<u> </u>	The state of the s
	18.4.
22.) Comments (if more space is needed, co	ontinue on the back of this form):
	Vi ung iving,

OPU Laboratory
Residing Airport Building
(610) 375-5046



## Zebra Mussel Monitoring Report

(official use only - leave blank) ZM Manitaring Network #: 1.) RANDY GARLETTS 2.) BROWKFIELD POWER (COMPANY OR AFFILIATION) 4.) 14 PINEEVIEW TEXERCE, ORKLAND Md. 5.) DEED CREEK POWER PLONT Physical / Chemical / and Biological Data (STATION LAYITUDE)

7.)
(STATION LONGITUDE)

(RIVER MILE INCEX) 9.) Date and time this data was collected (circle year, month, day, & hour) Year: '98 '99 '00 '01 (07) Month: 01 02 03 04 05 06 07 08 09 10 11 12 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Hour: Olo 30m (if before 7am) 07 08 09 10 11 12 (noon) 13 (1pm) 14 (2pm) 15 (3pm) 16 (4pm) 17 18 \_\_\_\_\_ (if after 6pm) 10.) 78° F 11.) 12.) (DISSOLVED OXYGEN mg/l) 14.) (DISSOLVED OXYGEN mg/l) 14.) 15.) (CURRENT VELOCITY METERS/SEC) 10.) 78° F 11.) (PH) 18.) How far above the natural substrate is the sampler? (in meters) 19.) How many days was the sampler exposed to the water prior to collecting this data? \_\_\_\_\_?3 20.) Are zebra mussels present at this site? (XNO) (YES) -if yes, comment below and notify the 22.) Comments (if more space is needed, continue on the back of this form):

GPU Laboratory
Reading Airport Building
(610) 375-5046



## Zebra Mussel Monitoring Report

(official use only - leave blank) ZM Monitoring Network #: Randy Gacletts 2.) BROOKFIELD FOWER 3.) 301-387- WUTV 4.) 14 RIVERVIEW TERRACE, OAKLAND Md 5.) DEFP CLEEK POWER PLANT
(NAME OF STATION) Physical / Chemical / and Biological Data (STATION LATITUDE)

7.)

(STATION LONGITUDE)

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(RIVER MILE INCEX) 9.) Date and time this data was collected (circle year, month, day, & hour) Year: '98 '99 '00 '01 (07) Month: 01 02 03 04 05 06 07 08 09 10 11 12 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 Hour: Qu: 30\* (if before 7am) 07 08 09 10 11 12 (ncon) 13 (1pm) 14 (2pm) 15 (3pm) 16 (4pm) 17 18 \_\_\_\_\_ (if after 6pm) 10.) 75 F 11.) (PH) (TEMPERATURE °C) (pH) (DISSOLVED OXYGEN mg/l) (CONDUCTIVITY Umhos/cm²)

14.) 15.) 16.) 17.)

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