



United States Department of the Interior

FISH AND WILDLIFE SERVICE



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17 October 2016

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
Office of Energy Projects
Division of Hydropower Administration and Compliance
888FirstStreet, NE
Washington, DC 20426

Dear Secretary Bose:

The U.S. Fish and Wildlife Service (Service) provides these comments in response to the letter submitted on 28 September 2016 by Richard W. Goeken of Smith, Currie & Hancock, LLP on behalf of the Shafer and Freeman Lakes Environmental Conservation Corporation (SFLECC).

These comments supplement those contained in our letters of 6 November 2015 and 7 June 2016 addressing the Federal Energy Regulatory Commission's (FERC) Draft Environmental Assessment (Draft EA) and the FERC's public and technical meetings held in Monticello, Indiana in May 2016, respectively.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.) and are consistent with the intent of the National Environmental Policy Act of 1969 and the Endangered Species Act of 1973, as amended. This endangered species information is provided for technical assistance only and does not fulfill FERC's compliance with the provisions of section 7 of the Endangered Species Act.

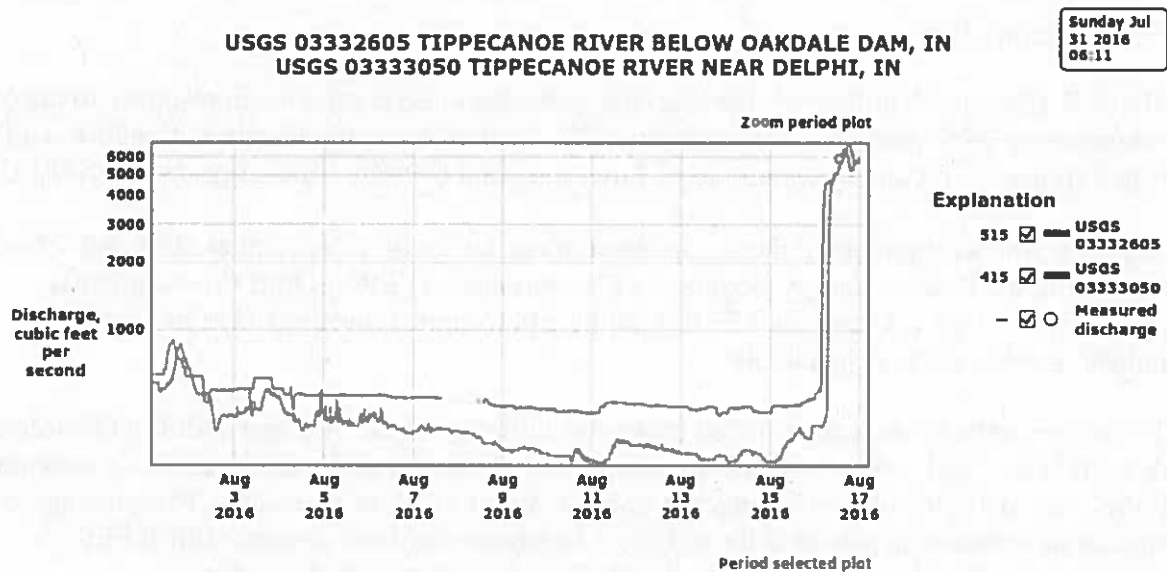
The 28 September 2016 letter offers the FERC a list of reasons why SFLECC declined to participate with the Service and Northern Indiana Public Service Company (NIPSCO) to further validate a science-based mechanism for identifying equitable flow out of Lake Shafer, Norway Dam, Lake Freeman, and Oakdale Dam (Norway-Oakdale System) during low flow events. They present two reasons for their refusal to participate. First, the Service was not amenable to further examining maintenance of lake level as a mechanism for establishing and delivering appropriate flow during low flow periods. Second, SFLECC reviews the August 2016 abnormal low flow

(ALF) event to make the same argument presented previously that "...the application of the TAL in practice is fatally flawed". Unfortunately, rather than working cooperatively to make a science-based determination with respect to linear scaling approach used by the technical assistance letter (TAL), SFLECC, through its attorney, has tried to focus attention back on the status quo maintenance of lake level.

In the 7 June 2016 letter, the Service outlined why the approach favored by SFLECC and detailed in the FERC EA does not mimic natural flow in the Tippecanoe River downstream of the Norway-Oakdale System and has resulted in the take of federally listed mussel species. During the meeting with representatives of SFLECC and NIPSCO in Indianapolis on 12 August 2016, NIPSCO reaffirmed what the USGS gauges have demonstrated. Specifically, it is not feasible for NIPSCO to maintain a static (or near static) lake level and release a comparatively consistent rate of flow downstream of Oakdale Dam. This inconsistency during low flow periods along with the amount of flow are fundamental problems with the approach advocated by SFLECC. In addition, SFLECC did not present a mechanism for evaluating whether or not maintaining lake level has or could mimic natural conditions on the Tippecanoe. Absent even a general description of how an independent review might accomplish this, the Service recommended that the effort focus on evaluating the approach used in the TAL.

SFLECC points out correctly that the USGS Delphi Gauge measured consistently lower flow than the USGS Oakdale Gauge during the August 2016 ALF event (see below).

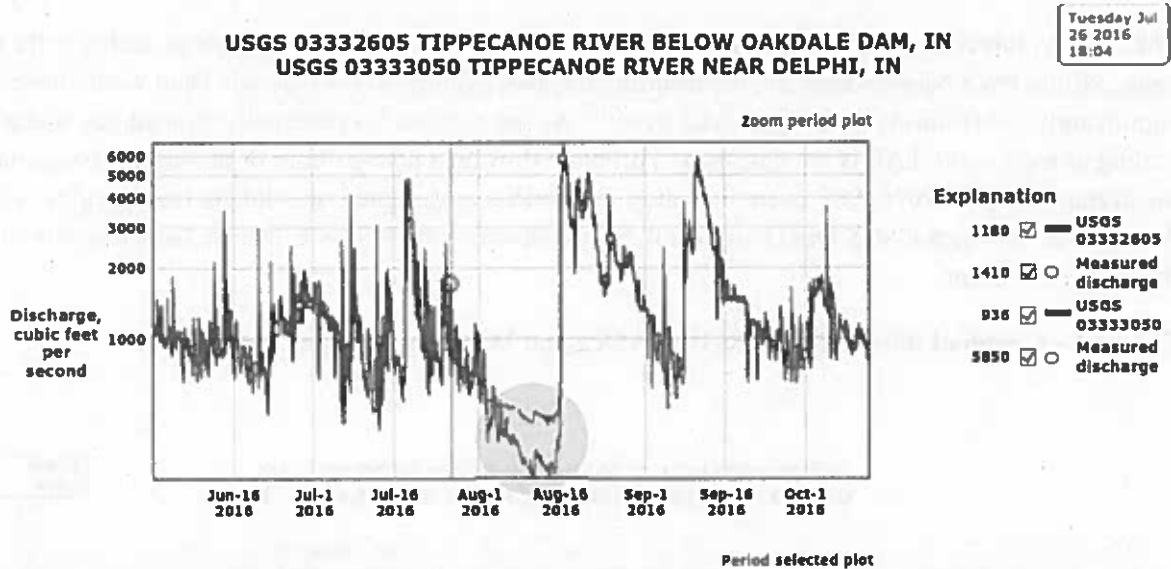
Figure 1 – Graph of flow in cfs at the USGS Oakdale and Delphi Gauges August 2016



Note, however, that the flows match each other extremely well suggesting some loss or withdrawal in the approximately 18 miles between the two gauges. This is not unprecedented, which is why the Service moved compliance from the USGS Delphi Gauge, over which NIPSCO has no direct control, to the USGS Oakdale Gauge early in the implementation of the TAL. It is also why the Service has worked with USGS to install and validate a gauge near the upstream end of the Norway-Oakdale System at Buffalo. The Service strongly disagrees that this invalidates the use of linear scaling in the TAL. Over

longer terms, as is shown in Figure 2, the flow at Oakdale and Delphi are generally consistent with linear scaling (note the anomalous early to mid-August readings).

Figure 2 – Graph of flow in cfs at the USGS Oakdale and Delphi Gauges June to October 2016



SFLECC further makes the argument that: "... at no time during the August 2016 ALF event did the two gauges [USGS Ora and Winamac Gauges] actually scale to one another. In fact, flow at the USGS Ora and Winamac gauges do scale nearly linearly over the period 3 August through 16 August 2016.

Figure 3 – Average of daily mean flows between Ora and Winamac during 2016 ALF event

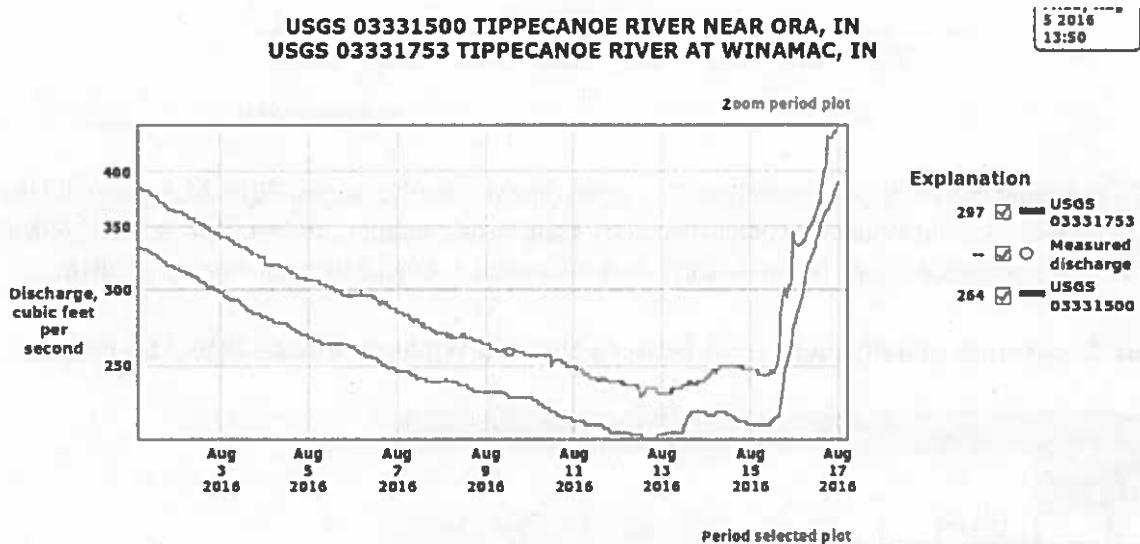
DATE Aug 2016	Ora	WIN	Predicted WIN
3	290	334	
4	276	316	
5	265	302	
6	254	294	
7	244	278	
8	239	268	
9	233	260	
10	225	254	
11	216	244	
12	211	237	
13	218	238	
14	221	248	
15	230	268	
16	340	382	
Sum	3462	3923	
Days	14	14	14
Mean	247	280	272*

* Scaling Factor Ora to Winamac = 942/856 = 1.10

The average daily flow over that period at Ora was 247 cfs. The average flow at Winamac during the same period was 280 cfs. Linear scaling predicts 272 cfs or an average difference of only 8 cfs over the period of interest (Figure 3). Eight cfs is likely within the variance of the gauges.

The Service, therefore, challenges SFLECC’s assertion that: “Had the Winamac gauge scaled to the Ora gauge, as the FWS believes they do, the resulting releases required at the Oakdale Dam would have been significantly lower during the August ALF event”. As the Service has repeatedly pointed out, linear scaling as used in the TAL is not designed to estimate flow on a hour-to-hour or day-to-day basis, but as the average over the 2016 ALF event indicates, it functions as designed over longer time periods. Figure 4 shows the upstream USGS Ora Gauge (red) and the downstream USGS Winamac Gauge (green) during the 2016 ALF event.

Figure 4 – Graph of flow in cfs at the USGS Ora and Winamac Gauges August 2016



Finally, SFLECC repeats the argument that the Service places too much reliance on or misapplies the work of Galster. The Service has responded to these comments in our previous letters. Galster’s work is one part of the foundation underlying the TAL. The scaling of the watershed approximately to one has been documented in various ways and hydrologists, including one of SFLECC’s paid experts, have acknowledged this fact.

SFLECC attributes the impact on the level of Lake Freeman during the August 2016 ALF event to flaws in the TAL, but closer examination points in part to NIPSCO’s management of the Norway-Oakdale System. During the 2016 ALF event, NIPSCO maintained the level of Lake Shafer and in so doing released significantly less water from Norway Dam than linear scaling predicts. Figure 5 shows the discharge in cfs measured at the USGS Norway Gauge and the predicted discharge based on the USGS Winamac Gauge. Both the daily average readings (except for 15 and 16 August) and the average for the

ALF event were below what linear scaling predicts (note that the average excludes the reading for 16 August, which was nearly 7 times what is predicted). While the driving force is scarcity of water in the system, Lake Freeman, deprived of sufficient inflow until the final two days of the ALF event, predictably lost elevation during this period.

Figure 5 – Discharge and linear scaling predicted discharge from Norway during 2016 ALF event

DATE	WIN	Norway	Predicted Norway
Aug 2016			
3	334	491	624
4	316	448	591
5	302	449	565
6	294	421	550
7	278	393	520
8	268	339	501
9	260	364	486
10	254	351	475
11	244	344	456
12	237	361	443
13	238	362	445
14	248	357	464
15	268	690	501
16	382	4,590	714
Sum	3923	5369	6617
Days	13	13	13
Mean	280	413	509

* Scaling Factor Winamac to Norway = 1760/942 = 1.87

In summary, SFLECC has presented no new information to support their exit from the effort to independently assess the Service’s TAL or for continuing to rely upon maintaining lake level as a mechanism for estimating natural flow within the Norway-Oakdale System. The Service recommends that the FERC not to issue a finding of no significant impact (FONSI) for the flawed environmental assessment (EA) and approve NIPSCO’s request for a low flow variance to accommodate implementation of the Service’s TAL.

Sincerely yours,

Scott E. Pruitt

Field Supervisor

THE BOARD OF DIRECTORS OF THE COMPANY HAS REVIEWED THE FINANCIAL STATEMENTS OF THE COMPANY FOR THE YEAR ENDED 31st MARCH 2014 AND IS SATISFIED THAT THE FINANCIAL STATEMENTS GIVE A TRUE AND FAIR VIEW OF THE FINANCIAL POSITION OF THE COMPANY AS AT THE END OF THE YEAR AND OF THE RESULTS OF THE COMPANY'S OPERATIONS FOR THE YEAR.

THE FINANCIAL STATEMENTS HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE COMPANIES ACT, 2013 AND THE COMPANIES (ACCOUNTS) REGULATIONS, 2014.

PARTICULARS		AMOUNT
ASSETS		
Fixed Assets		
Property, Plant and Equipment		
Intangible Assets		
Financial Assets		
Current Assets		
Trade Receivables		
Trade Payables		
Other Receivables		
Other Payables		
Current Tax Assets		
Current Tax Liabilities		
Other Current Assets		
Other Current Liabilities		
Equity		
Share Capital		
Reserves and Surplus		
Retained Earnings		
Minority Interest		
LIABILITIES		
Long Term Debt		
Short Term Debt		
Other Liabilities		

THE FINANCIAL STATEMENTS HAVE BEEN PREPARED ON THE CONTINUING BASIS OF THE COMPANY'S OPERATIONS. THE COMPANY HAS ADEQUATE RESOURCES TO MEET ITS FINANCIAL OBLIGATIONS AS AND WHEN THEY FALL DUE.



Director

Date