

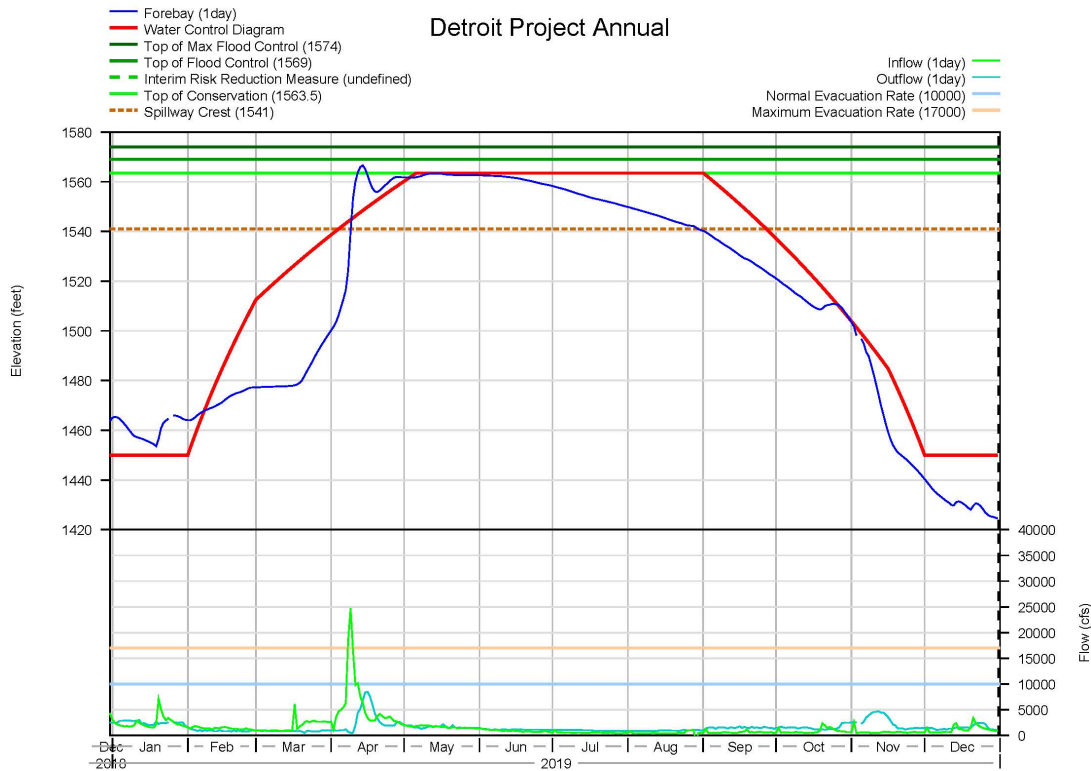
MEMORANDUM FOR THE RECORD

TITLE – 19DET01 MFR Rehabilitation of Spillway Gates

PROJECT – Detroit Dam

RESPONSE DATE – 14 January 2020

Description of the problem: As of 2nd December 2019, Detroit Reservoir was 12 ft below minimum conservation pool (1450 ft). As of 31 December, the reservoir was at 1,424.5 feet. This is due to a drawdown of the Detroit pool enacted from November 6 through the end of the month. The drawdown is to facilitate spillway gate repair work at Detroit, which started on November 1st and is expected to continue into February of next year. For the duration of the repair work, three of the six spillway gates will be inoperable, thus reducing Detroit’s flood management capacities. There is approval to draw Detroit pool down to minimum power pool (1425 ft) if required in order to have adequate flood storage space available for December through February. Higher flows during drawdown will elevate total dissolved gas levels (TDG) levels. Further, when Detroit Reservoir decreases to the point where power can no longer be generated flow will be spill through a regulating outlet elevating TDG down river.



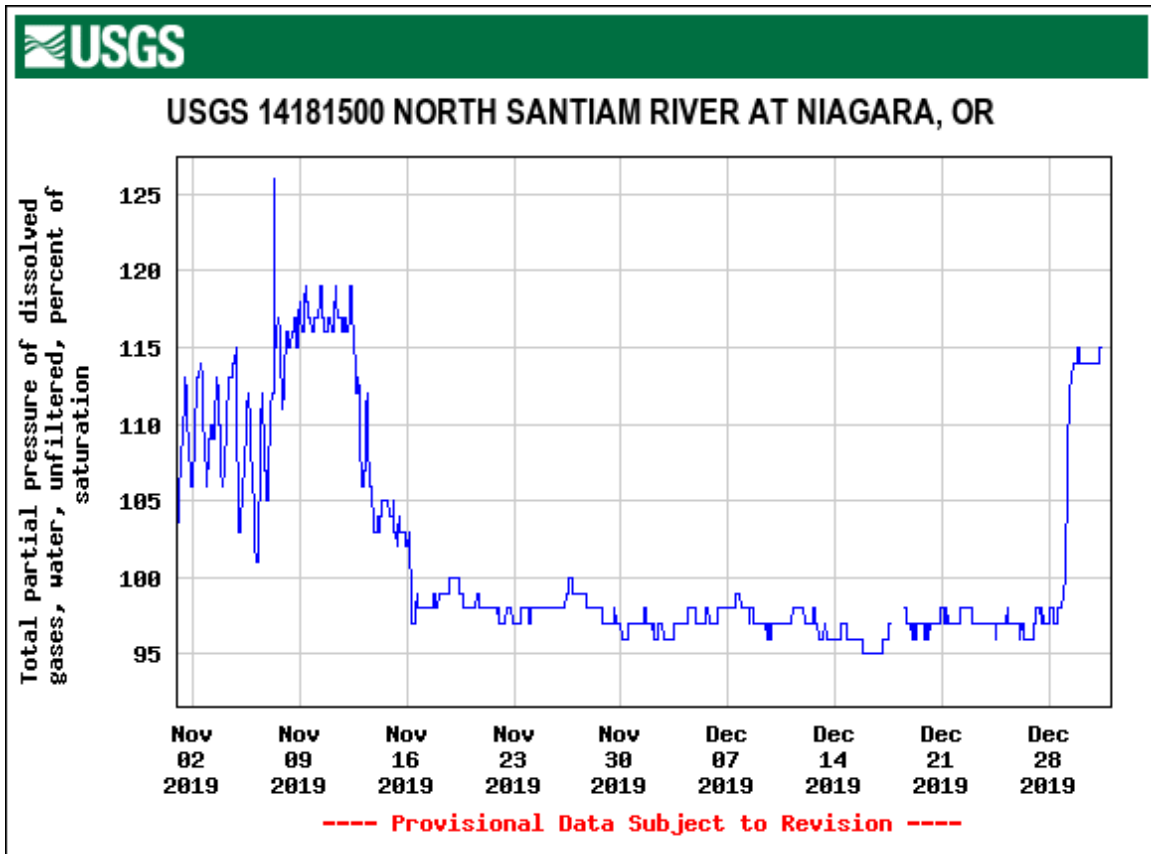
Type of outage required: Three of the six spillway gates at Detroit Dam will be inoperable. Both units at Detroit Dam will be offline when power can no longer be generated.

Impact on facility operation: Reduced flood management capacity, impacts to power generation.

Dates of impacts/repairs: November 1st through mid-February, 2020.

Length of time for repairs: 3-4 months

Impacts to fish: Higher flows during drawdown will elevate TDG levels. When Detroit Reservoir decreases to the point where power can no longer be generated flow will be spill through a regulating outlet elevating TDG down river. Elevated TDG can have negative impacts to fish in the system, especially to spring Chinook fry. Observed TDG levels were as high as 125%.



Comments from agencies

-----Original Message-----

From: Hart, Salina N CIV USARMY CENWP (USA)

[mailto:Salina.N.Hart@usace.army.mil]

Sent: Tuesday, December 31, 2019 2:01 PM

To: Spear, Daniel J (BPA) - PGB-5; Walker, Christopher E CIV USARMY USACE (US)
Cc: PETERSEN, Erik S CIV USARMY CENWP (US); Chane, Ian B CIV USARMY CENWP (USA); Mackey, Tammy M CIV USARMY CENWP (USA); Scullion, Mary K CIV USARMY CENWP (US); Eppard, Matthew B CIV CENWP CENWD (USA); Sweet, Jason C (BPA) - PGB-5; Askelson, Sean K CIV USARMY CENWP (USA)
Subject: [EXTERNAL] RE: Detroit Power Generation During Spill Gate Repair

Dan,

Sincerely apologize, with the holidays, communication has been less than ideal. You are correct, regarding the expectation to maintain generation during the construction. Being at 1425 ft provided the Corps the ability to manage flood risks during the spillway gate work. This winter has been less volatile and we haven't seen the inflows we typically see this time of year. With that, we discussed internally and with our Division counterparts that we needed a larger band to allow for lower inflows to minimize drafting below 1425 ft. We have an operational agreement (deviation) to manage between 1435 ft and 1425 ft with the intent to draft the reservoir to 1425 ft prior to any events. The last event a week or so ago receded pretty fast and inflows to Detroit reduced to below minimum BiOp outflows soon after. The forecast was, and still is, showing that with the current storm, we will have decent inflows to get us back up and able to generate again by tomorrow afternoon. With this currently being the later end of the incubation period and inflows going to picked back up, we didn't drop outflows so that we wouldn't dewater the gravel downstream. We are still in the period at which we need to keep the reservoir closer to 1425 ft (1435 ft to 1425 ft), but that is expected to be completed on 6 January. We will then be able to refill back to 1450 ft (minimum conservation pool) and refill in February as usual. We will update the MFR to capture all of this information. Please let me know if you need any additional information at this time.

Thank you once again and Happy New Year!

Salina N. Hart, P.E.
Chief, Reservoir Regulation & Water Quality Section
Portland District
503.808.4887 Office
503.819.4189 Mobile

salina.n.hart@usace.army.mil

-----Original Message-----

From: Spear, Daniel J (BPA) - PGB-5 [mailto:djspear@bpa.gov]
Sent: Tuesday, December 31, 2019 12:30 PM
To: Walker, Christopher E CIV USARMY USACE (US)
<Christopher.E.Walker@usace.army.mil>
Cc: PETERSEN, Erik S CIV USARMY CENWP (US)
<Erik.S.Petersen@usace.army.mil>; Chane, Ian B CIV USARMY CENWP (USA)
<Ian.B.Chane@usace.army.mil>; Mackey, Tammy M CIV USARMY CENWP (USA)
<Tammy.M.Mackey@usace.army.mil>; Hart, Salina N CIV USARMY CENWP (USA)
<Salina.N.Hart@usace.army.mil>; Scullion, Mary K CIV USARMY CENWP (US)
<Mary.K.Scullion@usace.army.mil>; Eppard, Matthew B CIV CENWP CENWD

(USA) <Matthew.B.Eppard@usace.army.mil>; Sweet, Jason C (BPA) - PGB-5
<jcsweet@bpa.gov>
Subject: [Non-DoD Source] Detroit Power Generation During Spill Gate
Repair
Importance: High

Hello:

It was BPA's expectation based on communication with the Corps' that the reservoir would be maintained at 1425' during power the special repair operation for the spill gate and that generation would continue. It appears that both Detroit units are out of service as of today. In addition, the MFR that the Corps distributed seems to indicate that having the reservoir fall beneath an elevation that would allow for power generation was an anticipated outcome of this operation.

Could the Corps please clarify what the expected corresponding reservoir and power generation operations are for the special spill gate repair.

I appreciate that it may difficult to track this down during a holiday week.

Thanks for taking the time to look into this.

Dan Spear

-----Original Message-----

From: McClure, Alexander Miles (Lex) CIV USARMY CENWP (US)
Sent: Saturday, December 28, 2019 5:48 AM
To: DLL-CENWP WVP Outage <DLL-CENWPWVPOutage@usace.army.mil>
Subject: DET U1 and U2 OOS (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

DET units 1 and 2 both declared OOS due to lack of head this morning at 0535. RTS is dependent on increased inflows and can't be estimated at this time.

Thanks,

Lex McClure
Power Plant Operator
Detroit and Big Cliff Dams
Desk Phone: (503)-897-3424 ext 10
Operator Cell: (503)-302-6654

Final Results

Refill resumed and are now at elevation 1,474 feet in Detroit Reservoir as of 07 February 2020.

Please email or call with questions or concerns.
Thank you,

Chris Walker
NWP Operations Division Fishery Section
503.808.4316
Christopher.E.Walker@usace.army.mil