

Fish Passage Plan (FPP) Change Form

Change Form # & Title: 24LGS002 – LGS Cooling Pump
Date Submitted: 12/15/2023
Project: Little Goose Dam
Requester Name, Agency: Trevor Conder, NOAA Fisheries
Final Action: **WITHDRAWN 1-FEB-2024**

FPP SECTION: Chapter 8 (LGS), section 2.4.2 – Adult Facilities, Fish Passage Season

JUSTIFICATION FOR CHANGE: This is a temporary FPP change form to extend the service life of the adult fish ladder cooling pumps at Little Goose Dam (LGS) in 2024. The submersible adult ladder cooling pumps at LGS have failed and repairs are underway. While there is an intent to redesign a more reliable pump system with upgraded pumps, the existing pumps will need to be refurbished and used for ladder cooling in the summer of 2024. The current FPP criteria turns the pumps on when the .5-meter forebay temperature string exceeds 64°F for at any time. This conservative criterion was developed without consideration for a very limited lifespan probability. We are requesting a temporary FPP criteria change in 2024 to ensure the current pumps remain serviceable and provide ladder cooling throughout the high-water temperature period. Once new upgraded pumps are designed and installed, NMFS would plan to return to the existing criteria.

PROPOSED CHANGE: *Edits to existing FPP text in “track changes”.*

2.4.2.14. Adult Ladder Exit Pool Cooling Pump. Operate the forebay exit pool cooling pump that sprays upstream of the fish ladder exit to enhance conditions for adult fish exiting the ladder and to supplement cooler water throughout the ladder. The water supply for the manifold at the exit pool originates from an added forebay pump with intake at elevation 543’ in the forebay, which is 90’ below minimum operating pool elevation 633’.

- i. Begin operation of exit pool cooling pump after June 1 and no later than the day after the Little Goose forebay temperature string at 0.5 meters exceeds 68⁴F (20¹⁸°C) at any time. *This temperature criterion was modified for 2024 operations to extend the service life of ladder cooling pumps at Little Goose. Once new upgraded pumps are designed and installed, the previous temperature criterion of 64°F (18°C) will go back into effect.*
- ii. Continue this operation until September 1 and until the Little Goose forebay temperature string at 0.5 m is below 68°F (20°C) for 3 consecutive days. Restart pumps if the temperature at 0.5 m reaches 68°F (20°C) at any time and follow above criteria on when to discontinue pump operation.
- iii. The pump may be turned on or off at the Project Biologist’s discretion if adult passage delays are observed either in the forebay or within the ladder, and operation of the pump is believed to influence the adult passage issue.

COMMENTS:

30-JAN-2024, Dave Swank, USFWS, via email:

If the Corps purchases and installs a new pump, do these criteria still kick in? I suggest we clearly define what "upgraded" means. Also, I think I would vote for 66 or 67 F as the new threshold to turn them on. I understand and agree with the desire to limit the pump's run time given how many failures we've had, but that needs to be balanced against using it when we need it. Not a deal breaker for me, just a suggestion to consider.

1-FEB-2024, Trevor Conder, NOAA:

The intent of this change was to extend the life of the pumps. However, the Corps has recently confirmed they believe the run time of the pump does not affect the risk of failure, so changing the on off criteria would not increase pump longevity. It's the submersion of the pump that is causing the problems, which will hopefully be corrected with the improved upgraded pumps. So this change to the temperature criteria to reduce run time isn't needed. So this change form is withdrawn.

RECORD OF FINAL ACTION: Withdrawn at the FPOM FPP meeting 1-FEB-2024