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We thank the discusser for his comments on the original paper. The following responses address the issues raised by the discusser:

- Thermal stratification in Amirkabir reservoir has different intensities during different seasons. Fig. 6 from Bozorg-Haddad et al. (2015) depicted this phenomenon. The original paper simulated reservoir conditions under normal conditions (i.e., not considering the effect of extreme hydrologic events).
- In Eq. (7) of the subject paper, m_1 and m_2 denote the masses of released water from the first and second outlets, respectively. Thermal equalization occurs when the energy advected by releases from the outlets are equal to each other. The following equations describe this concept:

$$E_{Outlet\,1} = E_{Outlet\,2} \tag{1}$$

$$E_{Outlet\,i} = m_i c \Delta T \quad i = 1, 2 \tag{2}$$

$$m_1 c(\bar{T} - T_1) = m_2 c(T_2 - \bar{T}) \rightarrow \bar{T} = \frac{m_1 T_1 + m_2 T_2}{m_1 + m_2} \tag{3}$$

in which $\bar{T}$ = average temperature of the released water (°C); T = temperature of water from each layer (°C); c = specific heat capacity (J/g °C); m = mass of released water from each layer (g); and E_{Outlet} = advected thermal energy from each layer (J).

- Eq. (6) in the original paper simulates water quality along the longitudinal and vertical axes.
- The original paper applied the nondominated sorting genetic algorithm (NSGA-II) to determine the best Pareto-front of solutions. Several runs may lead to a set of solutions with high probability of being near global solutions; yet, there is no guarantee to achieve appropriate spread on the Pareto-front points. The original paper presented Pareto-front derived from merged points generated by at least 10 runs.

References

Bozorg-Haddad, O., Ashofteh, P.-S., Ali-Hamzeh, M., and Mariño, M. A. (2015). "Investigation of reservoir qualitative behavior resulting from sudden entry of biological pollutant." *J. Irrig. Drain. Eng.*, 10.1061/(ASCE)IR.1943-4774.0000865, 04015003.