

Drink. Water Eng. Sci. Discuss., referee comment RC2
<https://doi.org/10.5194/dwes-2020-37-RC2>, 2021
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Comment on dwes-2020-37

Anonymous Referee #2

Referee comment on "The evaluation of hydraulic reliability indices in water distribution networks under pipe failure conditions" by Alireza Moghaddam et al., Drink. Water Eng. Sci. Discuss., <https://doi.org/10.5194/dwes-2020-37-RC2>, 2021

Review of Paper dwes 2020-37

In this paper, reliability indicators of water distribution networks are evaluated under pipe failure conditions. The case studies include two benchmark and one real-life water distribution networks in Iran with more hydraulic constraints. Some important reliability indicators are reported and GANetXL is used for one-objective and two-objective optimization. Manuscript covers an important and critical issue, well organized, and also evaluating Reliability Indicators in Pipe Failure Conditions is one of the strengths of this paper, but there are some comments in my view:

- To summarize the manuscript in the case of benchmark networks, the picture, characteristics of nodes and pipes of these networks can be removed and refer to previously published papers.
- Use similar studies of the last three years.
- How Pareto fronts have been interpreted in terms of two objective optimization cost-reliability criteria.
- How Optimum GA and NSGA-II values were calculated in table 1?
- In diagrams of "Surplus pressure of nodes in the networks for solutions of maximum reliability criteria under failure of pipes", only diagrams related to the most critical pipe can be inserted in the main manuscript and the rest of the charts can be moved to supplementary data.
- Some sentences in the manuscript need to be referenced, for example on page 1 line 35 of the following sentence
- Optimal WDN design is a computationally complex problem because.....
- Please add some relevant citations in your manuscript such as:
 - <https://doi.org/10.1016/j.gsf.2021.101276>
 - <https://doi.org/10.1016/j.jwpe.2020.101342>
 - <https://doi.org/10.1186/s13568-019-0882-6>

Please also note the supplement to this comment:

<https://dwes.copernicus.org/preprints/dwes-2020-37/dwes-2020-37-RC2-supplement.pdf>