

Interactive comment on “All-in-one model for designing optimal water distribution pipe networks” by Dagnachew Aklog and Yoshihiko Hosoi

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Dear reviewer, once again, the authors would like to thank you for the constructive comments.

We fully accept your comment that before the model is made available for practical use, we should develop a guideline on how to make best use of the tools and warn the users about possibility of getting erroneous solutions.

The authors share the concern of the reviewer about using GA without having much knowledge about how they work since one may arrive at quite erroneous solutions if the parameters are not adjusted. Unlike the GA, the OBORM doesn't give such erroneous

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solutions since it has much less number of parameters and works pretty well with the default values of the parameters. Therefore, users will be advised to use the OBORM first and then run the GA several times while adjusting its parameters until they find solutions that are better than those obtained by the OBORM. This point and all the three remarks forwarded by the reviewer will be included in the guideline.

Regarding the final comment, adding a simple function in the tool to inform the convergence of the GA optimization process, at present there is an output text file that shows how the GA converged from generation to generation but the file can only be checked when execution is over. We gladly accept the comment and will add a function so that the user can check the convergence progress while the GA is still running.

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