

Interactive comment on “The effect of a loss of model structural detail due to network skeletonization on contamination warning system design: case studies” by Michael J. Davis and Robert Janke

Anonymous Referee #2

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The study is based on an integrated approach of contamination warning system (CWS) for water distribution system (WDS) for an incomplete network. It utilizes the TEVA-SPOT of EPA software for designing the CWS on the sensor placement. The CWS designs were developed by optimizing the sensor placement (5, 10, and 20 sensors) for worst-case and mean-case contamination events. The study reveals that further improvement in CWS designs network models to consider complete network or influence of uncertainty. However, a complete designs network was useful for CWS for water distribution system. The study is very useful for practicing water managers and

C1

academia. The utility of article will be increased if the authors would add/clarify some of the points in their manuscript. Authors have presented it as a case study but they only refer to Network N1 and N3 from Davis and Janke (2014). It would be better for any reader to follow the article if the authors provide/reproduce the details of the said network. The section 2 (Methods) forms the basis of any study and the authors have based their study on earlier reference work. The authors should explain their methodology and they may like to add more details about it as supplementary material. There is no mention of the improvement in the design network of CWS at what level (of performance level indicators). The performance should also factor in the hydraulic aspects of network. As mentioned in the results and conclusion that more network are needed for arriving at broader conclusion. The effect of number of sensors in different networks also needs more investigation. The present study will add to the understanding of the subject provided the authors add more details to their manuscript.

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C2