

Appendix C

Existing methods for uncertainty analysis in WWT model-based projects – Complete literature search results

C.1 INTRODUCTION

Several literature searches were conducted to identify potential references for review. One of the authors conducted a search using ISI/Web of Knowledge (Science) in 2008 using various keywords related to wastewater treatment and uncertainty. In 2009 and 2010 the services of a research librarian were used to conduct additional literature searches. The searches of the research librarian included the data bases Compendex, Scopus, and Pollution Abstracts and Toxicology Abstracts 1998 to the present. These searches used key words and topics related to uncertainty in wastewater treatment (wastewater, treatment, uncertainty, evaluation, assessment, modelling, probabilistic, stochastic, sensitivity analysis) and also included searches using author and researcher names known to be working in the area.

The literature searches resulted in an initial list of over 500 references. Abstracts of the references in the initial list were reviewed and 386 references were determined to be directly relevant to the purpose of this chapter. The number of references in the short list fluctuated, with additions made during the detailed review process. An updated literature review for 2011–2019 has been added at the end of the chapter.

While the list cannot be considered comprehensive or complete, it does represent a credible search of the literature and provides the current status of literature activity regarding the subject. The categorization that follows is based on the judgement of the authors and hence is not unique. For example, there are some references assigned to one category that address several other categories. Similarly, some reference studies maybe listed in a category which are not perfectly explained by the concise category titles itself. However, the present choice of categories serves as a framework to synthesize the considerable breadth of the topic and size of the literature search results into discrete and discussable topics.

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C.4 PROPAGATION OF UNCERTAINTY FOR MODEL-BASED DECISIONS

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C.5 UNCERTAINTY IN WASTEWATER TREATMENT PLANT OPERATIONAL CONTROL DATA AND METHODS OF ADDRESSING IN ONLINE CONTROL

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C.6 UNCERTAINTY IN THE FATE OF POLLUTANTS IN THE ENVIRONMENT AND RESULTING IN REGULATORY (WWTP EFFLUENT STANDARDS) ISSUES

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