Minutes

Peer-to-peer workshop between RWS and LSBG/TUHH

Date: 27 and 28 June 2018
Location: Rotterdam, The Netherlands
Contact details:
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Attendees:
Michael Schaper Agency for Roads, Bridges and Waters, Germany
Jan Schmidt Agency for Roads, Bridges and Waters, Germany
Phillip Jordan Hamburg University of Technology, Germany
\Marco Weijland Regional Water Authority Schieland and the Krimpenerwaard, HHSK, The Netherlands
Arnoud van der Kraan Regional Water Authority Schieland and the Krimpenerwaard, HHSK, The Netherlands
Bart Vonk Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Karl Hamelink Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Ina Konterman Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Alexander Bakker Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Gerard van Dijk Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Remco Schrijver Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Liesbeth van Riet Paap Ministery of Infrastructure and Water, Rijkswaterstaat, The Netherlands
Berry Gersonius IHE Delft, The Netherlands

A. Which knowledge questions did you discuss in the workshop?

1. How do you manage (exchange) tacit knowledge within your organisation?
2. Which static (half-yearly or yearly updated) and dynamic (frequently updated) data on objects do you include in your maintenance register? How do you make this data available for the organisation through a geo-referenced database, and keep it up-to-date?
3. How do you collect and integrate information on asset performance and maintenance into a maintenance system?
4.
5. TUHH is interested in the method behind the determination of the error probability.
6. Could Rijkswaterstaat further describe their failure tree (how it works and the background) and could we see a picture of it?

B. What insights did you get?

Knowledge question 1:

- Awareness about knowledge management in NL is growing in light of the Duty to Care. The knowledge strategy for RWS distinguishes between knowledge, skills and experience.
- Efficient learning strategies being used by RWS include: WIKIs, learning on the job, serious gaming, and peer reviews.
- LSBG started and stopped with the development of a WIKI as a platform for storing knowledge / information and making it transferable. LSBG is looking for a system to maintain a common, good level of information.
- Learning points are:
    - If you want to implement or change something (e.g. build a WIKI), you have to start small and expand it.
    - You need (part of) the organisation behind it in order to maintain it. Therefore, it is important to wait for the moment of influence, when you can get the organisation behind it.

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- When enclosing information, think from user perspective: who is looking for what kind of information. See example of: https://www.zeeweringenwiki.nl

Knowledge question 2:

- Example is the maintenance register of RWS and HHSK. This contains one file per asset. The question is: How to structure such a file?
- Key questions in this regard are:
  - Which information is crucial and should not get lost? And which information can you easily retrieve in 1 or 2 years?
  - What knowledge do you need to be responsible, and what knowledge can be outsourced? That is: make explicit what knowledge you need to have yourself from your own responsibility (to care).
- RWS uses Digispection and Digigids 2016. Digispection includes information (including photographs) on the condition of dikes and their connections with hydraulic structures. See: http://digigids.hetwaterschapshuis.nl/

Knowledge question 3:

- RWS and LSBG are dealing with similar knowledge questions.
- RWS uses Minimo.
- HHSK uses Relatics. This is a document management system with a workflow customised to the user needs. HHSK use Relatics to monitor work and for risk management.

Knowledge question 4 & 5:

- Knowledge questions have been addressed in presentation by Alexander Bakker (sent to all by Remco Schrijver)

C. What will you do with these insights in practice?

- LSBG has already started with 2 pilot projects (incl. dike inspection system) and will use the insights obtained in these projects.
- LSBG will include photographs in their inspection checklists, following the example of Digispection and Digigids 2016.

D. Was anything missed that still deserves attention?

Remaining knowledge question by LSBG:

6. The documentation of technical objects to demonstrate compliance with national and EU regulation and guidelines.

Remaining knowledge questions by RWS:

7. Do you have a maintenance guideline and do you comply them?
8. Are the responsibilities concerning maintenance clearly defined and does the appropriated persons know they have the responsibilities?
9. Do you have a permanent improvement process and if yes, how is this implemented?

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10. How do you deal with flood protection systems who are activated just twice a year in terms of maintenance and operation?

Remaining knowledge questions by HHSK:

11. What experience do LSBG/TUHH have on how to maintain and test the reliability of flexible flood defence structures? What are the costs of building and maintaining these systems?

E. How will you follow-up on the peer-to-peer workshop?

Knowledge question 2:

- HHSK will share (the template for) their maintenance register for pumping station and dikes with LSBG/TUHH and RWS.
- LSBG, with support of TUHH, will further develop their maintenance register and send it for peer review to HHSK and RWS before December 2018.

Knowledge questions 4 & 5:

- Alexander will share RWS (rough) guideline for general fault tree with LSBG/TUHH by end of this week
- Alexander (with colleague) will visit LSBG/TUHH in Augustus to do peer review / inspection of a hydraulic structure
- LSBG/TUHH will work on the failure tree for this hydraulic structure and ask Alexander to review the fault tree before 24 September
- LSBG/TUHH will present the fault tree and peer review outcome in the Hamar meeting (24-26 September) and explore interest among other AOs for peer review workshop of guidelines for fault tree (coinciding with Ghent meeting).

Knowledge question 6:

- Organise a peer-to-peer workshop with the EA on this knowledge question.

Knowledge questions 7-10:

- The learning questions of RWS will be discussed at a peer-to-peer workshop in Hamburg in December 2018. Two topics have been prioritised: (1) failure curves and (2) implicit (risk-based) thoughts behind inspection and maintenance approach / checklists.
- In addition, we will connect these knowledge questions to deterioration curves: How do you verify theoretical models for asset ageing / deterioration with historical data? And how do you programme maintenance measures if you know that theoretical deterioration curves are not correct? If you are able to verify theoretical model with measurement data, then you are getting more value for money.

Knowledge question 11:

- LSBG will present their experiences with complex, flexible structures: What can go wrong, and which redundant measures do they take?

F. How have you experienced the peer-to-peer interaction?

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- Points of improvement are:
    - Discuss fewer questions, and go deeper into discussion
    - A facilitator of the workshop should stop the discussion on time
    - A (virtual) parking lot helps to keep the discussion going