



Asset performance tools – asset inspection guidance

Project Summary SC110008/S2

The asset inspection process presented in this guidance is part of an overall cycle of risk and performance based asset management being developed by the Environment Agency under the Asset Performance Tools (APT) programme. This programme is translating previous studies into practical guidance that can be taken up and used by all flood and coastal risk management authorities. The new guidance incorporates the findings of a review of current best practice and offers recommendations for improvement.

The tiered framework provides tested methods to integrate key activities in the assessment cycle, directing the user to the appropriate level of activity according to the level of risk. Advancement up the three tiers is made in response to increasing levels of assessed risk.

This research shows that inspections can be targeted to need and interventions and can be timed relative to the risk of expensive and often distressing asset failure, rather than dictated by routine alone. Inspections are driven by a considered balance of investment and flood risk, offering the greatest impact on risk reduction at least cost.

Each flood risk management asset should have a target condition set for it taking into account risks and consequences. Application of the asset inspection process can ensure efficient management of assets through proactive planning and application of a risk-based approach rather than relying on a reaction to a failing asset, or simply on one falling below its target condition.

The guidance recommends the triggers for moving from routine visual inspections (tier 1) to more advanced inspections at an intermediate (tier 2) or higher (tier 3) level. It also describes the need to integrate 'asset inspection' with assessments carried out into 'performance and risk' and 'planning and investment decision making', with an efficient flow of information between all inspections and assessments as intended by the Asset Performance Tools programme.

The structure of the guidance document is in line with the grouping of asset types in the Environment Agency's Asset Information Management System (AIMS), that is:

- channel and culverts
- linear defences
- coastal defences
- beach structures
- structures and point assets

The main body of the report outlines the process, with more detailed guidance provided in appendices.

The guidance begins with generic advice applicable to all asset types before individual chapters deal with particular issues to consider for each asset group. These chapters set out the asset types covered within the group, why inspections are necessary and the key elements of tier 1, tier 2 and tier 3 inspections for the particular asset group.

The appendices cover topics such as:

- the relationship between condition and performance and why their monitoring is vital
- the risk-based approach to frequency of inspection
- how to inspect for engineering integrity
- different types of tier 2 inspections
- different types of tier 3 inspections
- health, safety and environmental considerations

To establish relative priorities and confidence in the asset management process, consistent reporting and decision making is essential. It is also important to be able to demonstrate how decisions have been made for auditing reasons. Embedded in the guidance document is a prototype tool in the form of a Microsoft Excel spreadsheet. This tool is intended to serve as a baseline model for developing a consistent interface between 'inspection activities' and 'performance and risk activities'. The basis of the tool is a standardised series of picklists designed to bring consistency and direction to actions following tier 1 inspections.

This new guidance will help the Environment Agency and other flood risk management authorities to improve the effectiveness of their inspection methods for flood and coastal risk management assets.

This summary relates to information from project SC110008, reported in detail in the following output(s):

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