

Technical Support in Comprehensive Dam Inspection

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1. Introduction

The number of dams that have been standing for many years since the start of management is increasing rapidly in Japan. For the dams under control of the Ministry of Land, Infrastructure and Transport (MLIT), they have been managed appropriately for maintenance of the required functions, including daily inspection by dam managers and periodic inspection by experts, etc. in principle for every three years. In addition to these, from a viewpoint of ensuring maintenance of the safety and functions of dams for longer time, the Comprehensive Dam Inspection¹⁾, which is required to be implemented at the interval of about 30 years, was institutionalized.

2. Technical support by the National Institute for Land and Infrastructure Management (NILIM) and Public Works Research Institute (PWRI) for Comprehensive Dam Inspection

In the Comprehensive Dam Inspection, all the dam components, including civil engineering structures, machines and equipment, telecommunication equipment, and other dam facilities are covered and their soundness is surveyed and evaluated, and results are organized and documented comprehensively as "maintenance policy." The content of this maintenance policy is reflected in subsequent daily management, periodic inspections, etc. Figure below shows the basic flow of Comprehensive Dam Inspection.

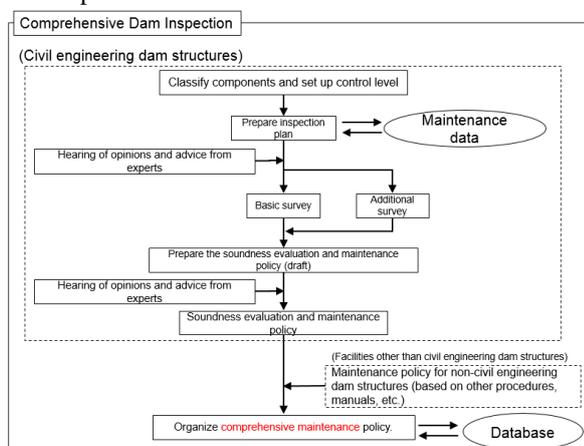


Figure. Basic Flow of Comprehensive Dam Inspection¹⁾



Photo. A Scene of Comprehensive Dam Inspection (On-site check by experts)

There are about 70 dams in Japan that have been operating more than 30 years since the start of management by the MLIT and the Japan Water Agency (JWA), and they have been undergoing the Comprehensive Dam Inspection in turn since October 2013. As shown in Figure, "experts" give comments / advice when "preparing inspection plan" and "preparing the soundness and maintenance policy (draft)" for civil engineering dam structures. The personnel of NILIM and PWRI responsible for dam structures and dam geology have been providing technical support in the position of "experts" to ensure effective implementation of Comprehensive Dam Inspection. The number of dams involved until the current fiscal year amounts to 46, including 5 dams under control of local governments.

3. Conclusion

Under the Comprehensive Dam Inspection, overall inspection of dams under control is scheduled for next year and thereafter. In order to ensure the implementation of PDCA cycle for dam facility management including Comprehensive Dam Inspection, the NILIM plans to continue to provide technical support for dam sites in collaboration with the PWRI.

[Reference]

- 1) River Environment Division, Water and Disaster Management Bureau, MLIT: "Comprehensive Dam Inspection Procedure / Commentary", October 2013 http://www.mlit.go.jp/river/shishin_guideline/dam/pdf/03.pdf