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INFORMATION SYSTEM INTEGRATION ON RADIOACTIVE WASTE MANAGEMENT IN INDONESIA

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Different radioactive waste data in Indonesia are currently managed by different information systems (IS). The different IS has led to data islands, inaccurate radioactive waste data, and ineffective radioactive waste management. A literature study on information system integration in radioactive waste management in Indonesia has been conducted by qualitative approaches. The main goals are to provide information and challenges on the existing radioactive waste IS in Indonesia, provide solutions to integrate radioactive waste IS, and arrange the integration plan from the government institution's perspective. The study identifies that: some radioactive waste ISs have data duplication, while others have unidentified data or data gaps; IS integration has been in the national strategy and policy plan, however the stage is still premature. The IS integration includes five level choices are classified, i.e., system specification, system-user, islands of technology, organization, and socio-organizational. In conclusion, some challenges identified are bureaucracy capacity, limited resources, technical problems, and different processes owner and data types. The study suggests that the suitable IS integration type is the island of data integration. Organizational integration was not chosen as it might compromise the specialization of each stakeholder. Steps that need to be taken by stakeholders are also proposed to develop the integrated radioactive waste IS architecture in Indonesia.

Keywords: radioactive waste, information system, integration, national strategy, and policy