

CURRENT STATUS ON OCCUPATIONAL DOSE MANAGEMENT IN MALAYSIAN NUCLEAR AGENCY

Muhd Sarowi S¹, Hamdan S N², Tze Loong R Y¹, Abd. Kadir A B¹, Samsudin N², Abd Ghani N F², Aslan M D A², Hasan M H² and Konsoh J¹



KEMENTERIAN SAINS,
TEKNOLOGI DAN INOVASI
MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION



¹Radiation Safety & Health Division,

²Information Technology Centre

Malaysian Nuclear Agency,

43000 Kajang, Selangor, Malaysia. Email: suzie@nm.gov.my

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Abstract

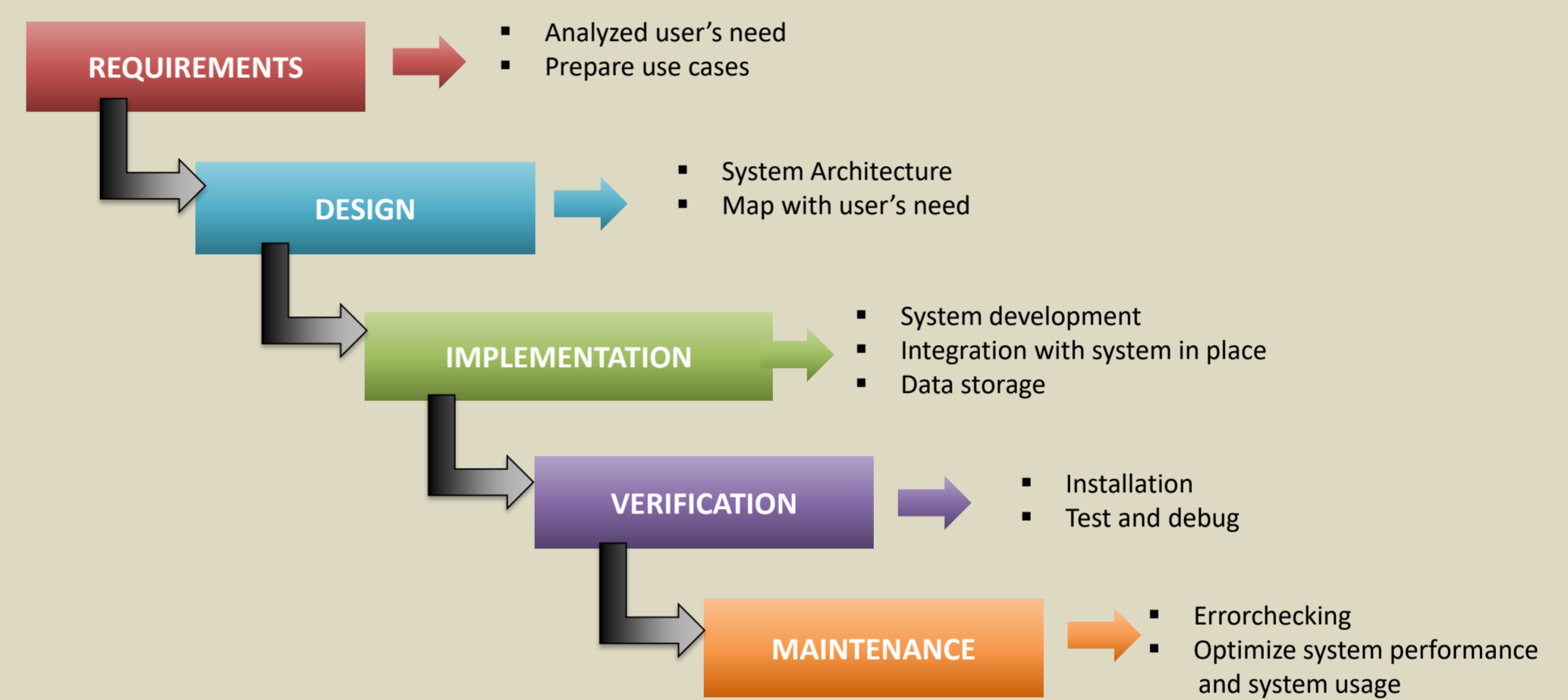
Malaysian Nuclear Agency has approximately 400 radiation workers. The Health Physics Group (KFK) of the Radiation Safety Division is assigned and responsible in managing radiation workers' exposure records. Previously, these occupational dose was recorded manually to the individual dose exposure record namely LPTA/A/BM 5 Seksyen B monthly. This LPTA/A/BM 5 Seksyen B will be assessed by regulatory body. As there is time consuming and a chance of human error in manual system, there is a need to change from manual to digital. Currently, the automated system is used in managing the occupational dose. The new system, Radiation Workers Management System (SPPS) is an integrated system of online system in reporting the dose from the laboratory, eSSDL and Personnel Biodata System (Bioweb) that already in placed. As a result, the occupational dose is generated and radiation workers will be notified online in the form LPTA/A/BM 5 Seksyen B. The current system improves management efficiency, saves time and reduces human error.

Keywords: Occupational Dose, Management, System

Introduction

The system was developed to automate the process of managing the records of the Radiation Workers in the agency. Through SPPS, radiation workers will receive notifications to review and verify the monthly exposure report online. The occupational dose is one of aspects that have to be reported and will be assessed by the regulatory body through a form known as LPTA/A/BM 5 Seksyen B. We integrate online systems already in place i: eSSDL, laboratory which analyzing personal dose equipment and reporting dose exposure by group ii: Bioweb which is listing agency's staff and placement. Then the Health Physics Group (KFK) responsible to filling up individual record dose monthly; LPTA/A/BM 5 Seksyen B. Those integration established the new system, Radiation Workers Management System (SPPS). The SPPS users are made up of the KFK, the agency's radiation workers and the agency's Radiation Protection Officer (RPO).

Methodology



Results & Discussion

The SPPS launched in 2021. But due to the pandemic covid-19 and the limitation of the system that could be accessed only in the agency, the system fully used in 2022. This current system replace the previous management system which is performed manually and time consuming. Before this, KFK have to copy and write it down the exposure results manually in the individual form for approximately 400 radiation workers. Hence, there is a possibility for human error. Currently, radiation workers in the agency will be notified on the readiness of their exposure in the SPPS by email. Then, the verification by the RPO and radiation workers could be performed online. SPPS allows the radiation workers to print the result in pdf file and keep it as a hardcopy. Figure 1 shows how verification process on occupational exposure was executed by the system and Figure 2 shows the transformation from manual to online system in reporting of occupational exposure using form known as LPTA/A/BM 5 Seksyen B.

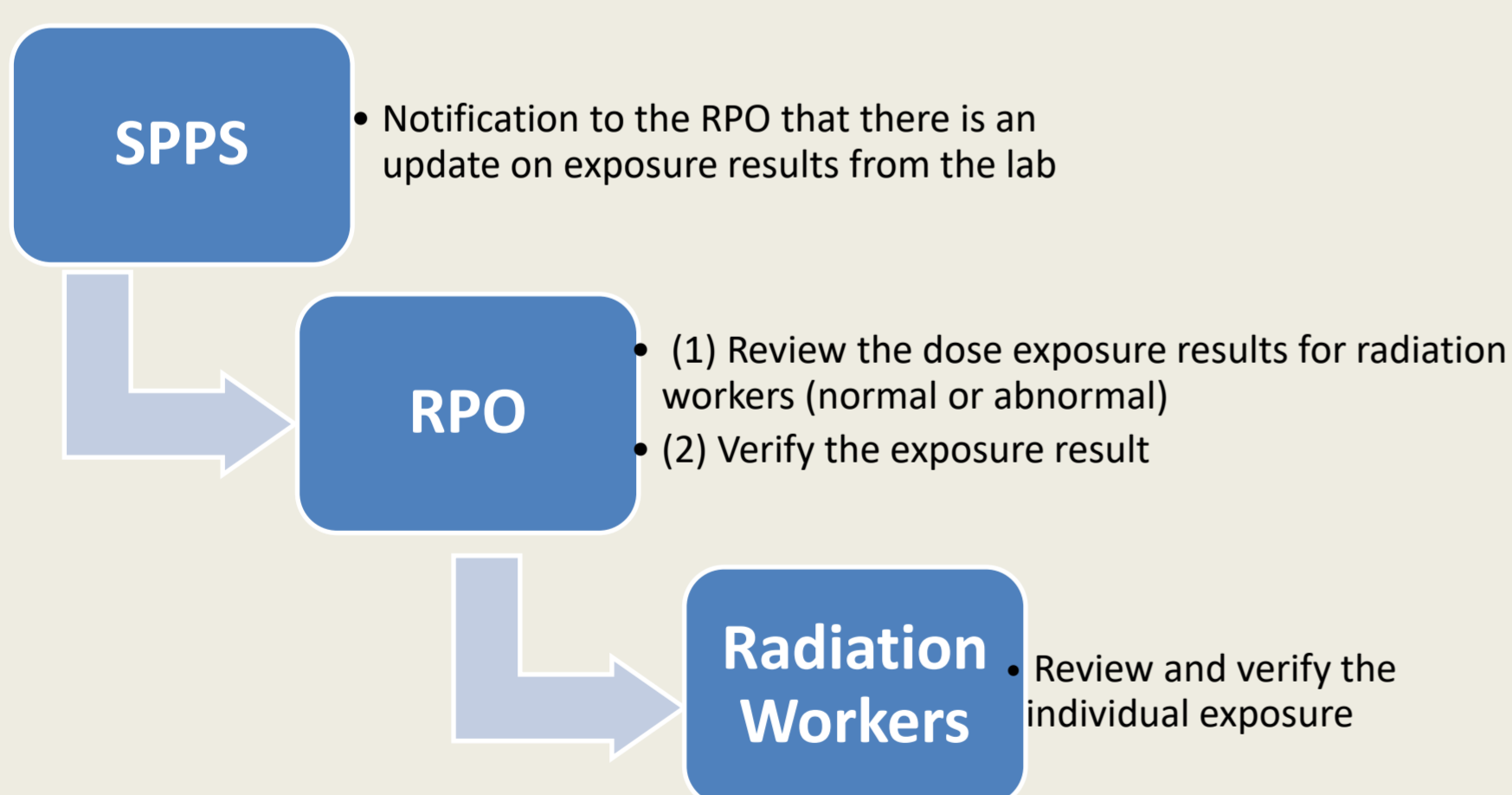


Figure 1: Verification Process of Occupational Dose by SPPS.

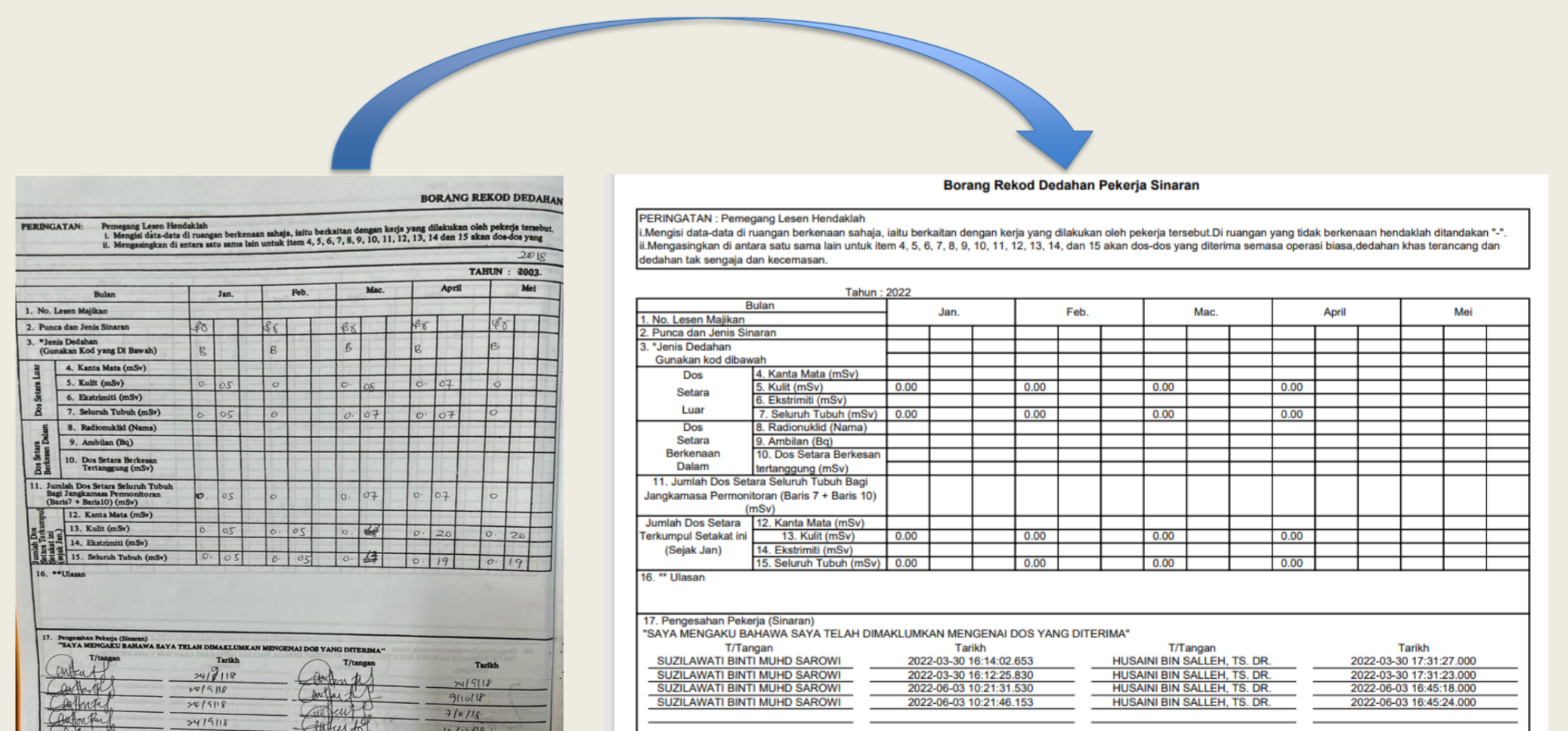


Figure 2: Transformation from Manual to Online System.

Conclusion

The Radiation Workers Management System (SPPS) really benefit the agency. An exposure dose record could be maintain systematically and more efficient by the KFK. In term of time, this system is save time as the RPO and radiation workers could perform their task online. By using the SPPS, human error could be reduced because of the data is automatically generated compared to copying manually. Furthermore, a storage area for keeping the hard copy, occupational dose record using form known as LPTA/A/BM 5 Seksyen B also could be saved. In turn, by using the SPPS, Nuclear Malaysia could meet the license requirements within the time outlined under the rule as enforced by the regulator.