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THE REUSE OF OUTER CAPSULE AND PIGTAIL FROM OBSOLETE SEALED SOURCES OF IR-192 GAMMA MAT TYPE

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THE REUSE OF OUTER CAPSULE AND PIGTAIL FROM OBSOLETE SEALED SOURCES OF IR-192 GAMMA MAT TYPE. In the product of obsolete sealed sources of the Iridium-192 type Gamma Mat, there are two important components that can be reused to assemble new products, namely the outer capsule and pigtail/source holder. From an economical perspective, reusing these two components will be beneficial due to the asking price of one-third below the overall product price. With the issuance of the Indonesian Government Regulation Number 61 of 2013 concerning Management of Radioactive Waste, it opens legal opportunities for BATAN to recycle the radioactive substances that have not been used which come from waste producers, including the sealed source products in the Gamma Mat type Iridium-192. The dismantling process of Gamma Mat type Iridium-192 sealed sources products in order to reuse the outer capsule and pigtail/source holder components is also a form of implementation for the Regulation of the Head of BATAN Number 7 of 2017 concerning Reuse and Recycle of Unused Sealed Radioactive Substances. To be able to reuse the outer capsule and pigtail/source holder components; first, the obsolete sealed source product in the Gamma Mat type Iridium-192 must be identified. After measuring the radioactivity in the obsolete sealed sources products of Iridium-92 Gamma Mat, the Inner Capsule will be separated from the outer capsule by removing the locking pin of the outer capsule and pigtail/source holder. The outer capsule and pigtail/source holder components that have been removed are examined for surface contamination and its physical conditions. These two components are declared to be reusable if the surface contamination level is less than 3.7 Bq / cm² and there are no defects or cracks. The outer capsule and pigtail/source holder components that are declared eligible for reuse can be offered to distributors or producers so that they can be used as a source of non-tax state revenue (PNBP) for BATAN.

Keywords: reuse, sealed source, Iridium-192

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