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Underground Utility Inspection Using Ground Penetrating Radar

Tengku Sarah binti Tengku Amran ^a, Mohamad Ridzuan Ahmad, Amer Hazreq Haron, Noor Azreen Masenwat, Suhairy Sani, Noryana Abd Razak, Ismail Mustapha and Shaharudin Sayuti

Material Structure Integrity group (NDT-MSI), Industrial Technology Division, Malaysian Nuclear Agency, 43000 Kajang, Selangor, Malaysia

a) Corresponding author: sarah@nm.gov.my

ABSTRACT

Ground Penetrating Radar (GPR) is a non-invasive geophysical method that uses high-frequency electromagnetic waves to detect and map subsurface features and objects. This technology has been widely used for underground utility inspection due to its ability to accurately locate buried utilities without excavation. In this paper, we present a study on the use of GPR for underground utility inspection. We first provide an overview of GPR technology, including its basic principles, equipment, and data interpretation methods. We then discuss the advantages and limitations of using GPR for underground utility inspection and compare it with other traditional methods. Finally, we discuss the challenges and future directions of using GPR for underground utility inspection, including the need for standardized procedures and protocols, improved equipment and data processing methods, and increased awareness and training of GPR operators. Overall, our study demonstrates that GPR is a valuable and effective tool for underground utility inspection and has the potential to significantly improve the efficiency and safety of utility locating and mapping operations.

Keywords: *ground penetrating radar, underground utility, inspection*