



“Gheorghe Asachi” Technical University of Iasi, Romania



PREVENTING WORKING ACCIDENTS BY SHORT-CIRCUIT CURRENTS IN ISOLATED NEUTRAL SYSTEMS OVER 1 KV

Constantin Beiu^{*}, Georgeta Buica¹, Cornel Toader²

¹*National Research and Development Institute for Labor Protection “Al. Darabont”, 35A Ghencea Blvd., Bucharest, Romania*

²*University “Politehnica” of Bucharest, 313 Splaiul Independenței Str., Bucharest, Romania*

Abstract

Thirty two per cent of all injury risks identified at work are risks arising from work equipment. In this sense, the use of protective equipment, respectively earthing devices during interventions / works in electrical installations are the main protective measure against these risks. Short-circuit current calculation is necessary to determine the stress on both switching devices and protection equipment in substations, and for choosing protective equipment for workers. This paper aims to make an analysis of the three-phase short-circuit on high voltage overhead lines with insulated neutral on workers, during the execution of the work, in the protected working area using earthing devices. Case studies are done for different values of earthing dispersion resistance of overhead line poles, in order to determine the most appropriate situation for safety of workers.

Key words: short-circuit current, insulated network, safety

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^{*} Author to whom all correspondence should be addressed: E-mail: cbeiu@protectiamuncii.ro; Phone: + 40 213131729; Fax: +40 213157822