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Utility experience in establishing technical standards specification for power cable projects: a case study from Gulf area

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This paper presents the experience of Abu Dhabi Water and Electricity Authority, ADWEA, in establishing technical standards specification for the power cable projects in the electric networks of Abu Dhabi Emirate. The Arab Gulf area is known by its harsh environmental conditions that require certain general design requirements for cable projects. New standards specification for ADWEA cable projects has thus been developed to meet these requirements. It is shown that these specifications are prepared to provide safety, reliability, and optimum cost in implementing new projects. In preparing these standards, the experience of ADWEA engineers gained in previous projects is utilized and modern worldwide cable technologies are considered. The paper identifies the components of typical cable projects for setting up optimum standard specifications. The process of forming review workgroups and appointing the consultant for this work is explained. The preparation, review, and approval of the specification modules are elaborated and an automation concept for using the prepared cable standards specification in tendering documents is introduced. The implications of applying the new cable specifications in new ADWEA projects are studied and the expected benefits are enumerated. It is hoped that this paper will serve as a model for other utilities for optimizing cable assets and resources in electric power projects.