

Engineering Technical Letter

Reliability-based design is the only engineering methodology currently available which can ensure self-consistency in both physical and probabilistic terms. It is also uniquely compatible with the theoretical basis underlying other disciplines such as structural design. It is especially relevant as geotechnical design becomes subject to increasing codification and to code harmonization across national boundaries and material types. Already some codes of practice describe the principles and requirements for safety, serviceability, and durability of structures in reliability terms. This book presents practical computational methods in concrete steps that can be followed by practitioners and students. It also provides geotechnical examples illustrating reliability analysis and design. It aims to encourage geotechnical engineers to apply reliability-based design in a realistic context that recognises the complex variabilities in geomaterials and model uncertainties arising from a profession steeped in empiricism. By focusing on learning through computations and examples, this book serves as a valuable reference for engineers and a resource for students.

This engineering technical letter(ETL) provides criteria for emergency lighting and the marking methods for means of egress.

This engineer technical letter (ETL) provides basic guidance for assessing the reliability of hydropower equipment and establishes an engineering basis for rehabilitation investment decisions. The methodology, concepts, and background information are briefly stated with further explanation and examples in the appendices. This letter also references the hydropower benefits analysis and the economic models as they relate to hydropower rehabilitation projects.

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Using an informal, hands-on approach, this practical guide reviews the basics of good technical writing. It provides a simple, effective system for writing all types of technical documents including letters, memos, minutes, procedures, manuals, proposals, progress reports, and final reports. You will gain a better understanding of the writing process and learn how to: improve the coherence of your writing, write better paragraphs, write better sentences, choose the right word and more.

This letter provides instructions for assigning a seismic risk code for existing Air Force buildings. The method for determining the priority for performing an evaluation for seismic risk of existing buildings on an installation is defined. The risk code will be used for identifying on an inventory existing buildings which require seismic hazard mitigation, and it identifies a mechanism for vertical reporting of the inventory to agencies outside the Air Force.

This engineer technical letter (ETL) provides guidance for design engineers considering roller-compacted concrete (RCC) as a cost-saving alternative for civil works structures.

Presents professional information designed to keep Army engineers informed of current and emerging developments within their areas of expertise for the purpose of enhancing their professional development. Articles cover engineer training, doctrine, operations, strategy, equipment, history, and other areas of interest to the engineering community.

This engineer technical letter provides basic information and references on background,

evaluation, and design of fiber-reinforced plastic (FRP) materials to assist structural design engineers who are considering the use of FRP on civil works projects. This information will help the engineer evaluate the suitability of FRP materials for structural applications, and will be useful in preparing performance specifications for procurement of suitable composite components and structures. This ETL provides guidance to help the Base Civil Engineer (BCE) and other users to obtain assistance in complying with the National Primary Drinking Water Regulations: Lead and Copper Rule (LCR). The SOW has been prepared to help in the preparation of local contracts, however, both AFCESA and Armstrong Laboratory have consulting firms available that are capable of performing LCR work for Air Force installations with installation funding. These instructions are to be used in developing a site-specific SOW, from the generic SOW, by any USAF installation.

Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

This Engineer Technical Letter (ETL) provides guidance for developing and updating Drought Contingency Plans (DCP) within existing authorities for developing water control plans.

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This engineer technical letter (ETL) presents a technical description of salinity intrusion control methods that induce channel geometry changes and limit the movement of salt water beyond the control location.

This engineer technical letter provides guidance on the use of the finite element method in the analysis of problems in geotechnical engineering. This ETL is intended for engineers who are unfamiliar with the method, but who are interested in understanding its potential use in geotechnical engineering.

This Engineer Technical Letter (ETL) provides guidance in the identification, inspection, and evaluation of fracture critical members of in-service bridges owned and operated by the U.S. Army Corps of Engineers (USACE) on Civil Works projects. This ETL is not intended to provide guidance on analysis and design of bridges.

This engineer technical letter (ETL) provides guidance for implementing the U.S. Army Corps of Engineers' policy to meet the environmental engineering initiatives of the Chief of Engineers and identifies areas of concern and opportunity related to the physical, chemical, and biological integrity of inland and coastal project waters. While a number of techniques are listed in this ETL, other innovative approaches for environmental improvement through water management are encouraged.

This engineer technical letter (ETL) provides

information on the vulnerability of electrical power-generating equipment and power plant facilities equipment to earthquake ground motions.

The purpose of this engineer technical letter is to describe the data collection program necessary to install and support an operational river ice forecasting system. This ETL should be used to evaluate existing data collection programs for suitability and completeness and to identify unmet data collection needs. With a completed data collection program in place, a river ice forecasting system can be established quickly, efficiently, and at a minimum cost.

This publication deals with modeling of infrastructure risk. The objective, exploring different methodologies and related applications, recognized four major topics: Complex Models; Simulation Models; Distributional Models; and Deterministic Models.

Focus is on the following issues: the state-of-the-art and practice, gaps between the arts and practices, ways to bridge the gaps, and future research directions. In the first chapter, papers can be found on Computational Nonlinear Models of Risk Assessment, Risk-Based Evaluation of Safety and Security Programs in Critical Infrastructure and Risk Assessment of Modes of Terrorist Attack. One of the papers in the chapter on Simulation Models is on Computational Models for the Simulation of Evacuations following Infrastructure Failures and

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Terrorist Incidents. Bayesian Belief Nets for Discrete and Continuous Variables and Development of Risk Based Software for Analysis of Power Engineering Accidents are two titles of papers in the third chapter of the book on Distributional Models. Finally, the fourth chapter on Deterministic Models focuses on Environmental Risk Ranking and more.

This ETL provides a guide specification (attachment 2) to use when specifying HVAC systems in facility construction projects. The purpose of commissioning is to bring the project's HVAC system to a state of dynamic operation.

This letter provides the design criteria to ensure control of humidity inside dormitories in humid areas. Areas not covered by this Engineering Technical Letter (ETL) remain in accordance with existing guidance.

Engineering Technical Letter (ETL) 94-5: Fire Protection Engineering Criteria and Technical Guidance - Emergency Lighting and Marking of Exits

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