

# IEEE Recommended Practice for Managing Natural Disaster Impact on Key Electrical Systems and Installations in Petroleum and Chemical Facilities

IEEE Industry Applications Society

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# **IEEE Recommended Practice for Managing Natural Disaster Impact on Key Electrical Systems and Installations in Petroleum and Chemical Facilities**

Sponsor

**Petroleum and Chemical Industry Committee  
of the  
IEEE Industry Applications Society**

Approved 12 June 2014

**IEEE-SA Standards Board**

**Abstract:** Recommendations and guidelines for managing natural disaster impact on key electrical facilities and systems in petroleum and chemical facilities are provided in order to minimize economic damage by pre-assessment risk evaluation of electrical facilities, by identification of mitigation techniques and system designs to minimize impact, and by outlining procedures for faster recovery of electrical systems after a natural disaster.

**Keywords:** disaster emergency management, IEEE 1716™, recovery

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## Introduction

This introduction is not part of IEEE Std 1716™-2014, IEEE Recommended Practice for Managing Natural Disaster Impact on Key Electrical Systems and Installations in Petroleum and Chemical Facilities.

Recommendations and guidelines for managing natural disaster impact on key electrical facilities and systems in petroleum and chemical facilities are provided in order to minimize economic damage by pre-assessment risk evaluation of electrical facilities, by identification of mitigation techniques and system designs to minimize impact, and by outlining procedures for faster recovery of electrical systems after a natural disaster.

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## 1. Overview

### 1.1 General

Natural disasters have had a significant impact on the operation of petroleum and chemical facilities in the United States Gulf Coast during the time period from 2005 to 2008 and in several other worldwide locations during the recent past. Specifically, hurricanes Katrina, Rita, and Ike tested the emergency preparedness and response plans of these industries. The electrical system infrastructure of many industrial facilities was heavily impacted by these natural disasters. Recovery and restoration efforts for some facilities required a significant investment to repair or replace electrical systems damaged by these natural disasters. This document represents a collaborative effort that summarizes the management strategies employed during those hurricane recovery experiences. These strategies can be valuable in managing other types of natural disasters.