



Required Records Protection, Disaster Recovery and Business Continuation

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NUCLEAR INFORMATION AND RECORDS MANAGEMENT ASSOCIATION

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FOREWORD

This foreword is not part of the Nuclear Information and Records Management Association Guideline TG21, "Required Records Protection, Disaster Recovery, and Business Continuation".

The Regulatory and Information Management Business Unit (RIMBU) is the responsible committee for this Technical Guideline. The following members had significant input to this document revision as it evolved for approval by the NIRMA Board of Directors.

REVISION HISTORY

TG21, rev. 4, was updated to be consistent with:

- TG11, Authentication of Records and Media
- TG15, Management of Electronic Records
- TG16, Software Quality Assurance Documentation and Records

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1.0 PURPOSE

This guideline was originally developed by the Electronic Records Subcommittee, Regulations Committee of the Nuclear Information and Records Management Association, to provide guidance concerning the protection, disaster recovery and business continuation efforts associated with a Records Management Program. Since then, it has been under the revision control of the Regulations and Information Management Business Unit (RIMBU).

- 1.1 This guideline, originally titled “Electronic Records Protection and Restoration, has been renamed to more accurately reflect its scope.
- 1.2 This guideline was developed to recognize the constant state of technology change evident in a Records Management Program. Therefore, efforts have been made to ensure its applicability regardless of media type, technology platform, or system hardware/ software configuration. Companies should be expected to customize their own program based upon their needs and available resources.
- 1.3 The most effective Records Disaster Recovery Plan is comprehensively interwoven with and is an integral part of the Company’s overall Business Continuation Plan (BCP). As such, the reader should find references to both the Company’s BCP and the Records Program Plan. Unless stated otherwise, all references found within should be assumed to be related to the Records Program.

2.0 SCOPE

This guideline applies to required records environments, and addresses the components of protection, disaster recovery, and business continuation efforts for records, regardless of retained media format.

3.0 DEFINITIONS

3.1 Backup

A copy of selected computer files, programs or data written to a duplicate media or another media or system for use if the original is lost, damaged, or destroyed. Active and inactive files are typically backed up. Backup copies of files must be geographically separated from the originals to fulfill disaster recovery objectives and to fulfill requirements for duplicate storage of electronic records.

3.2 Backing Up

The act of copying selected computer files, programs or data to another media or system for use if the original is lost, damaged, or destroyed.

3.3 Business Continuation

The ability of an organization's vital functions to operate during and/or following an emergency or disaster.

3.4 Business Impact Analysis

Systematic process to determine and evaluate the potential effects of an interruption to critical business operations as a result of a disaster, accident or emergency. Includes an exploratory component to reveal any vulnerabilities and a planning component to develop strategies for minimizing risk.

3.5 Cold Site/Warm Site/Hot Site

3.5.1 Cold Site

A "ready to use" data processing facility which usually consists of an environmentally controlled room, raised flooring, and limited telecommunications links. A company contracting to use a cold site must provide computer hardware, software, expanded telecommunications links, operating systems software, and applications programs. A cold site does not maintain data and systems in "systems ready" state, and will require a specified time to initiate recovery. A cold site is considered to be less expensive than a hot site due to lower staffing and data access requirements.

3.5.2 Warm Site

A Warm Site is a location where the data is constantly replicated between the host and provider data centers, but the compute resources at the warm site are "lights out" until the customer declares an event. This can be seen as a cost savings over a Hot Site as the customer will not have to pay for compute resources which are not being used. There are very little resources required to just keep the data between sites in sync. The advent of cloud computing resources is an example of a warm site location.

3.5.3 Hot Site

A "ready to use" processing facility which usually consists of an environmentally controlled room, raised flooring, telecommunications links, computer hardware, and software. A company contracting to use a hot site must provide only operating systems software and applications programs. A hot site maintains data and systems in "systems ready" state, provides immediate recovery, and is usually considered to be more expensive than a cold site because of increased staffing and data access requirements.

3.6 Disaster

A sudden, unplanned calamitous event that creates an inability on the part of an organization to perform critical business functions for some period of time.

3.7 Disaster Recovery Plan

An approved document that provides the necessary activities required to: a) recover and/or reconstruct an organization's records and b) establish procedures for the resumption of business operations in the event of a disaster.

3.8 Electronic Recordkeeping

The creation, maintenance, use, and disposition of records created and stored by using a computer.

3.9 Electronic Records

Records stored in a form that only a computer can process. Also called machine-readable records or Automatic Data Processing (ADP) records. Electronic records include:

- Content - The text, data or substance material of the record. Refers to what is captured within a record, such as drafts showing corrections, blank and completed forms, or a memo with the "to" and "from" information.

- Context - The data about the data (metadata). May include data which describe the system or application in which the data was captured as well as how the data was captured. Refers to what makes the record meaningful and describes its relationship to other records, such as approval, agreement, etc.
- Structure - The form and format of the data content. Refers to how information is organized which greatly impacts the ability to understand it.

3.10 Electronic Records System

Any information system that captures, produces, processes, and/or stores records by using a computer.

3.11 Hardcopy Record

Non-electronic records. Usually of paper media, but includes original non-convertible media such as radiographs, microforms, etc.

3.12 Recovery

The activities associated with restoring resources or operation following a disruption in normal operations.

3.13 Recovery Point Objective

The recovery point objective (RPO) is the age of files that must be recovered from backup storage for normal operations to resume if a computer, system, or network goes down as a result of a hardware, program, or communications failure. The RPO is expressed backward in time (that is, into the past) from the instant at which the failure occurs.

3.14 Recovery Time Objective

The recovery time objective (RTO) is the maximum tolerable length of time that a computer, system, network, or application can be down after a failure or disaster occurs.