

SAN ONOFRE NUCLEAR GENERATING STATION



ISFSI-ONLY EMERGENCY PLAN MANUAL OF EMERGENCY EVENTS

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Southern California Edison Company
San Diego Gas and Electric Company
City of Riverside

MANUAL OF EMERGENCY EVENTS

FOREWORD

Although the reactors at San Onofre Nuclear Generating Station (SONGS) have been permanently shut down, protecting the health and safety of the public and station workers is still the primary concern in the day-to-day operations of the station. A stringent quality control program ensures that Independent Spent Fuel Storage Installation (ISFSI) structures and components are maintained to the highest standards. Detailed procedures govern the use of all ISFSI systems and components. Highly trained personnel maintain their qualifications through continuing training programs.

As a final precaution, an Emergency Plan has been developed to safeguard the public and station workers in the event of an accident. The Emergency Plan for SONGS complies with guidance established by the Nuclear Regulatory Commission (NRC). The SONGS Emergency Plan provides a graded response to emergencies, dependent upon the severity level. Emergencies are categorized at either an **Unusual Event** (least severe) or an **Alert** (most severe).

There are various conditions that would fall into these emergency classes. The SONGS Emergency Plan identifies the conditions by a system of event codes. In an emergency, offsite jurisdictions would receive notification that includes the emergency class and event code. This manual describes the conditions associated with each event code, identifies actions taken by station personnel, and indicates the potential, if any, for escalation of the emergency. This material is intended to assist offsite personnel in understanding an emergency at San Onofre.

This manual has been prepared to give you general information about different **Emergency Action Levels** (EALs).

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1.0 EMERGENCY CLASSIFICATION

1.1 EMERGENCY CLASSIFICATION LEVELS

There are two **Emergency Classification Levels** associated with the SONGS Emergency Plan. They are:

- **Unusual Event (UE)** - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the ISFSI or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of conditions occurs.
- **Alert** - Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the ISFSI or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of **hostile action**. Any releases are expected to be limited to small fractions of the EPA **Protective Action Guide** exposure levels.

1.2 EMERGENCY ACTION LEVELS (EALS)

Specific conditions requiring declaration of an emergency into one of the two **Emergency Classification Levels** have been identified to ensure accurate and timely response by emergency response organizations. These EALs are based on postulated accidents, equipment malfunctions and other conditions of potential degradation of ISFSI safety. EALs include objective criteria based on ISFSI conditions.

1.3 EVENT CATEGORIES

Specific EALs which constitute the two emergency classes are grouped into two event categories. Whereas **Emergency Classification Levels** indicate the severity of an emergency, event categories indicate the type or nature of the emergency. The event categories are:

EAL Category	EAL Subcategories
PD-H Hazards and Other Conditions Affecting ISFSI Safety	1 – Security 3 – Judgment
E-H Hazards and Other Conditions Affecting Independent Spent Fuel Storage Installation (ISFSI)	1 – Confinement Boundary

2.0 **EMERGENCY NOTIFICATIONS**

2.1 WHEN NOTIFICATIONS ARE MADE

Courtesy notification will be made to offsite jurisdictions within 15 minutes of the declaration of an emergency. This notification will be made via email.

Regulatory notification will be made to offsite jurisdictions within 60 minutes of the declaration of an emergency. This notification will be made via telephone.

Notification to the NRC will be made immediately after notification to offsite jurisdictions and within 60 minutes of the declaration of an emergency. In the event of a security-related emergency, an additional abbreviated prompt notification to the NRC would occur.

2.2 OFFSITE AGENCIES NOTIFIED

The following offsite jurisdictions / agencies will be notified of the declaration of an emergency:

- Orange County
- San Diego County
- Marine Corps Base, Camp Pendleton
- California State Office of Emergency Services (Cal OES)
- Nuclear Regulatory Commission (NRC)

3.0 **DESCRIPTION OF EALS**

See following pages.

3.1 PD-HU1

PD-HU1	Hazards and Other Conditions Affecting ISFSI Safety	PD-HU1
UNUSUAL EVENT		
Security		

Brief Non-Technical Description:

A **Security Condition** or threat has been confirmed. Current ISFSI conditions DO NOT threaten public safety.

Detailed Description:

Property surrounding and controlled by the station falls into two zones:

- 1) The **Protected Area** around the ISFSI includes spent fuel storage structures and is surrounded by a security fence. Access to this area is restricted to authorized personnel and controlled by the SONGS Security Force.
- 2) The **Vehicle Barrier System** lies outside the **Protected Area**. This is the property surrounding the station controlled by Southern California Edison (SCE) for security purposes.

In this case, station personnel have observed either:

PD-HU1.1 - A minor security event has occurred that has not affected ISFSI equipment and is not a **hostile action** as reported by Security supervision.

PD-HU1.2 - A credible security threat directed at the site has been reported.

The station would inform appropriate law enforcement agencies as well as those agencies normally notified during an **Unusual Event**.

This EAL poses no threat to the safety of station personnel or the general public.

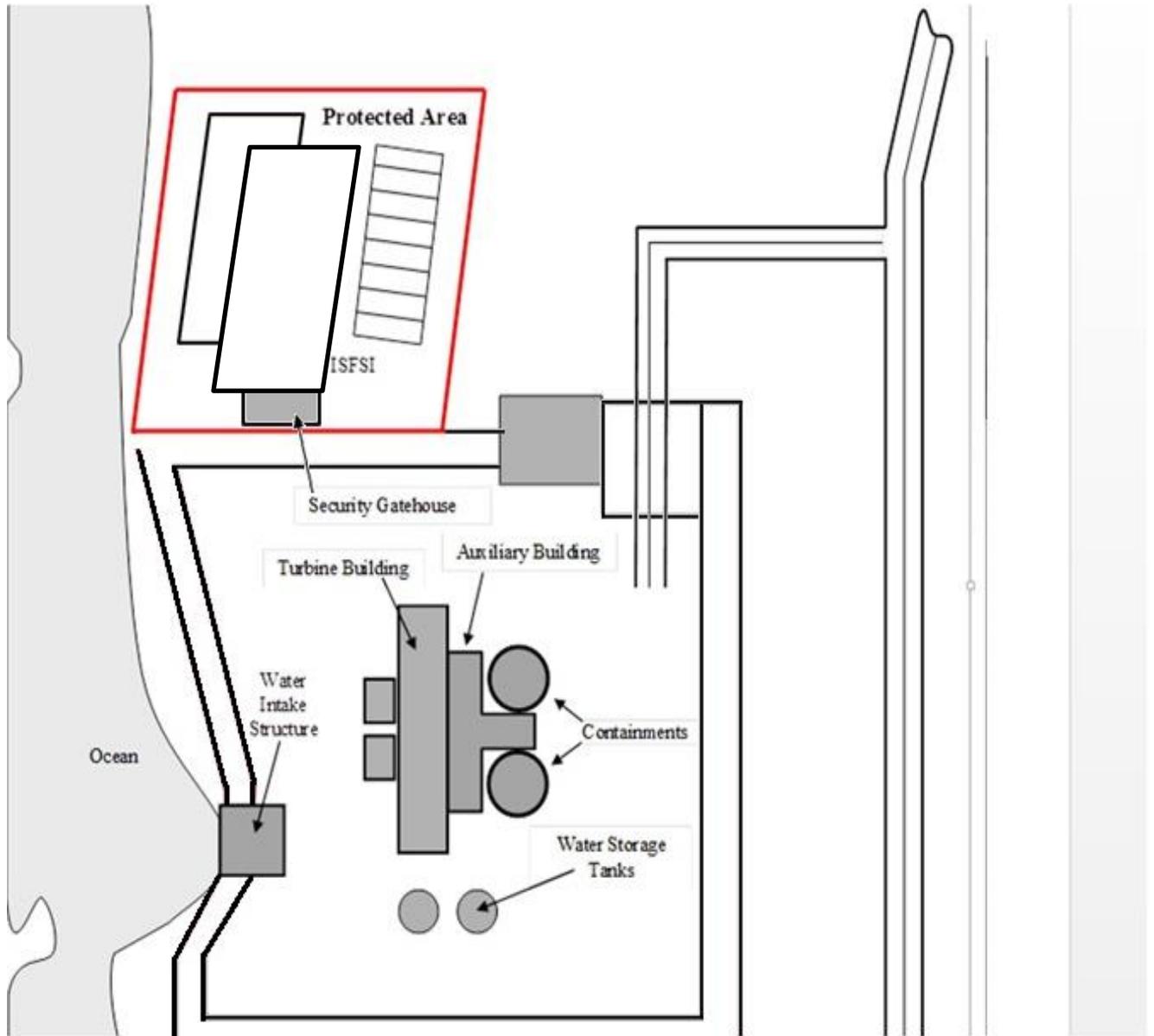


Figure PD-HU1 A Security Event that may lower the level of safety at the ISFSI.

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3.2 PD-HA1

PD-HA1	Hazards and Other Conditions Affecting ISFSI Safety	PD-HA1
ALERT Security		

Brief Non-Technical Description:

A **hostile action** has occurred within the station's **Vehicle Barrier System**. Current station conditions DO NOT threaten public safety.

Detailed Description:

Property surrounding and controlled by the station falls into two zones:

- 1) The **Protected Area** around the ISFSI includes spent fuel storage structures and is surrounded by a security fence. Access to this area is restricted to authorized personnel and controlled by the SONGS Security Force.
- 2) The **Vehicle Barrier System** lies outside the **Protected Area**. This is the property surrounding the station controlled by Southern California Edison (SCE) and controlled for security purposes.

In this case, one of the following events has occurred:

PD-HA1.1 - An armed attack or other **hostile action** has occurred within the **Vehicle Barrier System**.

The station would inform appropriate law enforcement agencies as well as those agencies normally notified during an **Alert**.

This EAL poses no threat to the safety of the general public.

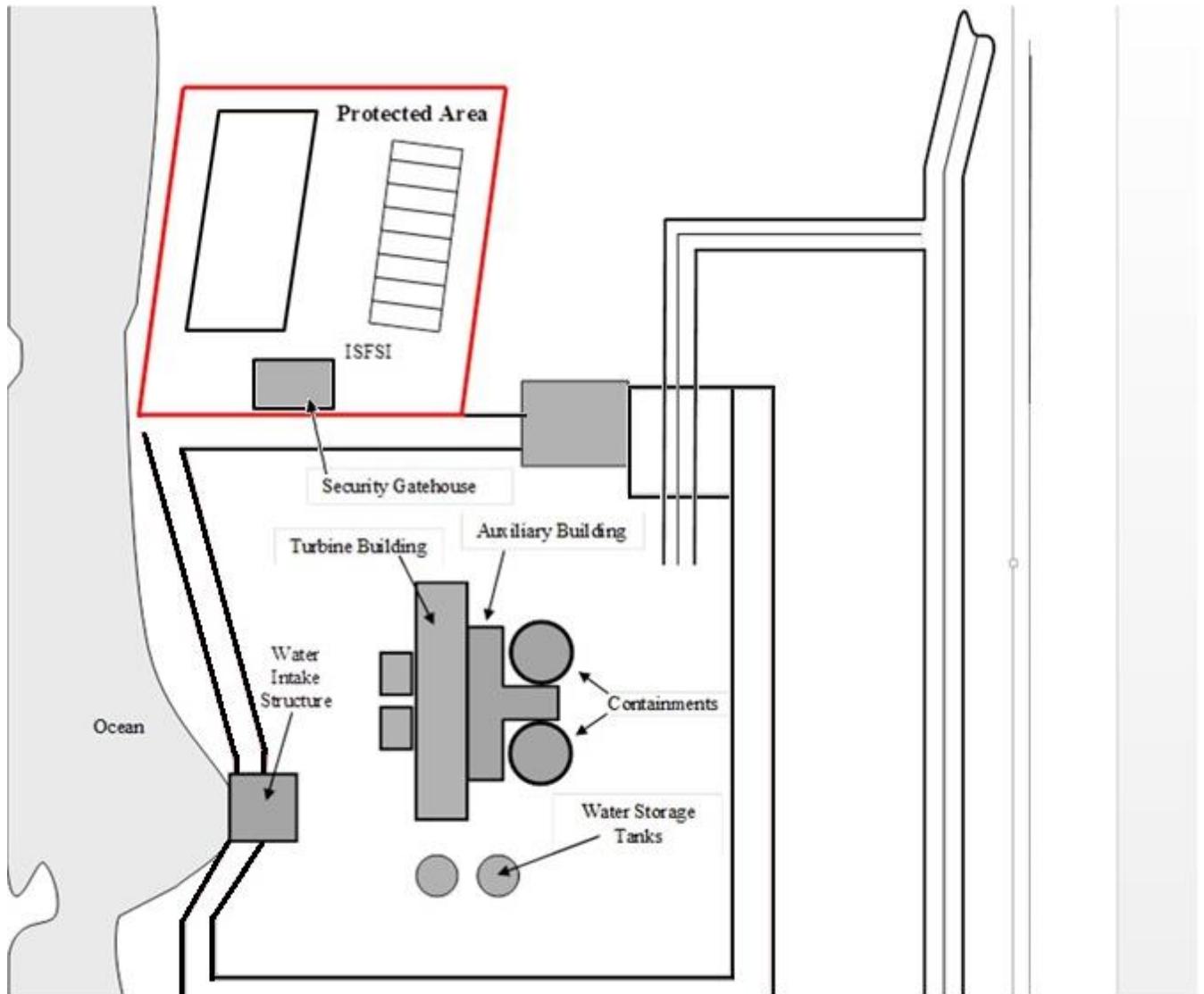


Figure PD-HA1 A security event threatens station safety.

3.3 PD-HU3

PD-HU3

Hazards and Other Conditions Affecting ISFSI Safety

PD-HU3

UNUSUAL EVENT

Judgment

Brief Non-Technical Description:

Conditions exist in the station, which in the judgment of the **Emergency Director** call for the heightened awareness and notifications associated with the **Unusual Event** classification. Current ISFSI conditions DO NOT threaten public safety.

Detailed Description:

PD-HU3.1 - This EAL provides the **Emergency Director** the latitude to declare an **Unusual Event** based on his or her own experience and judgment. It applies to any condition (not already described by another specific EAL) which potentially threatens the safety of the ISFSI. This EAL poses no threat to the safety of station personnel or the general public.

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3.4 PD-HA3

PD-HA3	Hazards and Other Conditions Affecting ISFSI Safety	PD-HA3
ALERT Judgment		

Brief Non-Technical Description:

Conditions exist in the station, which in the judgment of the **Emergency Director** call for the kind of response associated with the **Alert** classification. Current ISFSI conditions DO NOT threaten public safety.

Detailed Description:

PD-HA3.1 - This EAL provides the **Emergency Director** the latitude to declare an **Alert** based on his or her own experience and judgment. It applies to any condition (not already described by another specific EAL) which involves an actual or potential substantial decrease in the level of safety of the ISFSI.

This EAL poses no threat to the safety of the general public.

3.5 E-HU1

E-HU1

**Hazards and Other Conditions Affecting
Independent Spent Fuel Storage Installation**

E-HU1

UNUSUAL EVENT
Confinement Boundary

Brief Non-Technical Description:

An event has caused damage to a loaded canister **Confinement Boundary**. Current ISFSI conditions DO NOT threaten public safety.

Detailed Description:

Dry cask storage allows spent **fuel** that has already been cooled in the spent fuel pool for a significant amount of time to be placed inside a special canister. The canisters are typically stainless steel cylinders that are welded closed. The stainless steel cylinder provides a leak-tight containment of the spent fuel known as the **Confinement Boundary**. Each cylinder is surrounded by additional steel, concrete, or other material to provide structural integrity, physical protection and radiation shielding to workers and members of the public.

The station has an **Independent Spent Fuel Storage Installation (ISFSI)** which contains dry storage canisters manufactured by either Transnuclear or Holtec. This installation is in a secure area onsite and is continually monitored by the station's Security Force. Radiation Protection personnel routinely monitor the canisters for leakage and/or damage.

In this case, station personnel have observed:

E-HU1.1 - A natural event, an accident or man-made event has caused damage to a Transnuclear canister **Confinement Boundary**, as indicated by radiation levels at least two times (2x) those allowed by the manufacturer's license limits three feet from the radiation shielding (transit) or on contact with the radiation shielding (storage).

E-HU1.2 - A natural event, an accident or man-made event has caused damage to a Holtec canister **Confinement Boundary**, as indicated by radiation levels at least two times (2x) those allowed by the manufacturer's license limits on contact with the radiation shielding.

These EALs pose no threat to the safety of station personnel or the general public.

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4.0 DEFINITIONS, ACRONYMS AND ABBREVIATIONS

4.1 Definitions

Alert

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the ISFSI or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action. Any releases are expected to be limited to small fractions of the EPA PAG exposure levels.

Confinement Boundary

The inner surfaces of a storage canister containing spent fuel that act as a barrier between the radioactive substances contained within and the environment.

Emergency Action Level (EAL)

A pre-determined, site-specific, observable threshold for an Initiating Condition that, when met or exceeded, places the station in a given Emergency Classification Level.

Emergency Classification Level (ECL)

One of a set of names or titles established by the US Nuclear Regulatory Commission (NRC) for grouping off-normal events or conditions according to (1) potential or actual effects or consequences, and (2) resulting onsite and offsite response actions. The Emergency Classification Levels used at SONGS, in ascending order of severity, are Unusual Event (UE) or Alert.

Emergency Director (ED)

The Director of the facility in Command and Control of the event. The ISFSI Shift Supervisor fills the role of Emergency Director throughout an event.

Fuel

The uranium oxide pellets stacked inside the fuel cladding which make up a fuel rod.

Hostile Action

An act toward SONGS or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. Hostile action should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on SONGS. Non-hostile-action-based EALs are used to address such activities (i.e., this may include violent acts between individuals within the Vehicle Barrier System boundary).

Independent Spent Fuel Storage Installation (ISFSI)

A complex that is designed and constructed for the dry interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage.

Initiating Condition (IC)

An event or condition that aligns with the definition of one of the two Emergency Classification Levels used at SONGS by virtue of the potential or actual effects or consequences.

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Protective Action Guides (PAGs)

Radiation exposure guidelines established by the Environmental Protection Agency which are used to determine the appropriate protective actions to be taken on the part of emergency workers and the general public. These protective actions include sheltering, evacuation, and access control.

Protected Area

The Protected Area is an area encompassed by physical barriers to which access is controlled. For SONGS, the Independent Spent Fuel Storage Installation (ISFSI) is designated as a Protected Area.

Security Condition

Any Security Event as listed in the approved Security Contingency Plan that constitutes a threat/compromise to site security, threat/risk to site personnel, or a potential degradation to the level of safety of the ISFSI. A Security Condition does not involve a hostile action.

Unusual Event (UE)

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the station or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

Vehicle Barrier System (VBS)

Vehicle control measures (passive or active) used to protect against the malevolent use of a land vehicle. The VBS consists of both active and passive components, terrain features, manmade structural features, and vehicle access checkpoints as defined in the SONGS Security Plan.

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4.2 Acronyms and Abbreviations

EAL	Emergency Action Level
ECL	Emergency Classification Level
EPA	Environmental Protection Agency
IC	Initiating Condition
ISFSI	Independent Spent Fuel Storage Installation
NRC	Nuclear Regulatory Commission
PA	Protected Area
PAG	Protective Action Guide
SCE	Southern California Edison
SONGS	San Onofre Nuclear Generating Station
UE	Unusual Event
VBS	Vehicle Barrier System