SAN ONOFRE NUCLEAR GENERATING STATION

PERMANENTLY DEFUELED EMERGENCY PLAN
MANUAL OF EMERGENCY EVENTS

Revision 2
December 2017

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

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 plant workers is still the primary concern in the day-to-day operations of the station. A stringent quality control program ensures that plant structures and components are maintained to the highest standards. Detailed procedures govern the use of all plant 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 plant 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 a **Notification of Unusual Event** (least severe) or an **Alert** (most severe).

There are various plant conditions that would fall into these emergency classes. The SONGS Emergency Plan identifies the plant 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 plant conditions associated with each event code, identifies actions taken by plant operators, and indicates the potential, if any, for escalation of the emergency. This material is intended to assist offsite personnel understanding of 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:

- **Notification of Unusual Event (NOUE)** - Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant 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 **safety system**s occurs.
- **Alert** - Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant 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 plant safety. EALs include objective criteria based on plant conditions.

1.3 EVENT CATEGORIES

Specific EALs which constitute the two emergency classes are grouped into four 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-A Abnormal Radiation Levels / Radiological Effluents	1 – Radiological Effluents 2 – Radiation Levels
PD-H Hazards and Other Conditions Affecting Plant Safety	1 – Security 2 – Hazards to Systems 3 – Judgment
PD-S System Malfunctions	1 – **Spent Fuel Pool**
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-AU1

PD-AU1 **Abnormal Radiation Levels / Radiological Effluents** **PD-AU1**

NOTIFICATION OF UNUSUAL EVENT

Radiological Effluents

Brief Non-Technical Description:

Radioactive gases or liquids are being released at rates at least two times (2x) those allowed by the plant's operating license limits (**Offsite Dose Calculation Manual**) over a designated period of time. Current plant conditions DO NOT threaten public safety.

Detailed Description:

Gaseous and liquid releases from the plant are carefully monitored to alert operators to the presence of, and any increase in, radioactivity.

Radiation monitors continuously monitor the gases and liquids being released, to detect any increase in radioactivity as soon as possible. The monitors are set to alarm at extremely low levels of radioactivity. In fact, the alarm points are set well below the radioactivity emission rates allowed as calculated from the **Offsite Dose Calculation Manual (ODCM)**. Should there be indication of a release, the plant operators act immediately to locate and isolate its source.

In this case, operators have observed either:

PD-AU1.1 - A radiation monitor indicates a gaseous or liquid release is in progress and the level of radioactivity being released is at least two times (2x) the rates allowed during normal plant operations (**Offsite Dose Calculation Manual**) for 60 minutes or longer.

PD-AU1.2 - Sample analysis indicates a gaseous or liquid release is in progress and the level of radioactivity being released is at least two times (2x) the rates allowed during normal plant operations (**Offsite Dose Calculation Manual**) for 60 minutes or longer.

Although such a release rate is above that allowed for normal operations, it is a very small fraction of that which could cause measurable radiation beyond the immediate plant area.

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

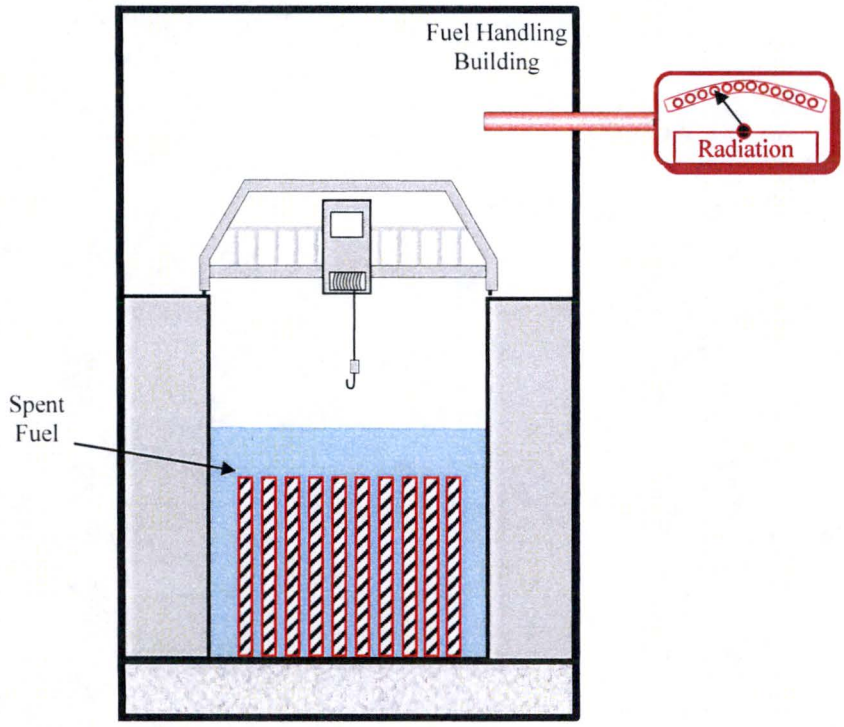

Figure PD-AU1 The operators have indication of gaseous or liquid radioactivity greater than two times (2x) the ODCM limit for 60 minutes or longer.

3.2 PD-AA1

PD-AA1 **Abnormal Radiation Levels / Radiological Effluents** **PD-AA1**

ALERT

Radiological Effluents

Brief Non-Technical Description:

Radioactive gases or liquids are being released offsite at rates that could result in offsite doses greater than 10 mrem **TEDE** or 50 mrem thyroid **CDE**. These doses are one percent (1%) of the Environmental Protection Agency's Protective Action Guides (EPA PAGs) levels for which protective actions beyond the EAB are required. In other words, they are much lower than the levels at which federal guidelines would recommend protective actions for the public, such as sheltering or evacuation.

Current plant conditions DO NOT threaten public safety.

Detailed Description:

Gaseous and liquid releases from the plant are carefully monitored to alert operators to the presence of, and any increase in, radioactivity.

The plant's ventilation systems direct the gaseous output of various plant systems to the atmosphere.

In this case, operators have observed either:

PD-AA1.1 - A radiation monitor indicates a release of radioactive gases which could cause radiation dose greater than the limit for 15 minutes or longer.

PD-AA1.2 - Calculations using actual meteorology indicates doses greater than the limit at or beyond the EAB.

PD-AA1.3 - Sample analysis for a liquid release indicates a concentration or release rate that would result in doses greater than the limit at or beyond the EAB, if exposed for one hour.

PD-AA1.4 - Field survey indicates that actual doses or dose rates at or beyond the EAB are greater than the limit for one hour of exposure.

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

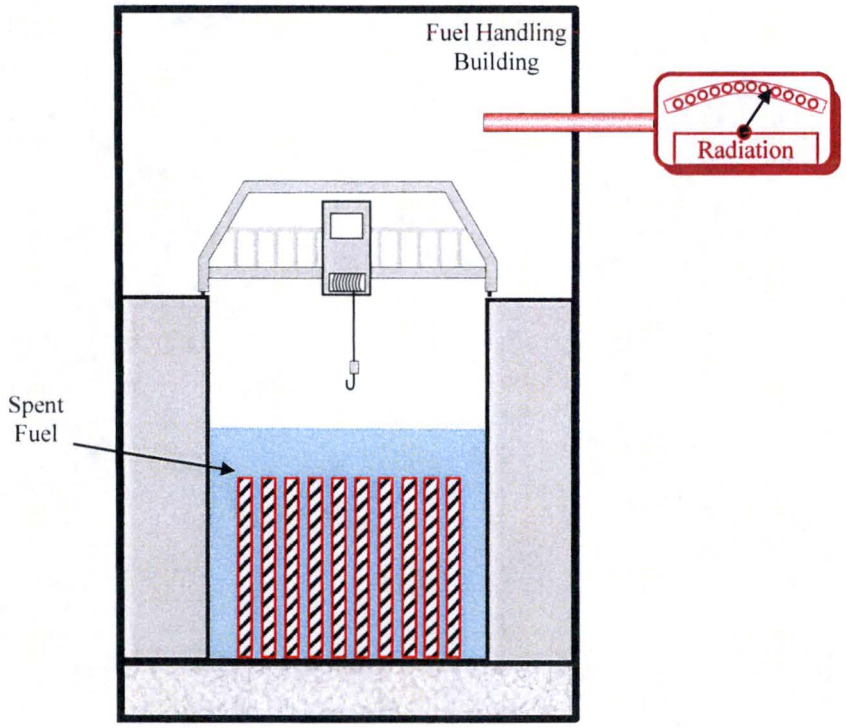

Figure PD-AA1 The operators have indication of gaseous or liquid radioactivity greater than one percent (1%) of the EPA PAGs.

3.3 PD-AU2

PD-AU2 **Abnormal Radiation Levels / Radiological Effluents** **PD-AU2**

NOTIFICATION OF UNUSUAL EVENT

Radiation Levels

Brief Non-Technical Description:

Unplanned rise in plant radiation levels. Current plant conditions DO NOT threaten public safety.

Detailed Description:

The uranium **fuel** pellets and surrounding metal rods (**fuel assemblies**) have been removed from the **reactor pressure vessel** and stored in the **spent fuel pool**.

The water in the **spent fuel pool** serves two functions:

1) It shields plant workers from radiation given off by the **fuel assemblies**.

   And

2) It cools the **fuel assemblies** by removing the **decay heat** the **fission products** are still producing.

To be effective in both of these functions, the water in the **spent fuel pool** has to cover the spent **fuel assemblies**.

In this case, operators have observed either:

PD-AU2.1 - Both decreasing water level in the **spent fuel pool**, and increasing radiation levels in the vicinity of the **spent fuel pool** due to less water covering the spent **fuel**.

PD-AU2.2 - **Unplanned** rise of 25 mR/hr over **normal levels** in the plant.

Although this condition may lead to higher radiation levels inside the plant it does not mean that any radioactivity has been released offsite.

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

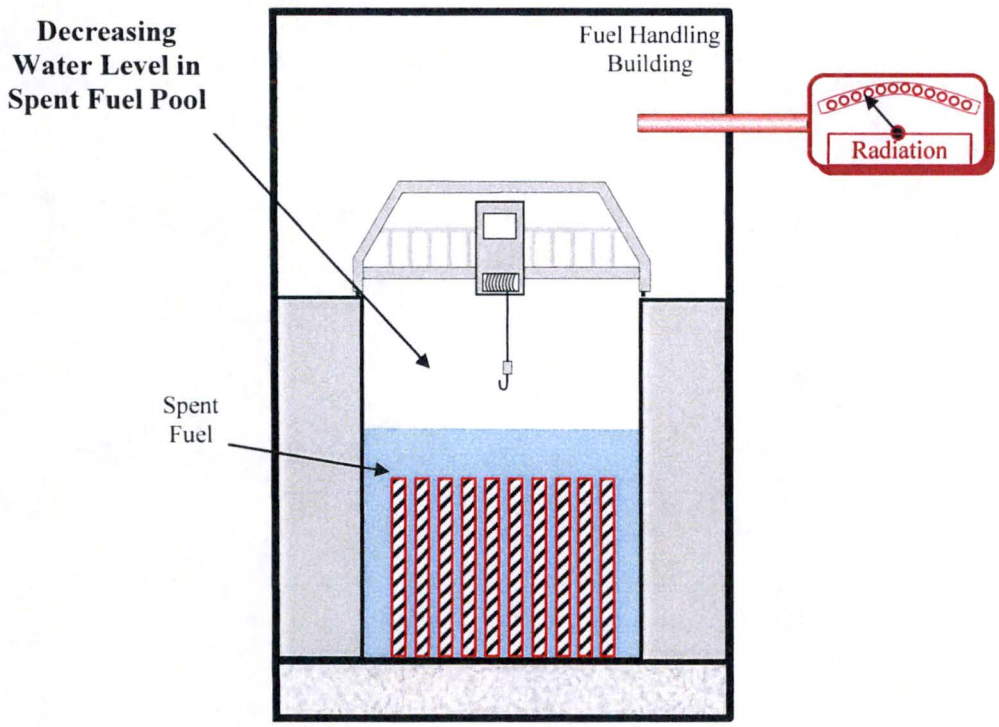

Figure PD-AU2 The operators have indication that radiation levels in the plant are higher than normal.

3.4 PD-AA2

PD-AA2 **Abnormal Radiation Levels / Radiological Effluents** **PD-AA2**

ALERT

Radiation Levels

Brief Non-Technical Description:

Radiation levels in one or more area(s) of the plant are high due to an **unplanned** condition and may limit the ability of plant operators to safely operate the plant or security personnel to monitor security alarms. Current plant conditions DO NOT threaten public safety.

Detailed Description:

Some areas of the plant require continuous occupancy for the safe operation or security of the plant. Operators and security personnel must have continuous access to these areas. Other areas of the plant are required to be accessed in order to maintain control of radioactive material or safely maintain systems needed for cooling the spent **fuel**. Operators and security personnel must be able to safely enter these areas.

In this case, operators have observed either:

PD-AA2.1 - **Unplanned** rise in radiation levels resulting in a dose rate greater than 15 mR/hr in the Command Center (Operations) or Central Alarm Station (Security).

PD-AA2.2 - A radiation monitor reading or survey results that indicate an **Unplanned** rise of 100 mR/hr over **normal levels** that hinders or prevents access to the Unit 2 or Unit 3 **Fuel Handling Building** in the vicinity of the **spent fuel pool**.

High radiation levels inside the plant do not mean that any radioactivity has been released offsite.

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

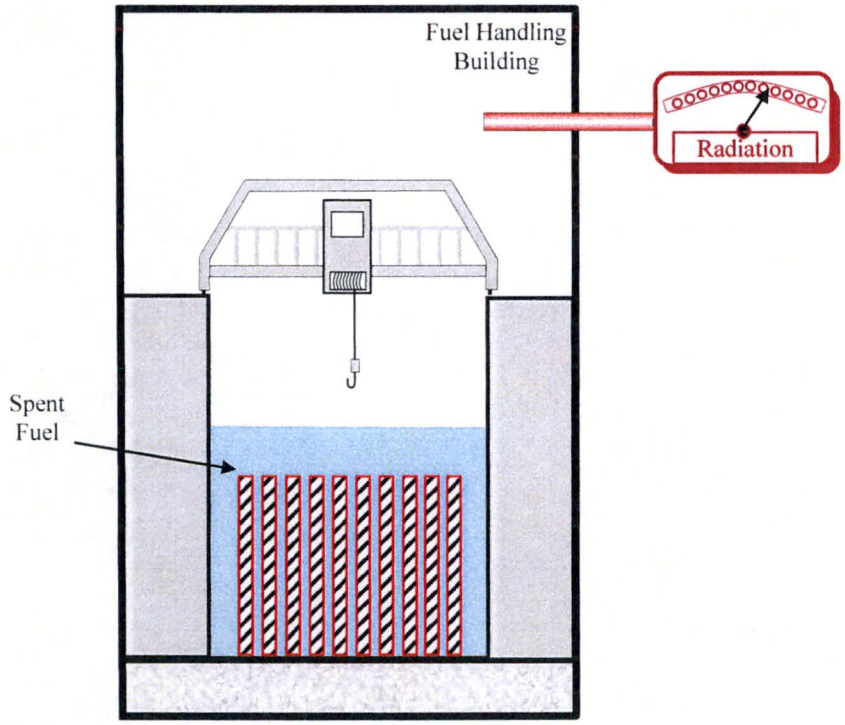

Figure PD-AA2 The operators have indication of radiation levels in the plant to be much higher than normal.

3.5 PD-SU1

PD-SU1 **System Malfunctions** **PD-SU1**

NOTIFICATION OF UNUSUAL EVENT

Spent Fuel Pool

Brief Non-Technical Description:

There has been an unexpected increase in the temperature of the water covering the spent **fuel**. Current plant conditions DO NOT threaten public safety.

Detailed Description:

The uranium **fuel** pellets and surrounding metal rods (**fuel assemblies**) have been removed from the **reactor pressure vessel** and stored in the **spent fuel pool**.

The water in the **spent fuel pool** serves two functions:

1) It shields plant workers from radiation given off by the **fuel assemblies**.

   And

2) It cools the **fuel assemblies** by removing the **decay heat** the **fission products** are still producing.

To be effective in both of these functions, the water in the **spent fuel pool** has to cover the spent **fuel assemblies** and be kept cool.

In this case, operators have observed:

PD-SU1.1 - An **Unplanned** rise in the temperature of the water in the **spent fuel pool** to greater than 140°F.

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

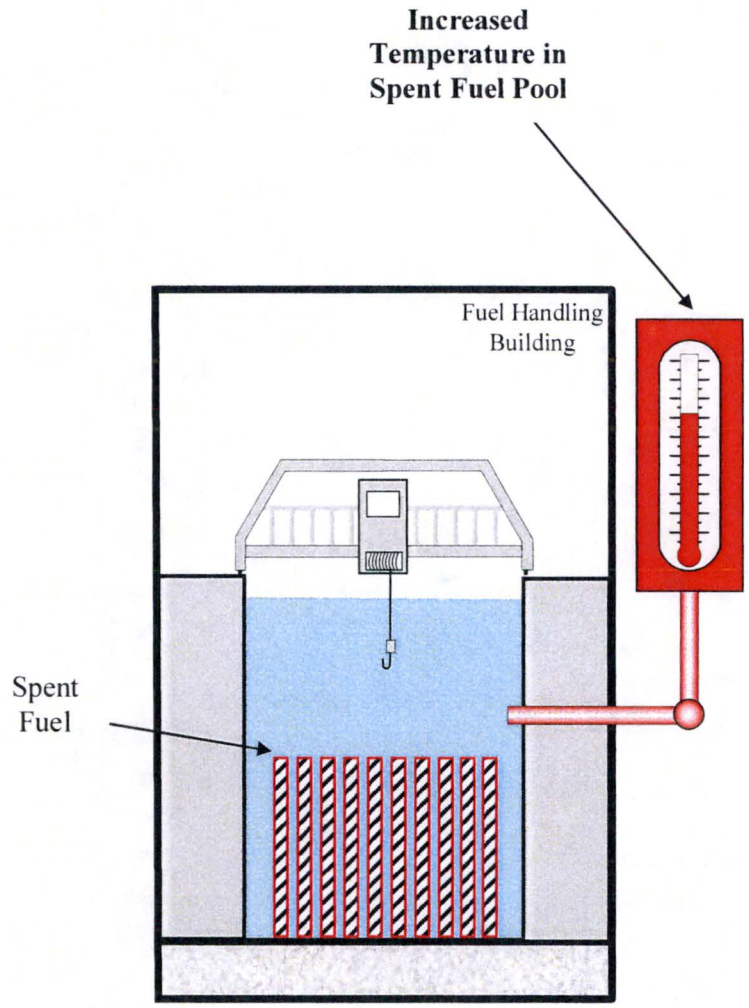

Figure PD-SU1 The operators have indication of rising temperature of the water in the **spent fuel pool**.

3.6 PD-HU1

PD-HU1 **Hazards and Other Conditions Affecting Plant Safety** **PD-HU1**

NOTIFICATION OF UNUSUAL EVENT

Security

Brief Non-Technical Description:

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

Detailed Description:

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

1) The **Protected Area** around the plant includes vital plant structures (**Vital Areas**) and is surrounded by a security fence. Access to this area is restricted to authorized personnel and controlled by the Plant 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, operators have observed either:

PD-HU1.1 - A minor security event has occurred that has not affected plant safety 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.

PD-HU1.3- The Nuclear Regulatory Commission (NRC) has notified the plant of an aircraft threat to the plant.

The plant would inform appropriate law enforcement agencies as well as those agencies normally notified during a **Notification of Unusual Event**.

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

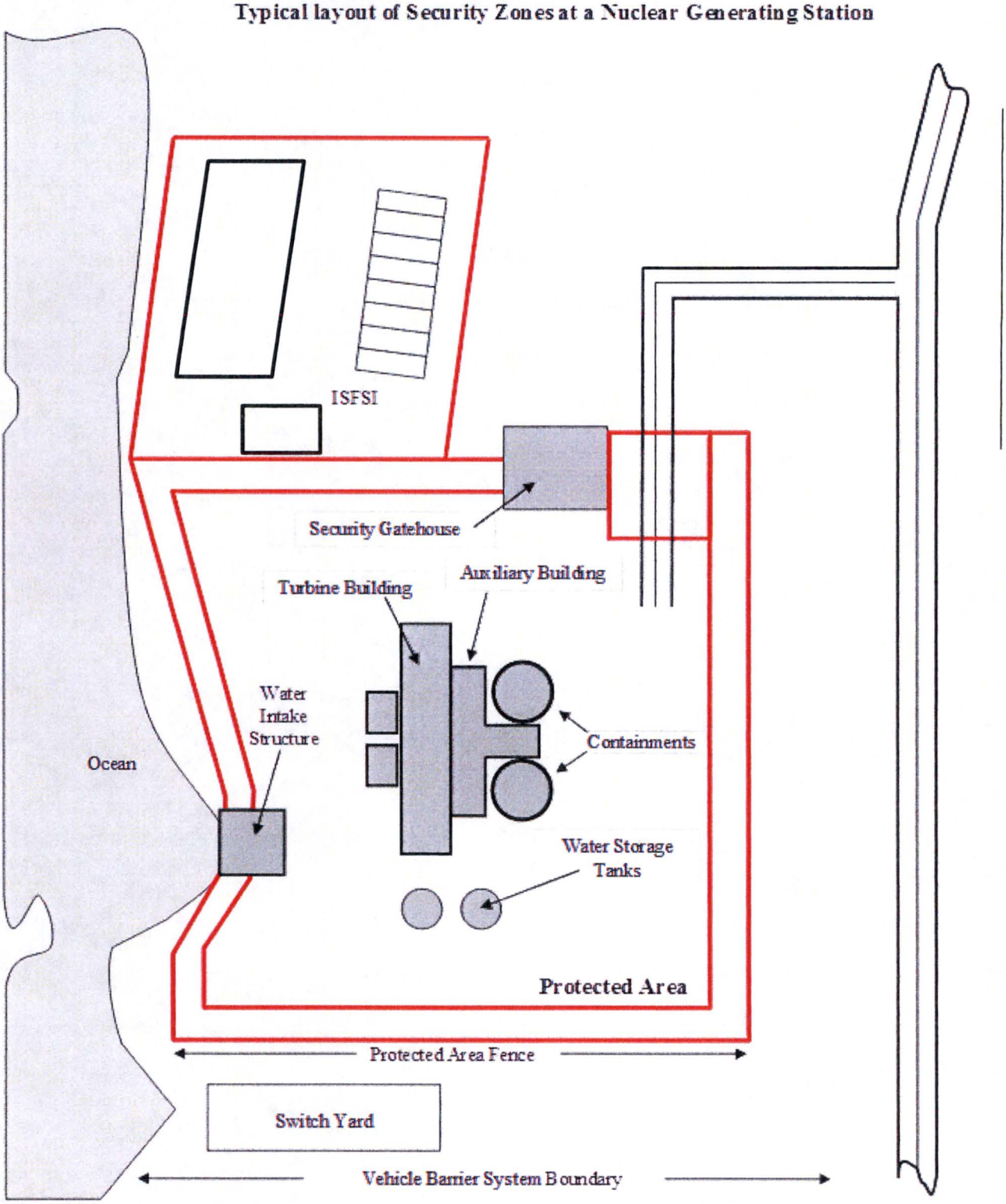

Figure PD-HU1 A Security Event that may lower the level of safety at the plant.

3.7 PD-HA1

PD-HA1	Hazards and Other Conditions Affecting Plant Safety **ALERT** Security	PD-HA1

Brief Non-Technical Description:

A **hostile action** has occurred within the plant's **Vehicle Barrier System** or the plant has been notified of an airborne threat to the plant from an aircraft that is within 30 minutes of the plant. Current plant conditions DO NOT threaten public safety.

Detailed Description:

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

1) The **Protected Area** around the plant includes vital plant structures (**Vital Areas**) and is surrounded by a security fence. Access to this area is restricted to authorized personnel and controlled by the Plant 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, airliner impact or other **hostile action** has occurred within the **Vehicle Barrier System**.

PD-HA1.2 - The Nuclear Regulatory Commission (NRC) has notified the plant of an airborne threat to the site (large aircraft likely to be used in an attack) is less than 30 minutes away.

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

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

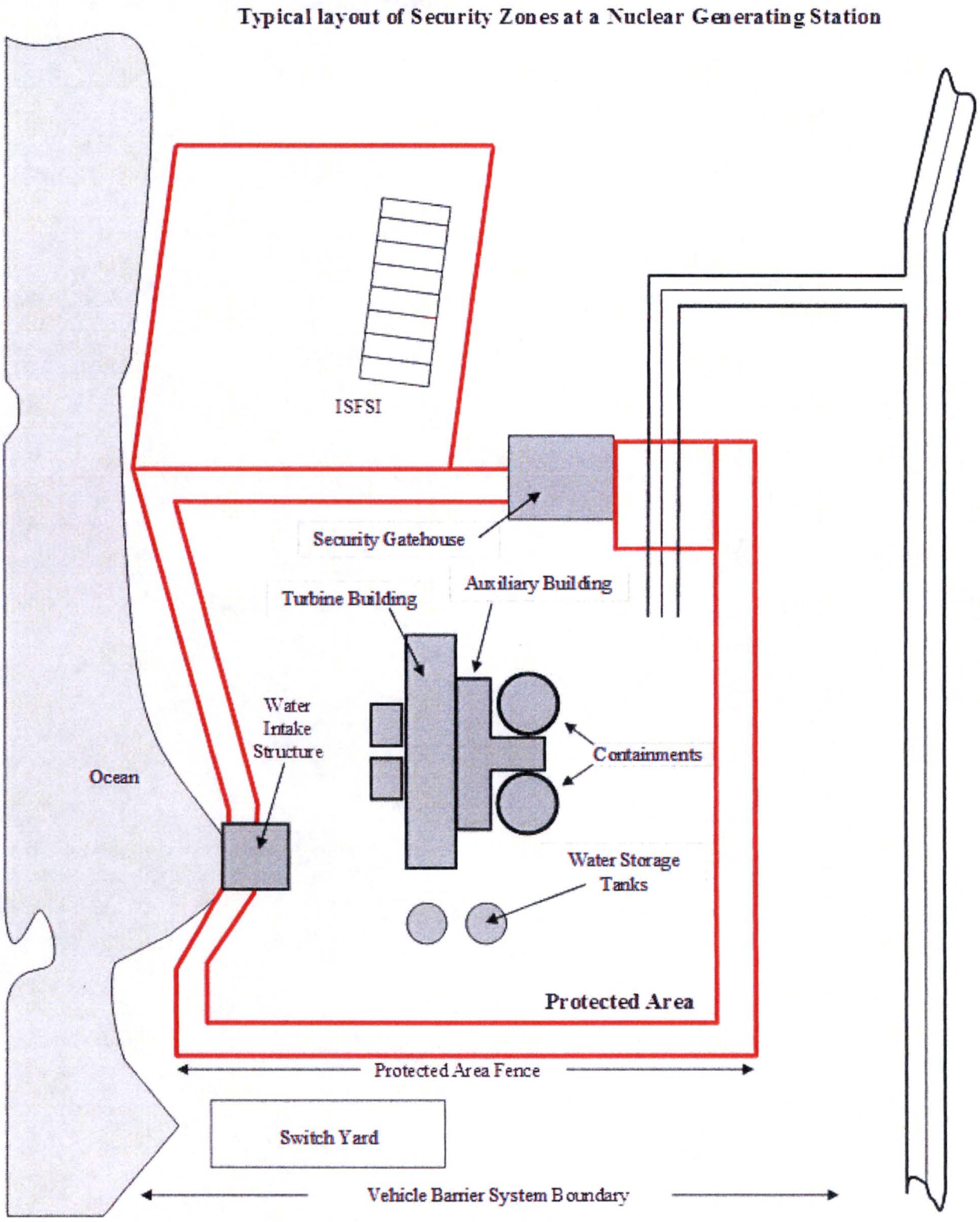

Figure PD-HA1 A security event threatens station safety.

3.8 PD-HU2

PD-HU2 **Hazards and Other Conditions Affecting Plant Safety** **PD-HU2**

NOTIFICATION OF UNUSUAL EVENT

Hazards to Systems

Brief Non-Technical Description:

An event has affected equipment necessary for cooling spent **fuel** stored at the station. Current plant conditions DO NOT threaten public safety.

Detailed Description:

The uranium **fuel** pellets and surrounding metal rods (**fuel assemblies**) have been removed from the **reactor pressure vessel** and are stored in the **spent fuel pool**.

The water in the **spent fuel pool** cools the **fuel assemblies** by removing the **decay heat** the **fission products** are still producing.

In this case, operators have observed:

PD-HU2.1 - Any of the following hazardous events:

- Seismic event (earthquake)
- Internal (water system leak) or external (natural) flooding event
- High winds or tornado strike
- Fire
- Explosion
- Other events as determined by the Shift Manager;

And

One or more pieces of equipment in one redundant set of **Spent Fuel Cooling System** equipment is damaged due to the event;

And

The damaged **Spent Fuel Cooling System** equipment cannot, or potentially cannot, perform the design function.

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

3.9 PD-HU3

PD-HU3 **Hazards and Other Conditions Affecting Plant Safety** **PD-HU3**

NOTIFICATION OF UNUSUAL EVENT

Judgment

Brief Non-Technical Description:

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

Detailed Description:

PD-HU3.1 - This EAL provides the **Emergency Director** the latitude to declare a **Notification of 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 plant.

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

3.10 PD-HA3

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

Brief Non-Technical Description:

Conditions exist in the plant, which in the judgment of the **Emergency Director** call for the kind of response associated with the **Alert** classification. Current plant 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 plant.

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

3.11 E-HU1

E-HU1 **Hazards and Other Conditions Affecting Independent Spent Fuel Storage Installation** **E-HU1**

NOTIFICATION OF UNUSUAL EVENT

Confinement Boundary

Brief Non-Technical Description:

An event has caused damage to a loaded canister **Confinement Boundary**. Current plant 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, operators 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.

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 (transit).

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

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 plant 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.

Committed Dose Equivalent (CDE)

Dose that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

Confinement Boundary

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

Command Center

The operations center of the station from which the plant can be monitored.

Decay Heat

The heat energy which results from the decay of radioactive fission products. Even though the fuel is in the spent fuel pool it will continue to produce significant amounts of decay heat. The longer the fuel is in the spent fuel pool the less decay heat is produced.

Dose Rate

The amount of ionizing (or nuclear) radiation to which an individual would be exposed per unit of time. As it would apply to dose rate to a person, it is usually expressed as rems per hour or in submultiples of this unit, such as millirems per hour. The dose rate is commonly used to indicate the level of radioactivity in a contaminated area.

Emergency Action Level (EAL)

A pre-determined, site-specific, observable threshold for an Initiating Condition that, when met or exceeded, places the plant 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 Notification of Unusual Event (NOUE) or Alert.

Emergency Director (ED)

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

Exclusion Area Boundary (EAB)

The Exclusion Area is that area surrounding the reactor, in which the reactor licensee has the authority to determine all activities including exclusion or removal of personnel and property from the area. For SONGS, the EAB is roughly formed by two semicircles with radii of 1967.5 ft. each, centered on the Unit 2 Containment dome and a point 134 ft. southeast of the Unit 3 Containment dome, with a tangent connecting the landward arcs and seaward arcs of the two semicircles.

Fission Product

Elements or compounds (radio nuclides) which result from the fission process (splitting of uranium atoms). Most fission products are highly radioactive.

Fuel

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

Fuel Assembly

An array of fuel rods (plus guide thimbles and an instrument tube) held together by grid assemblies. There are many **fuel assemblies** in the spent fuel pools and ISFSI. Also referred to as a 'fuel bundle'.

Fuel Handling Building

That part of the auxiliary building that contains the spent fuel pool and where some of the fuel handling operations are conducted. The Fuel Handling Building involves the storage of the spent fuel.

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.

Normal Levels

As applied to radiological IC/EALs, the highest reading in the past twenty-four hours excluding the current peak value.

Notification of Unusual Event (NOUE)

Events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant 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.

Offsite Dose Calculation Manual (ODCM)

The document which specifies the methods for determining the impact of radiological releases and discharges from the plant.

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 Units 2/3 (plant) Protected Area is the property surrounding Units 2 and 3 that is encompassed by physical barriers to which access is controlled. The Independent Spent Fuel Storage Installation is designated as a separate Protected Area.

rem

The rem is a unit of measure which defines the extent of biological injury that results from absorption of radiation by the body.

Roentgen (R)

Unit of measurement for the exposure of X-rays and gamma rays.

Safety System

A system required for cooling the spent fuel pool in the permanently defueled mode of operation.

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 plant. A Security Condition does not involve a hostile action.

Spent Fuel Cooling System

The systems that circulate water around the spent fuel. Normally the spent fuel is kept covered with water to remove heat. Even when fuel is removed from the reactor, it produces a significant amount of decay heat which must be removed. Without cooling water to remove this heat, the fuel and fuel cladding could overheat and crack. The amount of heat generated by spent fuel decreases with time.

Spent Fuel Pool

A large, deep pool of borated water which is used to store the spent fuel and other radioactive components prior to their storage in a long term spent fuel storage facility (see Independent Spent Fuel Storage Installation [ISFSI]). In addition to cooling, the water covering the spent fuel provides radiation shielding so that the Fuel Handling Building is accessible. The spent fuel pool is located in the Fuel Handling Building. There are two Fuel Handling Buildings onsite.

Total Effective Dose Equivalent (TEDE)

The sum of the deep dose equivalent (for external exposure) and the committed effective dose equivalent (for internal exposure) and 4 days of deposition exposure.

Unplanned

A parameter change or an event that is not 1) the result of an intended evolution or 2) an expected plant response to a transient. The cause of the parameter change or event may be known or unknown.

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.

Vital Area

An area within the plant process buildings which contains vital security or safety systems.

4.2 Acronyms and Abbreviations

CDE ..... **Committed Dose Equivalent**
EAB ..... **Exclusion Area Boundary**
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
NOUE ..... **Notification of Unusual Event**
ODCM ..... **Offsite Dose Calculation Manual**
PA ..... Protected Area
PAG ..... **Protective Action Guide**
rem ..... Roentgen Equivalent Man
SCE ..... Southern California Edison
SONGS ..... San Onofre Nuclear Generating Station
TEDE ..... **Total Effective Dose Equivalent**
VBS ..... **Vehicle Barrier System**