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HOPE CREEK GENERATING STATION
EVENT CLASSIFICATION GUIDE

December 14, 2000

CHANGE PAGES FOR

REVISION #24

PSE&G
CONTROL

COPY # HECG0065

The Table of Contents (T.O.C.) forms a general guide to the current revision of each section and attachment of the Hope Creek ECG. The changes that are made in this T.O.C. Revision #24 are shown below.

1. Check that your revision packet is complete.
2. Add the revised documents.
3. Remove and recycle the outdated material listed below.

ADD			REMOVE		
<u>Pages</u>	<u>Description</u>	<u>Rev.</u>	<u>Pages</u>	<u>Description</u>	<u>Rev.</u>
ALL	T.O.C.	24	ALL	T.O.C.	23
ALL	Section i	02	ALL	Section i	01

REVISION SUMMARY:

Editorial revision added clarification of actions if an equal or lower level emergency action level (EAL) or reportable action level (RAL) occurs during a declared emergency or when another RAL has been previously reported.

**HOPE CREEK EVENT CLASSIFICATION GUIDE
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**PSE&G
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**ECG
T.O.C.
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T.O.C.	Table of Contents/Signature Page	24	4	12/14/00
i	Introduction and Usage	02	10	12/14/00
ii	Glossary of Acronyms & Abbreviations	00	5	01/21/97
1.0	Fuel Clad Challenge	00	1	01/21/97
2.0	RCS Challenge	00	1	01/21/97
3.0	Fission Product Barriers (Table)	00	1	01/21/97
4.0	EC Discretion	00	1	01/21/97
5.0	Failure to SCRAM	00	1	01/21/97
6.0	Radiological Releases/Occurrences			
6.1	Gaseous Effluent Release	00	4	01/21/97
6.2	Liquid Effluent Release	00	1	01/21/97
6.3	In - Plant Radiation Occurrences	00	1	01/21/97
6.4	Irradiated Fuel Event	00	2	01/21/97
7.0	Electrical Power			
7.1	Loss of AC Power Capabilities	00	2	01/21/97
7.2	Loss of DC Power Capabilities	00	1	01/21/97
8.0	System Malfunctions			
8.1	Loss of Heat Removal Capability	00	1	01/21/97
8.2	Loss of Overhead Annunciators	00	1	01/21/97
8.3	Loss of Communications Capability	00	1	01/21/97
8.4	Control Room Evacuation	01	1	03/13/97
8.5	Technical Specifications	00	1	01/21/97
9.0	Hazards - Internal/External			
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9.8	Turbine Failure/Vehicle Crash/ Missile Impact	00	1	01/21/97
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WC	Hope Creek ECG Charts (Located in ERFs)	00	2	01/21/97

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Licensing is responsible for the Reportable Action Level (Section 11)
and associated Attachments (marked by "L")

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11.2	Design Basis/ Unanalyzed Condition	00	2	01/21/97
11.3	Engineered Safety Features (ESF)	01	1	08/28/97
11.4	Personnel Safety/Overexposure	00	2	01/21/97
11.5	Environmental	00	1	01/21/97
11.6	After-the-Fact	00	1	01/21/97
11.7	Security/Emergency Response Capabilities	02	1	12/15/99
11.8	Public Interest	00	1	01/21/97
11.9	Accidental Criticality/ Special Nuclear Material / Rad Material Shipments - Releases	01	2	02/18/00
11.10	Voluntary Notifications	00	1	01/21/97

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and associated Attachments (marked by "L")

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1	UNUSUAL EVENT	03	2	02/29/00
2	ALERT	03	2	02/29/00
3	SITE AREA EMERGENCY	03	2	02/29/00
4	GENERAL EMERGENCY	03	5	02/29/00
5	L NRC Data Sheet Completion Reference	00	7	01/21/97
6	Primary Communicator Log	15	8	11/20/00
7	Primary Communicator Log (GE)	deleted		02/29/00
8	Secondary Communicator Log	05	9	10/10/00
9	L Non-Emergency Notifications Reference	13	3	11/20/00
10	L 1 Hr Report - NRC Regional Office	00	3	01/21/97
11	L 1 Hr Report (Common Site) Security/Safeguards	00	3	01/21/97
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13	L 4 Hr Report - Contaminated Events Outside Of The RCA	00	7	01/21/97
14	L 4 Hr Report - NRC Operations	01	3	05/01/98
15	L Environmental Protection Plan	01	3	03/13/97
16	L Spill / Discharge Reporting	01	7	03/29/00
17	L 4 Hr Report - Fatality or Medical Emergency	00	4	01/21/97
18	L 4 Hr Report - Radiological Transportation Accident	01	4	05/12/97
19	L 24 Hr Report - Fitness For Duty (FFD) Program Events	01	3	05/12/97
20	L 24 Hour Report - NRC Regional Office	00	3	01/21/97
21	L Reportable Event - LAC/Memorandum Of Understanding (M.O.U.)	00	2	01/21/97
22	L T/S Required Engineering Evaluation	00	2	01/21/97
23	Reserved			
24	UNUSUAL EVENT (Common Site)	04	3	02/29/00
25	L 1 Hr Report (Common Site) - Major Loss Of Emergency Assessment, Offsite Response, <u>OR</u> Communications Capability	01	3	07/22/99


SIGNATURE PAGE

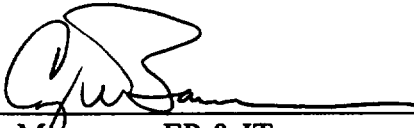
Prepared By: William Detwiler, Rev 18 12/07/00
(If Editorial Revisions Only, Last Approved Revision) Date

Section/Attachments Revised: N/A _____
(List Non-Editorial Only - Section/Attachments) Date

Reviewed By: N/A _____
Station Qualified Reviewer Date

Reviewed By: N/A _____
Department Manager Date

Reviewed By:  12/12/00
Manager - Licensing Date
(Reportable Action Level (Section 11) and associated Attachments marked by "L")

Reviewed By:  12/8/00
Manager - EP & IT Date

Reviewed By: N/A _____
Manager - Quality Assessment - NBU
(If Applicable) Date

SORC Review and Station Approvals

<u>N/A</u>	<u>N/A</u>
Mtg. No. Hope Creek Chairman	Vice President Nuclear Operations
_____	_____
Date	Date

Effective Date of this Revision: 14
12/15/00
Date

**HOPE CREEK
EVENT CLASSIFICATION GUIDE
INTRODUCTION & USAGE
Section i**

ECG
Section i
Pg 1 of 10
**PSE&G
CONTROL
COPY #** HECG0065

I. PURPOSE OF THE EVENT CLASSIFICATION GUIDE (ECG)

- A. To provide a central reference document that enables the Operations Superintendent (OS) or the Emergency Coordinator (EC) to classify emergency or non-emergency events and conditions.
- B. To provide the required procedures for immediate and prompt notifications and direction to other required written reports.
- C. To direct the Emergency Coordinator to implement procedures that will ensure appropriate response as required by the classified emergency level.

II. EMERGENCY CLASSIFICATION DESCRIPTIONS

A. Emergency Classes:

- 1. The NRC and Federal Emergency Management Agency (FEMA) established four emergency classes for fixed nuclear facilities.
- 2. An emergency class is used for grouping off-normal nuclear power plant conditions according to their relative radiological seriousness and the time sensitive onsite and offsite actions needed to respond to such conditions.
- 3. The four emergency classes are (in order):

Unusual Event (UE)	Least Severe
Alert (A)	
Site Area Emergency (SAE)	
General Emergency (GE)	Most Severe

B. Unusual Event:

- 1. Plant events, which are in progress or have occurred which indicate a potential degradation of the plant safety level.
- 2. The lowest level of emergency at the plant, which can usually be handled by the normal operating shift.

3. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs. Dose consequences in Unrestricted Areas would not reach 20 mRem TEDE.

C. Alert:

1. Plant events, which are in progress or have occurred that are more serious than an Unusual Event that involve an actual or potential substantial degradation of the plant safety level.
2. Emergency Response personnel are required in addition to the normal operating shift. The entire emergency response organization is called in. The TSC is activated, and the EOF and ENC are manned and may activate if needed for support.
3. Any release of radioactive material is expected to be limited to a small fraction of the EPA Protective Action Guideline exposure levels. Dose consequences in Unrestricted Areas would not reach 100 mRem TEDE.

D. Site Area Emergency:

1. Serious plant events are in progress or have occurred which involve actual or likely major failure of plant functions required for protection of the public.
2. The entire emergency response organization is activated.
3. Any release of radioactive material is not expected to exceed EPA Protective Action Guideline exposure levels beyond the plant boundary. Dose consequences in Unrestricted Areas not to exceed 1000 mRem TEDE.

E. General Emergency:

1. Serious plant events are in progress or have occurred which involve actual or imminent core degradation or core melting with potential for loss of containment integrity.
1. The entire emergency response organization is activated.
3. Release of radioactive material can be expected to exceed EPA Protective Action Guideline exposure levels of 1000 mRem TEDE in Unrestricted Areas.

III. EVENT CLASSIFICATION GUIDE (ECG) STRUCTURE

A. Overall Layout: The ECG is divided into 4 segments, which are:

1. Front Matter: Information that includes the Table of Contents, Introduction & Usage, and a Glossary of Acronyms.
2. Classification Sections: Flow chart diagrams used to classify events/conditions as emergencies or non-emergencies.
3. Attachments: Implementing documents that provide direction for emergency and non-emergency classification, notification, reporting requirements, references and forms required to facilitate event communications.
4. ECG Chart: Wall chart (Located at Emergency facilities) used to classify events/conditions as emergencies.

B. Classification Sections Format

With the exception of ECG Section 3.0, the ECG section flowcharts are comprised of the following elements:

1. Initiating Condition (IC): A generic nuclear power plant condition or event where either the potential exists for a radiological emergency or non-emergency reportable event OR such an emergency or non-emergency reportable event has occurred.
2. OPCON: Refers to the Operational Condition at Hope Creek during which a particular IC/EAL is applicable. The Operational Condition that the plant was in when the event started, prior to any protection system or operator actions, should be utilized when classifying events.

(From HCGS Technical Specifications, Sect. 1, Definitions)

<u>OPCON TITLE</u>	<u>MODE SWITCH</u>	<u>RCS TEMP</u>
1. POWER OPERATION	Run	ANY
2. STARTUP	Startup/Hot Standby	ANY
3. HOT SHUTDOWN	Shutdown	> 200 °F
4. COLD SHUTDOWN	Shutdown	≤ 200 °F
5. REFUELING *	Shutdown Or Refuel	≤ 140 °F

* Fuel in the RPV with the head closure bolts less than fully tensioned or with the head removed.

3. **Emergency Action Level (EAL) or Reportable Action level (RAL):** A predetermined, site-specific, observable threshold used to define when the generic initiating condition has been met, placing the plant in a given emergency class or non-emergency report. An EAL/RAL can be an instrument reading, an equipment status indicator, a measurable parameter, a discrete observable event, analysis results, entry into specific EOPs, or another phenomenon that indicates the need for classification of an emergency or non-emergency.
4. **Action Required:** Identifies the specific emergency class or non-emergency report that is required and refers the user to a specific ECG Attachment for implementation direction for the emergency or non-emergency event declared.

C. ECG Attachments:

The ECG Attachments are written in various formats depending on their intended use. The attachments are used for implementing notifications, protective actions, directions to Emergency Plan Implementing Procedures (EPEPs), as well as providing essential phone listings and informational data for immediate reference.

D. ECG Chart: (Located at Emergency Facilities)

1. **Emergency Action Level (EAL):** A predetermined, site-specific, observable threshold used to define when the generic initiating condition has been met, placing the plant in a given emergency class. An EAL can be an instrument reading, an equipment status indicator, a measurable parameter, a discrete observable event, analysis results, entry into specific EOPs, or another phenomenon, which indicates the need for classification of an emergency.
2. **OPCON:** Refers to the Operational Condition at Hope Creek during which a particular EAL is applicable. The Operational Condition that the plant was in when the event started, prior to any protection system or operator actions, should be utilized when classifying events.

(From HCGS Technical Specifications, Sect. 1, Definitions)

<u>OPCON TITLE</u>	<u>MODE SWITCH</u>	<u>RCS TEMP</u>
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* Fuel in the RPV with the head closure bolts less than fully tensioned or with the head removed.

3. The specific emergency classification identifies the ECG Attachment for implementation. Specific EALs identify "Attachment 24, Unusual Event (Common Site)" for implementation.

IV. EVENT CLASSIFICATION GUIDE (ECG) USE

NOTE

It is expected the OS always serves at the EC during the initiating event even if the OS is out of the control room. The Control Room Supervisor (CRS) assumes operational command and control responsibility for the shift crew but not as the Emergency Coordinator. The CRS should ensure that the OS is immediately called back to the control room on any conditions that require ECG assessment. Only if the OS is not able (sick or hurt) may the CRS serve as the EC.

- A. EC Judgment: The EALs described in the ECG are not all inclusive and will not identify each and every condition, parameter or event which could lead to an event classification. The following guidance should be used by the EC:

IF an EAL has been exceeded, but satisfaction of the IC is in question,
THEN CLASSIFY the event IAW the EAL.

IF however, it is clear that the EAL has NOT been exceeded (and will not),
THEN DO NOT classify the event based solely on the IC.

IF an IC has been satisfied, but exceeding the specific EAL is in question,
THEN CLASSIFY the event IAW the IC.

In any case,

IF the plant conditions are equivalent to one of the four emergency classes as described in Section II above,

THEN CLASSIFY the event based on EC discretion IAW ECG Section 4.0.

Assessment Time: Assessment of an Emergency Condition should be completed in a timely manner, which is considered to be within 15 minutes of when events are known or should have been known. If an EAL specifies a duration time (e.g. loss of annunciators for >15 min.), then the assessment time runs concurrently with the EAL duration time and is the same length.

If an event is recognized or reported and the required duration time is known to have already been exceeded then the duration portion of the EAL should be considered as being satisfied and the assessment time for the remaining portions of the EAL should be within 15 minutes from the time of recognition.

- B. Implementing Actions: The ECG is not a stand-alone document. At times, the ECG will refer the user to other attachments or procedures for accomplishment of specific evolutions such as: Accountability, Recovery, development of PARs, etc.

The ECG should be considered an "Implementing Procedure" and used in accordance with the requirements of a "Category II" procedure as defined in NC.NA-AP.ZZ-0001 (Q). The ECG classification sections allow for judgment and decision making as to whether or not an EAL or RAL is exceeded.

- C. Classification: To use this ECG volume, follow this sequence:

NOTE

Comparison of redundant instrumentation, indications, and/or alarms should be used to confirm actual plant conditions.

1. ASSESS the event and/or plant conditions and DETERMINE which ECG section(s) is most appropriate.
2. REFER to Section EAL/RAL Flowchart diagram(s), review and identify the Initiating Conditions that are related to the event/condition that has occurred or is ongoing.

(ECG Section 3.0 has its own unique usage instruction as part of the Fission Product Barrier Table 3.0)

NOTE

The Emergency Coordinator should classify and declare an emergency before an Emergency Action Level (EAL) is exceeded if, in the EC's judgment, it is determined that the EAL will be exceeded within 2 hours.

3. REVIEW the associated EALs or RALs as compared to the event and SELECT the highest appropriate emergency or reportable action level. If identification of an EAL is questionable refer to paragraph IV.A above.

If there is any doubt with regard to assessment of a particular EAL or RAL, the ECG Technical Basis Document should be reviewed. Words contained in an EAL or RAL that are bold face are either threshold values associated with that action level or are words that are defined in the basis for that specific EAL/RAL.

4. If an EAL has been entered, then equal level EALs or lower level EALs and RALs are not required to be reported as long as the applicable information is communicated to the NRC using Attachment 5, NRC Data Sheet.

If a RAL has already been reported and other conditions subsequently appear that meet the requirements for another RAL, whether or not it is a consequence of the original RAL conditions, then a separate RAL report shall be made. However, multiple RALs may be reported in single notification provided that the time requirement for all the RALs being reported are met.

5. The STA is responsible to perform an independent verification of the EAL classification. The STA verification does not alleviate the requirement of the OS to make a timely classification.
6. IDENTIFY and IMPLEMENT the referenced Attachment under Action Required.
7. CONTINUE assessment after classification and attachment initiation, by returning to the ECG Sections to review EALs that may result in escalation/de-escalation of the emergency level.

D. Emergency/Non-Emergency Short Duration Events and Conditions Discovered After-The-Fact Guidance

1. A 'Short Duration' emergency event is defined as an event that meets or exceeds one or more Emergency Action Level's (EALs) for less than 15 minutes (i.e. action is taken and the plant returned to condition where no EAL applies). For a 'Short Duration' event the Control Room Staff is aware of the event and does realize that an EAL had been exceeded.
2. Short Duration' events that occur will be assessed and emergency classification made, if appropriate, within about 15 minutes of control room indications or the receipt of the information, indicating that an EAL, has or had been exceeded. This classification is to be made even if no EAL's are currently being exceeded (i.e. actions have been taken to stabilize the Plant such that no EAL's currently applies).

NOTE

Plant emergency events that are in progress or that have occurred with ongoing adverse consequences/effects should not be considered "After-The-Fact" events and should therefore be classified and declared as an ongoing emergency event.

3. An 'After the Fact' event is defined as an event that exceeded an EAL threshold and was not recognized at the time of occurrence, but is identified greater than 1 hour after the condition has occurred (e.g., as a result of a routine log review, record review, post trip review, engineering evaluation) and the condition no longer exists. For an 'After the Fact' event the Control Room Staff, at the time of the occurrence, was either not aware of the event and / or did not realize that an EAL was exceeded.
4. EMERGENCY CONDITIONS - "After-The-Fact" events that occur will be assessed and evaluated to ensure that no EAL currently applies, then an emergency declaration is NOT required. A non-emergency, One-Hour Report should be initiated in accordance with ECG Section 11.6, After-The-Fact.
5. NON-EMERGENCY CONDITIONS - if After-The-Fact (regardless of whether the event is on-going at the time of discovery) it is discovered that an event or condition had occurred that should have resulted in the classification and implementation of a non-emergency report (1 hour, 4

hour, 24 hour), the applicable non-emergency report attachment in the ECG should be implemented.

E. NRC Communications During An Emergency Guidance

1. Complete and accurate communications with the NRC Operations Center during emergencies is required and expected. The purpose of notifying the NRC within one-hour of an emergency, is to provide event information when immediate NRC action may be required to protect the public health and safety OR when the NRC needs accurate and timely information to respond to heightened public concern. If the information we provide is not accurate or does not contain sufficient detail, then we hamper the NRC from doing their job.
2. The NRC Data Sheet, along with the Initial Contact Message Form, is the primary vehicle to ensure the NRC is kept informed. General Guidance on completing the event description portion of the NRC Data Sheet is provided in Attachment 5 of the ECG.

F. Voluntary/Courtesy Reporting of Non-Emergency Events Guidance

In accordance with NUREG 1022, Rev 1, voluntary reporting is encouraged. PSEG may make voluntary or courtesy NRC notification (RAL 11.10.2) concerning events or conditions that may be of interest to the NRC.

The NRC responds to any voluntary notification of an event or conditions as its safety significance warrants, regardless of how PSEG classifies the event.

IF it is determined at some later time that the event was reportable under a specific part of 10CFR50.72 as defined in the ECG,
THEN PSEG should update the NRC with this information.

G. Event Retraction Guidance

IF an ENS notification to the NRC was made as directed by the applicable ECG Attachment AND
it is later determined that the event or condition is not reportable,
THEN the notification may be retracted as follows:

1. OBTAIN both the Manager – Operations, Hope Creek and Operations Superintendent’s approval of any proposed retractions.

2. COMPLETE "page 1" of the NRC Data Sheet which was implemented to make the original notification. Event Description Section of NRC Data Sheet should explain the rationale for the retraction.
3. NOTIFY the NRC Operations Center and NRC Resident Inspector
4. RECORD on the "NRC Data Sheet" the name of the NRC Contact that received the retraction information.
5. FORWARD the retraction "NRC Data Sheet" with the rest of the original attachment of the ECG that was implemented when the original notification was made.

H. Non-emergency Information Update Guidance

IF additional information needs to be transmitted to the NRC concerning a previously reported non-emergency event,
THEN MAKE notifications as follows:

1. COMPLETE Page 3 of the NRC Data Sheet form for event update.
2. OBTAIN the approval of the OS to release the information.
3. NOTIFY all organizations and individuals who were initially contacted AND DOCUMENT the update.
4. FORWARD all update paperwork with the original ECG Attachment package.

I. Common Site Events Guidance

Selected EALs (Unusual Event level only) and selected RALs have been designated as "Common Site" events. These events will be annotated with the words, "Common Site" in the Action Required portion of the EAL sections.

The referenced ECG Attachment will direct the OS to establish agreement on which OS will declare and report the event. Therefore, either Salem or Hope Creek will report Common Site events, but not both.

Events classified at an Alert or higher level require plant specific information to be provided to the states of New Jersey and Delaware, the NRC, and to PSEG Emergency Response Facilities and therefore will not be classified as common site events.