

**Attachment 1**

**Current to Proposed Emergency Plan Comparison Review**

## 1. INTRODUCTION

This comparison review identifies the differences between the current Emergency Plan (January 2018) and the proposed Emergency Plan. Differences of intent are further evaluated to determine whether the adoption of the proposed Emergency Plan would constitute a potential reduction in effectiveness from the current Emergency Plan.

### Review Methodology

The comparison between the proposed Emergency Plan and the current Emergency Plan was made as follows:

1. The first step compares the content of the proposed emergency plan to the current emergency plan to determine whether there was any change. Comparisons where the wording is the same are identified as No Change.
2. Where a difference does exist between the wording of the two documents, it is evaluated as one of three types:
  - *Editorial* – Differences that include typographical, spelling, grammar, punctuation, title, formatting and paragraph numbering changes; or administrative changes that do not change intent or level of commitment.
  - *No Reduction in Effectiveness (Non-RIE)* – Differences that sustain or improve the licensee's capability to perform an emergency planning function in the event of a radiological emergency.
  - *Reduction in Effectiveness (RIE)* – Differences that results in reducing the licensee's capability to perform an emergency planning function in the event of a radiological emergency.

## 2. SUMMARY

The results of the comparison between the current Emergency Plan and the proposed Emergency Plan revealed the following changes that could be considered reductions in effectiveness (RIEs). Potential RIEs are further evaluated and documented in Attachment 2, VNC REP Reduction in Effectiveness Review, of this submittal package.

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|------------|--|
| #5, 61, 66 | The proposed REP removes applicability to the SNM facilities also located on the VNC site.<br><br>The proposed REP does not include EAL thresholds for facilities other than NTR and the SAFSTOR reactor facilities.<br><br>The proposed REP removes EPZs for buildings that do not apply to the REP and do not have a regulatory requirement for an emergency plan. |
| #31, 35    | The proposed REP does not require an Emergency Director (previously titled EOC) to be on site 24/7.  |
| #47        | The proposed REP removes specific information regarding the location and name of the medical services treatment facilities.  |
| #57        | The proposed REP does not include the Site Area Emergency classification level.  |
| #71        | The proposed REP specifies the time requirement for State notification [[ ]].  |

Note: Tables and figures contained in the current and the proposed common emergency plans are not included in the following comparison table. Red text is used in the comparison table to refer to these items. All tables and figures were reviewed for possible commitments and key items were included at the end of the comparison table.

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
1.	<p><b>1 INTRODUCTION</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.1 &amp; NUREG-0849 Section 1.0)</u>                      The plan shall briefly introduce the type of reactor, the reactor’s purpose, where it is located, and the purposes of the emergency plan.</p> <p>The purpose of the introduction is to provide a general orientation and common understanding about the reactor and the objectives of the plan for those members of the reactor organization, the public, and local, county, state, and federal agencies that will read and study the plan.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
2.	<p><b>1.1 Objective</b>                      This emergency plan contains security related information and describes the approach used to identify, communicate, respond to and minimize the consequences of classified emergencies; it documents regulatory compliance and site specific commitments; and provides a basis for the response and maintenance implementing procedure instructions. This plan will be provided to external stakeholders as appropriate.</p>	<p><b>1.0 INTRODUCTION</b>                      The purpose of this plan is to establish the organization and procedures for coordinating the Vallecitos Nuclear Center’s (VNC) capability and off-site support organizations for handling radiological emergencies involving the VNC reactor facilities. Effective implementation of this plan will minimize injury to personnel on site and minimize loss of property. Instructions for implementation of this plan are provided in the document, “Site Emergency Procedures - Vallecitos Nuclear Center”, which, in conjunction with procedures for specific facilities or areas, where appropriate, will provide the guidance for emergency preparedness and response to reactor-related emergencies.</p>	<p><b>Editorial</b>                      Administrative change – Paragraph rewritten as an objective.</p>

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3.	<p><b>1.2 Scope and Regulatory Basis</b>  <b>1.2.1 Scope</b>                      There are four reactor facilities at the Vallecitos Nuclear Center (VNC) that are licensed by the NRC under 10 CFR 50 requirements; the Nuclear Test Reactor (NTR), which has a current operating license, and the other three reactor facilities which are in a shutdown SAFSTOR decommissioning mode with possess only licenses:</p> <ul style="list-style-type: none"> <li>• Vallecitos Boiling Water Reactor (VBWR) DPR-1</li> <li>• ESADA Vallecitos Experimental Superheat Reactor (EVESR) DR-10</li> <li>• GE Test Reactor (GETR) TR-1</li> </ul>	<p><b>1.0 INTRODUCTION</b>                      At VNC there are four reactor facilities licensed by the NRC. A research reactor (the NTR) has an operating license; the other three reactor facilities (VBWR, EVESR, and GETR) are in a SAFSTOR decommissioning mode and have “possess only” licenses.</p>	<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
4.	<p>This emergency plan has been developed for the NTR, license R-33, in accordance with the applicable regulations, guidance and information documents. Per NRC letter dated 03/19/13 and DRK-2013-14 response the NTR emergency plan and implementing procedures are sufficient to meet the emergency planning requirements for the three shutdown defueled reactors (spent fuel for the SAFSTOR facilities is no longer maintained or stored on site).</p>		<p><b>Editorial</b>                      Administrative change – Specific wording added to provide basis information directly within the emergency plan.</p>
5.	<p>Other VNC facilities which are governed under Special Nuclear Material (SNM) federal and state licenses do not contain sufficient radioactive materials to require an emergency plan (NRC Letter SNM-960 Amendment 5 12/20/90 and GEH 03/08/18 Memo, Evaluation that a VNC Radiological Emergency Plan is not Required for Radioactive Material Authorized by the State of California).</p> <ul style="list-style-type: none"> <li>• <u>Building 102</u> contains administrative offices and shielded facilities (hotcells) for experiments, sealed source manufacture, and examination of irradiated materials. The building also includes radiological equipment repair and refurbishment shop areas, the storage pool and dry pit storage as well as a radiochemistry laboratory equipped with standard chemical and radiochemical apparatus.</li> </ul>	<p><b>1.0 INTRODUCTION</b>                      VNC also has two other major radioactive material handling areas, Building 102 and Building 103. Building 102 houses the site’s hotcell facilities and Building 103 contains radiochemistry laboratories and the site countlab.                       All areas on-site are bounded, for radiological release, by the core material type and radiological activity of the operating reactor at NTR.</p> <p><b>1.2 Other Facilities</b>  <u>Building 102</u> contains administrative offices and shielded facilities (hotcells) for experiments, sealed source manufacture, and examination of irradiated materials. The radiological areas encompass multiple shielded (hot cell) facilities equipped with remote manipulators to conduct experiments and analyses with</p>	<p><b>RIE</b>                      The proposed REP removes applicability to the SNM facilities also located on the VNC site. SNM facilities were added inappropriately in 2013.</p>



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		<p><u>Hillside storage area</u> is used to store Low Level Radwaste. Irradiated fuel segments and hardware are stored in the [[ ]] area. These materials are stored on an interim basis awaiting shipment off site for permanent disposal.</p>	
6.	<p>The VNC Emergency Response Organization (ERO) may be used to address events occurring at those facilities outside of a declared emergency. Event response involving SNM facilities are primarily controlled through site industrial / hazards procedures that are outside the scope of this emergency plan.</p>		<p><b>Non-RIE</b>                      Added description on use of the NTR REP ERO for events to other site facilities that do not fall under the requirements of 10 CFR 50.</p>
7.	<p>1.2.2 <u>NTR Regulatory Basis</u>                      NRC Regulatory Guide 2.6, Emergency Planning for Research and Test Reactors, provides test and research reactor licensees with a method that the NRC considers acceptable for use in complying with the following regulations on the content of their emergency plans:</p> <ul style="list-style-type: none"> <li>• 10 CFR 50.34(b)(6)(v) requires that each application for a Part 50 license to operate a facility include a final safety analysis report that contains, along with other information, the applicant's plans for coping with emergencies, including the items specified in Appendix E to 10 CFR 50.</li> </ul> <p>Note – NTR is the only facility at VNC that is required to maintain a safety analysis report.</p> <ul style="list-style-type: none"> <li>• 10 CFR 50.54(q) requires Part 50 licensees to follow and maintain the effectiveness of emergency plans that meet the requirements of 10 CFR 50 Appendix E.</li> </ul>	<p><b>1.0 INTRODUCTION</b>                      VNC is maintaining this site emergency preparedness plan using the requirements for research reactors as detailed in Regulatory Guide 2.6 and ANSI/ANS Standard 15.16. VNC has determined using this emergency preparedness plan is sufficient in attaining an acceptable state of Site emergency planning and preparedness.</p>	<p><b>Editorial</b>                      Administrative change – Added detail from RG 2.6 regarding the specific regulations that apply to NTR.</p>

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	<ul style="list-style-type: none"> <li>10 CFR 50 Appendix E identifies the minimum requirements for emergency plans. It also indicates that because operation of test reactors involve distinct considerations, the size of the emergency preparedness zone (EPZ) and degree of compliance with requirements in Appendix E, sections I through V, as necessary, will be determined on a case-by-case basis using this regulatory guide for research and test reactor, and other non-power production and utilization facility emergency response plans.</li> </ul> <p>Regulatory Guide 2.6 Revision 2 endorses the consensus standard ANSI/ANS-15.16-2015, stating that it provides specific acceptance criteria that; (1) comply with the applicable requirements contained in the above listed regulations, and (2) supply a basis to develop acceptable emergency response plans and improve emergency preparedness.</p> <p>Consistent with ANSI/ANS-15.16, NUREG-0849 provides areas of review, planning standards, and items for NRC staff to evaluate a licensee’s compliance with the applicable emergency planning requirements. NUREG-0849 is used as a basis for the level of planning detail included in this document.</p>		
8.	<p><b>1.3 Location</b>                      VNC, owned and operated by General Electric Hitachi (GEH), is located in the west-central portion of the State of California about 15 miles east of the southern end of San Francisco Bay, approximately 35 air miles east-southeast of San Francisco and 20 air miles north of San Jose. It lies on the north side of the Vallecitos Valley. The nearest sizeable towns are Pleasanton, located 4.1 miles to the north-northwest and Livermore, located 6.2 miles to the northeast.</p> <p>The site is on the north side of Vallecitos Road (State Route 84), which is a two and four-lane paved highway. The majority of the site is undeveloped with hills ranging in elevation from 600 to 900 feet above mean sea level. Access to Vallecitos Road from the south-west is via</p>	<p><b>1.0 INTRODUCTION</b>                      The Vallecitos Nuclear Center (VNC) is located 4.1 air miles south-southeast of Pleasanton, California, approximately 35 air miles east-southeast of San Francisco and 20 air miles north of San Jose. Figure 1 locates VNC in the San Francisco Bay Area. The VNC facilities are described below. Figure 2 shows building locations.</p> <p>[Figure 1 – Bay Area Map]                      [Figure 2 – Vallecitos Nuclear Center Site Map]</p>	<p><b>Editorial</b>                      Administrative change – Updated VNC location description and maps.</p>

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	Interstate Highway 680, and from the north-east via Stanley Boulevard or Interstate Highway 580. [Figure 1-1 – VNC Bay Area Map]		
9.	<p><b>1.4 Reactor Description</b></p> <p>The NTR, located in Building 105, is a heterogeneous enriched-uranium graphite-moderated and -reflected light-water-cooled thermal reactor. The reactor is a variable level neutron source used in the research, development, analytical and commercial programs of GEH and its customers. The NTR is primarily engaged in neutron radiography non-destructive material imaging. Per the General Electric Nuclear Test Reactor Safety Analysis Report Section 1.1, the NTR is licensed to operate at power levels not in excess of 100 kW (thermal).</p> <p>GETR and related structures are located in the 200 Area. VBWR and EVESR and related structures are located in the 300 Area. These facilities are not occupied. Only relatively minor activities associated with inspection and maintenance of the deactivated facilities are currently performed. No fuel assemblies from these reactors remain on-site. Radiation and contamination levels in all of the SAFSTOR facilities are significantly reduced since shut-down several decades ago and well below values typical of operating research &amp; test reactors.</p> <p>Those and other areas regulated under separate licenses at VNC that contain radioactive material are illustrated below.</p> <p>[Figure 1-2 – VNC Site Layout]</p>	<p><b>1.1 Reactor Facilities</b></p> <p>The Nuclear Test Reactor (NTR) is located in Building 105. The NTR is a heterogeneous, enriched-uranium, graphite-moderated and -reflected, light-water-cooled thermal reactor licensed to operate at power levels not in excess of 100 kW (thermal). The core is cooled by either natural or forced circulation of deionized light water circulated in an aluminum primary system located inside a heavy concrete, thick-walled shielded cell. The reactor is a variable level neutron source used in the research, development, analytical and commercial programs of GE and its customers.</p> <p>The deactivated General Electric Test Reactor (GETR) and related structures are located in the 200 Area. The GETR has a “possess only” license, and all fuel has been shipped from the facility. Only relatively minor activities associated with inspection and maintenance of the deactivated plant are currently performed. Normally, the facility is unoccupied and is in the NRC decommissioning status of SAFSTOR.</p> <p>The Vallecitos Boiling Water Reactor (VBWR) and the ESADA Vallecitos Experimental Superheat Reactor (EVESR) located in the 300 Area have been deactivated and have “possess only” licenses. The NRC-licensed portions of the facilities are inspected periodically and maintenance performed as necessary. Normally, the facilities are unoccupied and are in the NRC decommissioning status of SAFSTOR.</p> <p>Contamination levels in all reactors are significantly reduced from when the reactors were shutdown and well below typical operating research reactor cores. The highest recorded general area dose rates are</p> <p>[[  ]].</p>	<p><b>Editorial</b></p> <p>Administrative change – Updated descriptions of the reactor facilities.</p>
10.	2 DEFINITIONS		Editorial

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	<p><u>Planning Standard (&amp; ANSI/ANS-15.16 Section 3.2 &amp; NUREG-0849 Section 2.0)</u>                      Terms unique to the reactor facility or that have a special meaning when used in the plan shall be defined in the plan.</p>		Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.
11.	<p><b><u>Assessment Actions</u></b> – Those actions taken during or after an emergency to obtain and process information necessary to make decisions to implement corrective, protective and recovery actions.</p>	<p><b><u>2.2 Assessment Actions</u></b>                      Those actions taken during or after an emergency to obtain and process information necessary to make decisions to implement corrective, protective and recovery actions.</p>	No Change
12.	<p><b><u>Corrective Actions</u></b> – Those actions taken to arrest and terminate an emergency.</p>	<p><b><u>2.3 Corrective Actions</u></b>                      Those actions taken to arrest and terminate an emergency.</p>	No Change
13.	<p><b><u>Direct</u></b> – Directing involves obtaining data and recommendations, processing this input, and then ensuring the performance of one or more actions or activities such as additional assessment, protective or corrective actions. The performance of actions or activities is generally through responsible intermediaries.</p>	<p><b><u>2.8 Direct</u></b>                      Directing involves obtaining data and recommendations, processing this input, and then ensuring the performance of one or more actions or activities such as additional assessment, protective or corrective actions. The performance of actions or activities is generally through responsible intermediaries.</p>	No Change
14.	<p><b><u>Emergency Action Level (EAL)</u></b> – A pre-determined, site-specific, observable threshold for an initiating condition that, when met or exceeded, result in actions such as (a) establishing emergency classes and (b) initiating appropriate emergency measures.</p>		<p><b>Editorial</b>                      Administrative change – Added VNC definition developed using ANSI/ANS-15.16 definition.</p>
15.	<p><b><u>Emergency Classification Level (ECL)</u></b> – 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, in ascending order of severity, are:</p> <ul style="list-style-type: none"> <li>• Unusual Event (UE)</li> <li>• Alert</li> <li>• Site Area Emergency (SAE)</li> <li>• General Emergency (GE)</li> </ul>		<p><b>Editorial</b>                      Administrative change – Added VNC definition developed using NEI 99-01 R6 definition.</p>

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16.	<b>Emergency Control Center (ECC)</b> – The primary base of VNC emergency operations during a declared event to facilitate the management and coordination of overall emergency response.		<b>Editorial</b> Administrative change – Added VNC definition developed using GE Wilmington definition.
17.	<b>Emergency Planning Zone (EPZ)</b> – Area for which off-site emergency planning is performed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The EPZ size is dependent on reactor power level and the distance beyond the site boundary at which the protective action guides could be exceeded. Refer to Section 6 for the VNC facility specific EPZs.		<b>Editorial</b> Administrative change – Added VNC definition developed using ANSI/ANS-15.16 definition.
18.	<b>Fire</b> – Combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute fires. Observation of flame is preferred but is NOT required if large quantities of smoke and heat are observed.		<b>Editorial</b> Administrative change – Added NEI 99-01 definition.
19.	<b>Holding Statement</b> – A statement reviewed and approved for accuracy prior to issuance, that provides prepared information to distribute in response to rumors or inquiries from news or social media outlets, community officials, regulatory agencies, or other interested parties.		<b>Editorial</b> Administrative change – Added VNC definition developed using GE Wilmington definition.
20.		<b>2.6 Normal Working Hours</b> The VNC operates on flex time between [[  ]]	<b>Non-RIE</b> Removed definition. Term is no longer used to formally describe ERO site presence. Refer to change #31 for details regarding ERO response.
21.		<b>2.7 Off-hours</b> The off-hours are all hours not defined as normal working hours.	<b>Non-RIE</b> Removed definition. Term is no longer used to formally describe ERO site presence. Refer to change #31 for details regarding ERO response.
22.	<b>Off-Normal Condition</b> – A situation or event, other than those addressed by site personnel on a routine basis, which are evaluated for emergency plan entry the Emergency Director.		<b>Editorial</b> Administrative change – Added VNC definition developed using GE Wilmington definition.
23.	<b>Off-Site</b> – The geographical area that is beyond the site		<b>No Change</b>

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	boundary.		
24.	<b>On-Site</b> – The geographical area that is within the site boundary.		<b>No Change</b>
25.	<b>Operations Boundary</b> – The area within the site boundary such as the reactor building (or the nearest physical personnel barrier in cases where the reactor building is not a principal physical personnel barrier) where GEH has direct authority over all activities. The area within this boundary shall have prearranged evacuation procedures known to personnel frequenting the area.  Refer to Section 6.0 for the site specific reactor facility operational boundaries.	<b>2.9 Operations Boundary</b> The operations boundary is the nearest physical personnel barrier that encloses the “reactor facility” defined in the reactor license or technical specifications.	<b>Non-RIE</b> Revised to specifically define the operations boundaries for the reactor facilities.
26.	<b>Protective Actions</b> – Those actions taken to mitigate the consequences of an emergency.	<b>2.4 Protective Actions</b> Those actions taken to mitigate the consequences of an emergency.	<b>No Change</b>
27.	<b>Recovery Actions</b> – Those actions taken after an emergency to restore the area to the pre-emergency condition.	<b>2.5 Recovery Actions</b> Those actions taken after an emergency to restore the area to the pre-emergency condition.	<b>No Change</b>
28.	<b>Site Boundary</b> – The site boundary is a boundary that does not necessarily have restrictive barriers and surrounds the operations boundary wherein GEH may directly initiate emergency activities. The area within the site boundary may be frequented by people unacquainted with the reactor operations.  For purposes of this plan, the site boundary is the GEH property fence designated as the Vallecitos Nuclear Center.	<b>2.1 Site</b> The site for purposes of this plan is the GE property designated as the Vallecitos Nuclear Center. The surrounding fence is the site boundary.	<b>Editorial</b> Administrative change – Added VNC definition developed using ANSI/ANS-15.16 definition.
29.	<b>3 ORGANIZATION AND RESPONSIBILITIES</b> <u>Planning Standard (ANSI/ANS-15.16 Section 3.3 &amp; NUREG-0849 Section 3.0)</u> Responsibility for planning and implementing all emergency measures within the site boundary rests with the owner/operator of the reactor facility. The plan shall describe the emergency organization that would be activated to cope with radiological emergencies that includes the on-site emergency organization and any augmentation from off-site groups. Persons or groups that will fill positions in the emergency organization should be identified by their normal everyday title.	<b>3.0 ORGANIZATION AND RESPONSIBILITIES</b> VNC personnel, are capable of handling any foreseeable emergency condition on site. Several off-site organizations are available, however, to assist and support personnel in coping with emergencies.	<b>Editorial</b> Administrative change – Planning Standard wording replaced generalized wording to provide basis information directly within the emergency plan.



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32.	Responsibilities and authority of members of the ERO, management, and support specialists include those listed below. Additional responsibilities and duties may be assigned in implementing procedures.	<b>3.1 On-Site Emergency Control Organization</b> Responsibilities and authority of members of the Emergency Control Organization, management, and support specialists shall include those listed below. Additional responsibilities and duties may be assigned in implementing procedures.	<b>No Change</b>
33.	<p><b>3.1.1 Emergency Director</b></p> <p>As part of overall command and control of the event, the Emergency Director coordinates the collection and evaluation of information from the event location, prioritizes response and mitigating activities of dispatched personnel, and manages the Emergency Control Center (ECC) and ERO in order to provide continuous assessment of the situation regarding the magnitude of the emergency, projected consequences, and effectiveness of the response measures taken. Specifically, the Emergency Director has the overall responsibility and authority for VNC emergency response activities, including:</p> <ul style="list-style-type: none"> <li>• Classifying and declaring emergencies</li> <li>• Designating a location for the ECC, [[ ]]</li> <li>• Ensuring notification of the VNC ERO and augmenting as necessary</li> <li>• Ensuring notification of the appropriate offsite agencies</li> <li>• Mobilizing corporate and other support resources as necessary</li> <li>• Coordinating response activities (including off-site assistance if requested) to mitigate the consequences of the event</li> <li>• Directing on-site protective actions to prevent or minimize personnel hazard and injury</li> <li>• Authorizing reentry into facilities or areas that may have been evacuated during the emergency</li> </ul>	<p><b>3.1 On-Site Emergency Control Organization</b></p> <p>.... From the moment he becomes aware of an emergency, an Emergency Operations Coordinator (EOC) is responsible for coordinating emergency response activities.</p> <p>3.1.1 [[ ]]</p> <p>]] has the responsibility and authority to declare an emergency whenever, in his opinion, it is warranted by an incident or condition that involves an actual or potential degradation of the level of safety of a facility or the site.</p> <p>The responsibility and authority for directing and coordinating emergency response activities are assigned to the Emergency Operations Coordinator (EOC). Duties and authorities of the EOC during initial and secondary phases of an emergency are discussed below.</p> <p><b>3.1.2 Emergency Operations Coordinator</b></p> <p>The EOC has the responsibility and authority for the following:</p> <ol style="list-style-type: none"> <li>1. Initiation and implementation of the emergency plan and procedures, including declaring the emergency, notifying offsite agencies, and making protective action decisions, and coordination of emergency response activities of the Emergency Control Organization (and off-site assistance) for the duration of the declared emergency. These responsibilities can only be delegated to personnel qualified as an EOC.</li> <li>2. The Initial Response EOC shall coordinate activities until relieved by the Secondary Response EOC; his duties and responsibilities include:</li> </ol>	<p><b>Non-RIE</b></p> <p>Specified ED responsibilities were organized and aligned to the current REP and SRP.</p> <p>Also, eliminated terms for EOC initial response phase and secondary response phase. Establishing initial and secondary EOC responders provided a means for a seniority based augmentation and assumed two individuals be simultaneously available. The proposed REP does not require ERO relief based on seniority, but does not prevent it if a more senior staff member qualified as ED desires to relieve the ED in charge of the event. Typically, a single ED remains in charge until relieved by another ED for shift relief or when the event is terminated. All EDs are trained and qualified to fully perform the responsibilities of the position.</p> <p>Refer to Changes #31 and #35 for RIE discussion relaxing ED presence onsite 24/7.</p>

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	<ul style="list-style-type: none"> <li>• Authorizing volunteer emergency workers to incur radiation exposures in excess of normal occupational limits</li> <li>• Escalating the emergency classification level or terminating the event</li> </ul> <p>These responsibilities can only be delegated to other personnel qualified as an Emergency Director.</p> <p>The Emergency Director is also responsible for providing holding statement information about the emergency to the corporate communications and public relations function for release to the news media and the public.</p>	<ol style="list-style-type: none"> <li>a. Assessment of the indicated or reported situation and initiation of whatever action is deemed necessary to minimize personnel injury and property damage.</li> <li>b. Prompt notification of the Secondary Response EOC, if needed. Upon request by the Secondary Response EOC, initiation of actions such as designating the location of the Emergency Support Center; notifying Manager, VNC and other Emergency Control Organization members and off-site support agencies or personnel; and initiating implementation procedures.</li> <li>c. Provide a status report and relinquish command to the Secondary Response EOC when he arrives on site.</li> </ol> <p>3. Upon arrival on site and receipt of a status report from the Initial Response EOC, the Secondary Response EOC assumes all EOC responsibilities for implementation of the emergency plan and procedures including declaring the emergency, notifying offsite agencies, and making protective action decisions, and coordination of emergency response activities; his duties and responsibilities include:</p> <ol style="list-style-type: none"> <li>a. Activation of emergency teams, if needed, and coordination of their activities.</li> <li>b. Notification of appropriate management representatives, ancillary-advisory function personnel, and off-site agencies.</li> <li>c. Coordination of the collection and evaluation of information from the emergency location, the special teams, the emergency communications center, management, and advisory personnel in order to provide continuous assessment of the situation regarding the magnitude of the emergency, projected consequences, and effectiveness of the control measures in progress.</li> </ol>	

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		<p>d. Performance of specific duties designated as EOC responsibility in the emergency plan and procedures.</p> <p>3.1.5.8 <u>Off-Site Communications</u>                      The EOC is responsible for providing information about the emergency to the communications and public relations function for release to the news media and the public.</p>	
34.	<p>3.1.2 [[  ]]on site.  [[  ]]</p>	<p>3.1.5.6 [[  ]] in controlling access to [[  ]].  [[  ]] communications center. The security force will [[  ]] of the nature and location of an emergency. The security force is [[  ]].</p>	<p><b>Non-RIE</b>                      Specified security position responsible for informing the Emergency Director of an off normal condition.</p>
35.	<p>3.1.3 [[  ]]. This includes dose assessments and recommendation of on-site protective actions as appropriate.</p>	<p>3.1.3 [[  ]] This position is the Initial Response EOC and will respond to an emergency and make an assessment. When acting as the Initial Response EOC, this position is responsible for immediate corrective and protective action and for calling for assistance if required. If assistance is required for corrective and protective action or additional assessment action, [[  ]] is responsible for directing these activities until relieved by [[  ]] or his emergency response alternate. [[  ]] absent from the emergency communications center, a designated individual (site security or other personnel) will be responsible for communication; [[  ]].</p>	<p><b>RIE</b>                      The proposed REP does not require an Emergency Director (previously titled EOC) to be on site 24/7.</p>

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		will [[  ]].  [[  ]]  will advise the EOC on radiological survey and assessment, personnel decontamination, and facility decontamination. This includes on-site and off-site dose assessments and recommendation of protective actions as appropriate.	
36.	3.1.4 [[  ]]repair/damage control teams associated with accident mitigation. The [[  ]] assesses the personnel resources and technical skill levels required to mitigate the emergency situation and requests augmentation of the ERO staff as appropriate.	3.1.4 [[  ]] The [[  ]] and authority to declare an emergency whenever, in his opinion, it is warranted by an incident or condition that involves an actual or potential degradation of safety in his area.	<b>Non-RIE</b> Removed misleading statement for the [[  ]] to declare an emergency (it is a non-delegable responsibility of the Emergency Director). Specified the responsibilities of the [[  ]].
37.	3.1.4.1 [[  ]] to emergencies during normal working hours and may be called in during off-hours to assist in emergencies.	3.1.5.7 [[  ]] [[  ]] in addition to those assigned to the BET, may be called to respond to emergencies during normal working hours and may be called in during off-hours to assist in emergencies. Appropriate maintenance and craft technicians in conjunction with a [[  ]] may be used for recovery activities under the direction of the EOC or [[  ]].	<b>Non-RIE</b> Removed statement regarding recovery phase, which is described in Section 9.
38.	3.1.5 [[  ]] for supporting assessment of the emergency and directing assessment, corrective, and protective activities concerning criticality safety and radiation protection.	3.1.5.1 [[  ]] The [[  ]] is responsible for providing radiological engineering assessment of the emergency and directing assessment, corrective, and protective activities concerning criticality safety and radiation protection. He also is responsible for coordinating and planning radiological emergency preparedness, updating the emergency plan, and coordinating plans with other appropriate organizations.	<b>Editorial</b> Administrative change – Moved program maintenance responsibilities to Section 10.

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39.	3.1.6 [[  ]] who will respond to an emergency during normal working hours, communicate conditions and take local corrective and protective actions. If needed, the BET may be called in during off-hours. The BET includes personnel trained to perform emergency response activities which may include first aid, radiation monitoring, and equipment operation and maintenance particular to their facility.	3.1.5.2 [[  ]] response activities which may include first aid, radiation monitoring, and equipment operation and maintenance. The BET, under the direction of the [[  ]], is responsible for responding to an emergency during normal working hours and making initial assessment and corrective and protective actions. If needed, the BET may be called in during off-hours. Upon involvement of the Initial Response EOC, the BEC will work under his direction. The firefighting function is provided by a site fire team which responds to fires in all buildings.	<b>Editorial</b> Administrative change – Reworded heading and section coordinator and team title and description.
40.	3.1.6.1 [[  ]] They are responsible for communicating with the BEC and for accounting for all personnel who work in the evacuated area.	3.1.5.5 [[  ]] at an evacuation assembly area. He is responsible for communicating with the BEC and for accounting for all personnel who work in the evacuated area.	<b>Editorial</b> Grammar change.
41.	3.1.7 [[  ]] when onsite and may be called in during off-hours. They are [[  ]].  [[  ]] Fires which have progressed or threaten to progress to the interior structural fire stage or during off-hours will be handled by off-site assistance.	3.1.5.4 [[  ]] training of designated personnel assigned to the site fire team. The [[  ]] during normal working hours and may be called in during off-hours. He is responsible for assisting and advising the BEC and the EOC in matters involving firefighting efforts. The fire team will attack incipient-stage fires only. Fires which have progressed or threaten to progress to the interior structural fire stage must be handled by off-site assistance.	<b>Non-RIE</b> Reworded paragraph to describe site fire response as it applies to the REP.  Removed training statement as that is governed under a separate fire protection program and industrial safety regulations.
42.	<b>3.2 Off-Site Agencies</b> Federal, state and local agency response assistance is not anticipated since no radiological event at VNC is capable of reaching a level requiring protection of the public (local source term resulting in a release of radioactivity is not sufficient to result in exposure which exceed EPA PAG levels beyond the site boundary).		<b>Editorial</b> Administrative change – Added introduction paragraph to clarify support role of offsite agencies regarding the VNC REP.

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	<p>Offsite agencies are notified of declared emergencies as described in Section 7.</p>		
43.	<p><u>3.2.1 Federal Agencies</u>                      Control, responsibility and interface of federal organizations is governed by the National Response Framework (NRF) and the Nuclear/Radiological Incident Annex to the NRF when they are notified of an event at a nuclear research or test reactor facility.</p> <p>The NRC acts as the lead federal agency with regard to technical matters during a nuclear incident including radiological assistance. The NRC maintains an Incident Response Plan (IRP). The IRP objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents that may occur at licensed facilities. The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that NRC has an effective emergency response program.</p> <p>Department of Homeland Security (DHS) may provide leadership capabilities in the event there are incidents related to security.</p>		<p><b>Editorial</b>                      Administrative change – Added description of NRC role for REP declared events.</p>
44.	<p><u>3.2.2 State Agencies</u>                      The California Office of Emergency Services (OES) is the state authority for coordination of all state response. Cal OES is also the primary state response agency that coordinates the state's response to requests for assistance from local jurisdictions.</p> <p>If an event is of significant magnitude to require establishment of a near site Incident Command Post (ICP), it will be established through Cal OES and the Emergency Director will communicate with and potentially provide a liaison to the ICP to assist in coordinating response efforts.</p>		<p><b>Editorial</b>                      Administrative change – Added description of State role for REP declared events.</p>



#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
48.	<p><u>3.3.3 Ambulance Service</u>                      Ambulance service is available through the Alameda County Office of Emergency Services dispatcher (911). If the nature of the emergency or injury warrants, 911 is called and injured personnel are transported via ambulance to one of several local area medical facilities.</p> <p>A written agreement is maintained with a local private ambulance service company regarding transport of injured or ill personnel to an offsite medical treatment facility, who may be contaminated.</p>	<p><u>3.2.3 Ambulance Service</u>                      Ambulance service is available from a county emergency dispatcher (911).</p>	<p><b>Non-RIE</b>                      Revised description to reflect the offsite agency process to for dispatching an ambulance to the site.</p> <p>Added commitment for maintenance of a written agreement with organizations that would provide ambulance services on-site (within the VNC security area).</p>
49.	<p><u>3.3.4 Firefighting Assistance</u>                      When needed, a request for firefighting assistance will be made through the Alameda County Office of Emergency Services dispatcher (911).</p> <p>Assistance for VNC is provided by the participants in the California Fire Service and Rescue Emergency Mutual Aid Plan. Typically, the primary response will be from Alameda County Fire Services. If additional assistance beyond the county capability is needed, personnel and equipment are requested through the California Department of Forestry &amp; Fire Protection (CDF).</p> <p>A written agreement is maintained with local fire services for assistance that would be requested to come on-site.</p>	<p><u>3.2.4 Firefighting Assistance</u>                      VNC has off-site firefighting assistance from the participants in the California Fire Service and Rescue Emergency Mutual Aid Plan. Typically, the primary response will be from the [[</p> <p style="text-align: right;">]].</p>	<p><b>Non-RIE</b>                      Revised description to reflect the offsite agency process to responding to requests for firefighting at the site.</p> <p>Added commitment for maintenance of a written agreement with organizations that would provide firefighting services on-site (within the VNC security area).</p>
50.	<p><u>3.3.5 Police Assistance</u>                      Police assistance is available for law enforcement activities and off-site traffic and/or crowd control from county and state law enforcement agencies with jurisdiction over the areas and roadway surrounding VNC.</p> <p>A written agreement is maintained with local law enforcement for assistance that would be requested to come on-site.</p>	<p><u>3.2.5 Police Assistance</u>                      Police assistance is available for off-site traffic and/or crowd control [[</p> <p style="text-align: right;">]].</p>	<p><b>Non-RIE</b>                      Removed specific agency titles as law enforcement agencies maintain interagency agreements for coordination that can use interjurisdictional resources.</p> <p>Added commitment for maintenance of a written agreement with organizations that would provide firefighting services on-site (within the VNC security area).</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
51.	<p><b>4 EMERGENCY CLASSIFICATION SYSTEM</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.4 &amp; NUREG-0849 Section 4.0)</u></p> <p>The emergency plan shall describe several classes of emergency situations covering the spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the emergency organization. To provide for improved communications between the licensee or owner/operator and federal, state, and local agencies and organizations, the most severe accidents are standardized in four classes of emergency conditions that group the accidents according to the severity of off-site radiological consequences. Each emergency plan shall include only those standard classes appropriate for dealing with accident consequences determined to be credible for the specific facility.</p> <p>Each class of emergency should be associated with particular emergency action levels and with particular immediate actions to provide appropriate graded response.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
52.	<p>This plan is based on the classification system described in ANSI/ANS-15.16-2015. Events are standardized in four classes of emergency conditions which group them according to the severity of off-site radiological consequences. These classes in order of increasing severity are:</p> <ul style="list-style-type: none"> <li>• Unusual Event</li> <li>• Alert</li> <li>• Site Area Emergency</li> <li>• General Emergency</li> </ul> <p>All four classes are included in this section of the emergency plan for completeness even though credible radiological accident consequences for NTR are covered by the first two classes.</p>	<p><b>4.0 EMERGENCY CLASSIFICATION SYSTEM</b>                      This plan uses the classification system described in ANSI/ANS Standard 15.16-1982, “Emergency Planning for Research Reactors”, and the revised Appendix I to NUREG-0849, “Standard Review Plan for the Review and Evaluation of Emergency Plans for Research and Test Reactors”. These standards characterize several classes of emergency situations that involve the alerting or activating of progressively larger segments of the emergency organization. Events are standardized in four classes of emergency conditions which group them according to the severity of off-site radiological consequences. These classes in order of increasing severity are:</p> <ul style="list-style-type: none"> <li>• Notification of Unusual Events (NOUE)</li> <li>• Alert</li> <li>• Site Area Emergency</li> <li>• General Emergency</li> </ul>	<p><b>Editorial</b>                      Administrative change – Updated basis reference and reworded paragraph.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
		All four classes are included in this section of the emergency plan for completeness even though credible accident consequences are covered adequately by the first three classes. No credible accident sequences exist for the General Emergency classification level.	
53.	<p><b>4.1 Unusual Event</b>                      Unusual events may be initiated by either man made events or natural phenomena that can be recognized as creating a significant hazard potential that was previously nonexistent. There is usually time available to take precautionary and corrective steps to prevent the escalation of the accident or to mitigate the consequences should it occur. No releases of radioactive material requiring off-site responses are expected.</p> <p>Although the situation may not have caused damage to the reactor, it may warrant an immediate shutdown of the reactor or interruption of nonessential routine functions.</p> <p>The ED ERO position will be activated, with other ERO positions potentially notified to increase the state of readiness as warranted by the circumstances.</p>	<p><b>4.1 Notification of Unusual Events (NOUE)</b>                      Notification of unusual events may be initiated by either man-made events or natural phenomena that can be recognized as creating a significant hazard potential that was previously nonexistent. There is usually time available to take precautionary and corrective steps to prevent the escalation of the accident or to mitigate the consequences should it occur. No releases of radioactive material requiring off-site responses are expected.</p> <p>One or more elements of the emergency organization are likely to be activated or notified to increase the state of readiness as warranted by the circumstances.</p> <p>Although the situation may not have caused damage to the reactor, it may warrant an immediate shutdown of the reactor or interruption of nonessential routine functions. Situations that may lead to this class include: (a) threats to or breaches of security, such as bomb threats or civil disturbances directed toward the reactor; (b) natural phenomena such as tornados in the immediate vicinity of the reactor, hurricanes, or earthquakes felt in the facility; and (c) facility emergencies such as prolonged fires, fuel damage indicated by high coolant fission product activity, or high off-gas activity.</p> <p>During Unusual Events, there is usually time available to take precautionary and corrective steps to prevent the escalation of the unusual event or to mitigate the consequences should it occur. It is not expected that there will be a release of radioactive material requiring off-site response.</p>	<p><b>Editorial</b>                      Administrative change – Reworded ERO response paragraph for clarity.                      Relocated initiating condition to be with the EAL technical bases descriptions in Section 5.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
54.	<p>Actions taken in response to this emergency class are:</p> <ol style="list-style-type: none"> <li>1. Notify State and NRC of Unusual Event emergency declaration per Section 7.1.2</li> <li>2. Augment ERO resources if needed</li> <li>3. Assess and respond</li> <li>4. Escalate to a more severe class, if appropriate or Terminate the emergency with verbal summary to offsite authorities</li> </ol>	<p><b>5.1 Notification of Unusual Event Action Levels</b></p> <p>Actions taken in response to this emergency class are:</p> <ol style="list-style-type: none"> <li>(1) Ensure that the first step in any response later found to be necessary has been carried out</li> <li>(2) Bring the operating staff to a state of readiness.</li> <li>(3) Provide systematic handling of unusual events information and decision making.</li> </ol>	<p><b>Non-RIE</b></p> <p>Revised particular immediate actions that provide appropriate graded response as called for in the ANSI standard.</p>
55.	<p><b>4.2 Alert</b></p> <p>Events leading to an Alert would be of such radiological significance as to require notification of the GE and off-site emergency organizations and their response as appropriate for the specific emergency situation. Under this class, it is unlikely that off-site response or monitoring would be necessary. Reactor shutdown is a highly probable response action. Protective evacuations or isolation of certain areas within the operations boundary or within the site boundary may be necessary.</p>	<p><b>4.2 Alert</b></p> <p>Events leading to an alert would be of such radiological significance as to require notification of the emergency organization and its response as appropriate for the specific emergency situation. Under this class, it is unlikely that off-site response or monitoring would be necessary. Substantial modification of reactor operating status is a highly probable corrective action. Protective evacuations or isolation of certain areas within the operations boundary or within the site boundary may be necessary. Situations that may lead to this class include: (a) severe failure of fuel cladding or of fueled experiments where containment boundaries exist to reduce releases or less severe cladding failures in situations where fission products are not well contained; and (b) significant releases of radioactive materials as a result of experiment failures.</p>	<p><b>Editorial</b></p> <p>Administrative change – Reworded ERO response paragraph for clarity. Relocated initiating condition to be with the EAL technical bases descriptions in Section 5.</p>
56.	<p>Actions taken in response to this emergency class are:</p> <ol style="list-style-type: none"> <li>1. Notify State and NRC of Alert emergency declaration per Section 7.1.2</li> <li>2. Augment ERO resources and staff the ECC</li> <li>3. Dispatch on-site monitoring teams</li> <li>4. Assess and respond</li> <li>5. Make staff available for consultation with NRC and State on a periodic basis</li> <li>6. Escalate to a more severe class, if appropriate or Terminate the emergency with verbal summary to</li> </ol>	<p><b>5.2 Alert Action Levels</b></p> <p>Actions taken in response to this emergency class are:</p> <ol style="list-style-type: none"> <li>(1) Ensure that emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring if required.</li> <li>(2) Provide current off-site authorities with status information.</li> </ol>	<p><b>Non-RIE</b></p> <p>Revised particular immediate actions that provide appropriate graded response as called for in the ANSI standard.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
57.	<p>offsite authorities</p> <p><b>4.3 Site Area Emergency</b>                      A site area emergency may be initiated when events such as major damage of fuel or cladding and actual or imminent failure of other physical barriers containing fission products in reactor fuel or fueled experiments have occurred, and projected off-site radiological consequences exceed action levels in section 5.0. Monitoring at the site boundary should be conducted to assess the need for off-site protective actions. Protective measures on-site may be necessary.</p> <p>The results of NTR Safety Analysis Report (SAR) Section 13 accident analyses show that there are no credible events that could cause fuel melt or a significant release of fission products from the fuel. Even if catastrophic non-mechanistic failure of the NTR facilities is assumed, there are no potential consequences more severe than those associated with the accidents analyzed in SAR Chapter 13.</p> <p>SAR Section 13.5.3.1 provides radiological consequence analysis of accidental explosions. Assuming a 1% release and stable atmospheric conditions (inversion), maximum site boundary doses are less than 20 mRem to the thyroid and 1 mRem to the whole body under this combination of circumstances.</p> <p>SAR Table 13-3 provides dose summaries for site boundary exposure to the NTR Design Basis Accident (DBA), which is an experiment accident event. Total Body 2 hour submersion dose is 4.54E-3 Rem (4.5 mRem) and CDE Thyroid is 1.61E-1 Rem (161 mRem). The limiting EAL exposure threshold is for 1 hour.</p> <p>[[</p> <p>]]</p>	<p><b>4.3 Site Area Emergency</b>                      A site area emergency may be initiated when events such as [[</p> <p>]]</p> <p>have occurred, and projected off-site radiological consequences exceed action levels in section 5.0. Monitoring at the site boundary should be conducted to assess the need for off-site protective actions. Protective measures on-site may be necessary.</p> <p>[[</p> <p>]]</p> <p><b>5.3 Site Area Emergency Action Levels</b>                      Actions taken in response to this emergency class are:</p> <ol style="list-style-type: none"> <li>(1) Ensure that response centers are manned.</li> <li>(2) Ensure that monitoring teams are dispatched.</li> <li>(3) Ensure that personnel required for evacuation of on-site areas are at duty stations.</li> <li>(4) Provide consultation with off-site authorities.</li> <li>(5) Provide information for the public through off-site authorities.</li> </ol>	<p><b>RIE</b>                      The proposed REP does not include the Site Area Emergency classification level.</p>

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58.	<p><b>4.4 General Emergency</b>                      A general emergency may be initiated by accidents that result in an uncontrolled release of radioactive material into the air, water, or ground to the extent that protective actions off-site may be necessary. This class of accident is not credible for most research reactors. Therefore, most research reactors would not include this class as part of their emergency plans.                      Refer to the technical basis in Section 4.3, Site Area Emergency, documenting that the NTR radiological source term is insufficient to meet the level of Site Area Emergency or General Emergency classification levels.</p>	<p><b>4.4 General Emergency</b>                      A general emergency may be initiated by accidents that result in an uncontrolled release of radioactive material into the air, water, or ground to the extent that protective actions off-site may be necessary. This class of accident is not credible for most research reactors. Therefore, most research reactors would not include this class as part of their emergency plans. No credible accident situation has been identified at the Vallecitos Site, which approaches the General Emergency action levels.</p>	<p><b>Editorial</b>                      Administrative change – Added reference to the location of the technical basis that the GE classification level is not applicable to VNC.</p>
59.	<p><b>5 EMERGENCY ACTION LEVELS</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.5 &amp; NUREG-0849 Section 5.0)</u>                      Because of the wide diversity of research reactors (power level, engineered safety features, site environment, etc.), those conditions that might initiate or signal a radiological incident having particular off-site consequences will vary widely among facilities. Action levels should be established in terms of effluent monitors or other plant parameters from which the dose rates and radiological effluent releases at the site boundary can be projected.                      To establish effluent action levels, facilities that have meteorological information available may base the action levels on actual meteorological conditions; otherwise, the criteria to be used for downwind concentration should be taken from ANSI/ANS-15.7-1977; R1986 (withdrawn), “Research Reactor Site Evaluation,” Sec. 4, “Criteria for Downwind Concentration” [3]. Each emergency plan shall establish EALs appropriate for the specific facility and consistent with Table 1.                      The emergency plan shall include EALs to initiate protective actions for members of the general public and facility staff on-site.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
60.		<p><b>5.0 EMERGENCY ACTION LEVELS</b>                      The basis for establishing emergency action levels for each class of emergency is the potential off-site radiological exposure. Action levels are described below for each of the three classes of emergencies that are assumed to be possible at VNC reactor facilities. The General Emergency class emergency is not considered credible. Events or conditions which might initiate or signal a radiological incident of each class emergency are listed below.</p>	<p><b>Editorial</b>                      Administrative change – Removed introduction paragraph which was replaced by planning standard wording.</p>
61.	<p><b>5.1 Unusual Event</b>  <b>5.2 Alert</b></p>	<p><b>5.1 Notification of Unusual Event Action Levels</b>  <b>5.2 Alert Action Levels</b>  <b>5.3 Site Area Emergency Action Levels</b></p>	<p><b>RIE</b>                      The proposed REP does not include EAL thresholds for facilities other than NTR and the SAFSTOR reactor facilities.</p>
62.	<p><b>6 EMERGENCY PLANNING ZONES (EPZs)</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.6 &amp; NUREG-0849 Section 6.0)</u>                      As part of emergency planning, the reactor licensee or owner/operator of a facility that identifies radiological emergencies that result in off-site plume exposures exceeding 10 mSv deep dose (1 rem whole body) or 50 mSv (5 rem) thyroid shall identify an EPZ.                      The postulated radioactive releases from credible accidents provide the basis for determining the need for an EPZ. The EPZ size depends on the distance at which the protective actions are calculated to be warranted. As an alternative to performing such calculations, the EPZ sizes in Table 2 may be adopted according to the power level. Table 2 is based upon highly conservative dose calculations that are generically applicable to research reactors.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
63.		<p><b>6.0 EMERGENCY PLANNING ZONES (EPZ'S)</b>                      In accordance with ANSI/ANS 15.16-1982, "Emergency Planning for Research Reactors", Section 3.6, the operations boundary is defined as the EPZ boundary for each reactor facility. For purposes of this plan, the following are the operations boundaries for the radiological facilities:</p>	<p><b>Editorial</b>                      Administrative change – Reference to the basis moved under the applicable facility description.</p>

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64.	<p><b>6.1 NTR EPZ</b>                      Per the NTR Safety Analysis Report Section 1.1, the NTR is licensed to operate at power levels not in excess of 100 kW (thermal).                      Thus, based upon ANSI/ANS-15.16-2015 Section 3.6 and Table 2, the applicable EPZ for NTR is the operations boundary for the reactor facility.                      The NTR operations boundary is established as [[ ]].</p>	<p>The maximum operating power for the NTR is 100 kW.</p> <ul style="list-style-type: none"> <li>• [[ ]]</li> </ul>	<p><b>Non-RIE</b>                      Revised NTR operational boundary to Building 105 since areas not occupied by the NTR facilities are not isolable.</p>
65.	<p><b>6.2 GETR, VBWR, and EVESR EPZs</b>                      The other three reactor facilities are in a defueled SAFSTOR status with the spent fuel no longer remaining on site.                      Since the emergency planning requirements for these facilities are deferred to this VNC Regulatory Guide 2.6 emergency plan, their EPZ is based on the same specification as the NTR.                      GETR, VBWR, and EVESR operations boundaries are established as their respective reactor containment enclosure.</p>	<p>The other three reactor facilities are in a deactivated status.</p> <ul style="list-style-type: none"> <li>• GETR, VBWR, and EVESR - reactor building boundary.</li> </ul>	<p><b>Editorial</b>                      Administrative change – Clarified SAFSTOR facility operational boundary from “reactor building” to containment enclosure” as correct terminology.</p>
66.		<ul style="list-style-type: none"> <li>• B102 – Building 102 boundary</li> <li>• B103 – Building 103 boundary</li> <li>• B106 – Radiological Equipment Calibration Shop Boundary</li> </ul>	<p><b>RIE</b>                      The proposed REP removes EPZs for buildings that do not apply to the REP and do not have a regulatory requirement for an emergency plan.</p>
67.	<p><b>7 EMERGENCY RESPONSE</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.7 &amp; NUREG-0849 Section 7.0)</u>                      Emergency response measures shall be identified for each emergency. These response measures should be related to the emergency class and action levels that specify what measures are to be implemented.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
68.		<p><b>7.0 EMERGENCY RESPONSE</b>                      The response to emergency situations at VNC reactor facilities is accomplished by activating the Emergency Control Organization (described in Section 3.0). The Building Emergency Team assesses the emergency and initiates immediate corrective and protective actions. Continuing assessment is directed by the EOC. The EOC is responsible for classifying the emergency and notifying any off-site authorities if required. Instructions for response of the emergency control organization are provided in the document, "Site Emergency Procedures - Vallecitos Nuclear Center". Where necessary, more detailed instructions will be provided for the specific facility.</p>	<p><b>Editorial</b>                      Administrative change – Removed introduction paragraph which was replaced by planning standard wording.</p>
69.	<p><b>7.1 Activation of Emergency Organizations</b>                      Site Emergency Procedures (SEPs) are established for notification and mobilization of emergency response personnel.</p>		<p><b>Editorial</b>                      Administrative change – added general wording to the parent section to state details of mobilization for how to implement the following subsections are contained in procedures.</p>
70.	<p><b>7.1.1 Notification of Onsite Personnel and Mobilization of the ERO</b>                      Notification of onsite personnel occurs each time an emergency classification level is declared by the Emergency Director (initial event declaration and any escalation) via [[                        ]].                      Provisions are made to alert personnel in high noise areas and outbuildings as applicable.                      Notification and mobilization of the VNC ERO is described in section 3.1.</p>	<p><b>7.1 Activation of Emergency Control Organization</b>                      The response to emergency situations is typically initiated [[                        ]]. During normal working hours, the site emergency personnel are notified [[                        ]].                      ]]</p>	<p><b>Non-RIE</b>                      Revised paragraph to clarify notification and mobilization of ERO personnel, and included reference to the REP section that details the commitments to the process.                      Refer to Changes #31 and #35 for RIE discussion relaxing ED presence onsite 24/7.</p>



#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
73.	<p><b>7.2 Assessment Actions</b></p> <p><u>7.2.1 Plant Parameters and Corresponding Emergency Classification</u>                      Recognizable EAL thresholds have been developed in accordance with Regulatory Guide 2.6 and the NRC endorsed methodology in ANSI/ANS-15.16-2015 (refer to section 5).</p> <p>EAL technical bases document the VNC site specific indications and parameters used to determine the thresholds that correlate to a particular emergency classification level (refer to section 5).</p>		<p><b>Editorial</b></p> <p>Administrative change – added general wording and reference to REP section 5 content regarding how EAL thresholds are integral to assessment actions (in alignment with ANSI standard).</p>
74.	<p><u>7.2.2 Onsite Accident Assessment Capabilities</u>                      On-site capabilities and resources are available to provide information for accident assessment throughout the course of an event. Data will be obtained from in-place radiation monitors, portable instrumentation, and from observation and measurement by specific emergency teams.</p> <p>Radiological instrumentation readings and sampling are used to project dose rates at the Site Boundary, and to determine the integrated dose received for events involving a release of radioactivity. Site emergency procedures address calculating accumulated or projected dose.</p>	<p><b>7.2 Assessment Actions</b></p> <p>Effective coordination and direction of all elements of the Emergency Control Organization require continued assessment and evaluation of the emergency situation. For emergency situations which have the potential to release radioactive material, information relating to:</p> <p>(1) the magnitude of the release,                      (2) the area and amount of resulting contamination, and                      (3) exposure to personnel will dictate the actions taken.</p> <p>Data will be obtained from in-place radiation monitors, portable instrumentation, and by observation and measurement by specific emergency teams. The emergency classification will be changed as appropriate based on current information.</p>	<p><b>Non-RIE</b></p> <p>Reworded paragraph to better describe methods, systems, and equipment for gathering and processing information and data. Information regarding exposure to onsite personnel is contained in REP Section 7.4 (Change #80).</p>
75.	<p><b>7.3 Corrective Actions</b></p> <p>VNC has strategies for mitigation of designated emergencies (such as radiological, fire, security threat, and other hazards) and has equipment available to be used in those strategies/mitigative actions.</p> <p>The Emergency Director is responsible for assessing the need for and directing mitigation activities such as deactivation of process systems or restoration of disabled equipment needed to mitigate the consequences of an emergency. Additional assistance may be provided by other ERO positions upon arrival or via remote communications.</p>	<p><b>7.3 Corrective Actions</b></p> <p>For major disruptions such as a fire or earthquake, the Emergency Control Organization is activated and is responsible for taking corrective actions such as firefighting, deactivation of process systems or restoration of disabled equipment needed to mitigate the consequences of the emergency.</p>	<p><b>Non-RIE</b></p> <p>Reworded paragraph to encompass all types of events that apply to the REP.</p>

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76.	<p><b>7.4 Protective Actions</b></p> <p>Preventive measures are implemented, to the extent practical, to prevent exposure of on-site personnel to radiological hazards; and in the event that prevention techniques fail, protective measures are in place to minimize the effects of such emergencies.</p> <p>Protective measures are taken by ERO personnel and any support organization personnel called to the site. Initial actions to protect non-emergency team personnel may involve evacuation from facilities followed by search for and rescue of missing persons, medical treatment, decontamination, and other actions judged appropriate by the Emergency Director dependent on existing conditions.</p>	<p><b>7.4 Protective Actions</b></p> <p>Emergency situations can result in potential exposure of on-site personnel to radiological hazards. Preventive measures are implemented, to the extent practical, to prevent exposure of on-site personnel to radiological hazards; and in the event that prevention techniques fail, protective measures are preplanned to mitigate the effects of such emergencies. Protection must be provided not only to the community of GE employees, but also to members of the emergency response team. Initial action to protect nonemergency team personnel may involve evacuation from the building followed by rescue of injured/trapped persons, medical treatment, decontamination, and other actions judged appropriate by the EOC dependent on the character of the emergency in progress.</p>	<p><b>Editorial</b></p> <p>Administrative change – revised wording to better describe protective actions in general and as introduction to subsequent subsections.</p>
77.	<p><b>7.4.1 Personnel Evacuation from Immediate Area</b></p> <p>Personnel may be evacuated from an area affected by an emergency or moved to areas controlled for safety purposes. The evacuation is initiated by [[ ]].</p> <p>Typically, personnel evacuate their facility by following established routes to a pre-designated assembly area, which is posted in each facility. Alternate routes and/or alternate assembly areas may be determined and directed by the Building Emergency Coordinator if travel to or conditions at the designated assembly area are hazardous. The Building Emergency Teams will assist in the orderly evacuation of facilities. Additional instructions may be relayed by the Emergency Director [[ ]].</p> <p>The Assembly Area Leader from the Building Emergency Team will conduct personnel accountability at the assembly area to determine whether there missing employees; security personnel will identify visitors that were expected to be at that location. Reports of missing persons are relayed to the</p>	<p><b>7.4.1 Personnel Evacuation from Immediate Area</b></p> <p>Personnel may be evacuated from an area affected by an emergency. The evacuation is initiated by [[ ]]. [[ ]] immediately evacuate the building and go to the designated assembly area. Additional instructions may be relayed by the EOC [[ ]].</p> <p>The Assembly Leader shall conduct interviews with persons at the assembly area to account for missing employees; security personnel will identify visitors. Reports of missing persons shall be relayed to the EOC for appropriate action.</p>	<p><b>Non-RIE</b></p> <p>Revised wording to provide additional process detail consistent with the ANSI standard.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
	Emergency Director for appropriate search and rescue action.		
78.	<p><u>7.4.2 Contamination Control Measures</u>                      In response to an emergency involving a potential release of radioactive material, it is assumed that a release has occurred. The ERO establishes access controls to the area (such as rope/tape barriers, building access points, postings, control point watches, periodic announcements, etc.), determines whether radioactive contamination is present by survey, and takes appropriate steps to limit personnel exposure to and the spread of radioactive contamination. Area contamination information is provided to the Emergency Director and tracked by the ERO.</p> <p>Emergency workers are protected from contamination by protective clothing available in emergency supply lockers. In order to protect emergency workers in areas of radioactive airborne contamination, self-contained breathing apparatuses (SCBA) or filtered respirators are available for use as appropriate.</p> <p>Contaminated individuals are treated and decontaminated in isolated areas.</p>	<p><u>7.4.4 Contamination Control Measures</u>                      In response to any emergency situation involving potential release of radioactive material, it is always assumed that a release has occurred. The Building Emergency Team or the EOC controls access to the area, determines if radioactive contamination is present, and takes appropriate steps to identify affected areas and control exposure to or spread of radioactive contamination. Contaminated individuals are treated and decontaminated in isolated areas.</p>	<p><b>Non-RIE</b>                      Revised wording to provide additional process detail and improve organization of information (such as moving SCBA and PPC information into this one section).</p>
79.	<p><u>7.4.3 Personnel Decontamination/First Aid</u>                      Individuals are surveyed and then decontaminated as necessary. If an individual is contaminated and injured, the order of decontamination/first aid administration is dependent on the severity of the contamination and injury. The criteria for deciding the order is that which is least detrimental to the overall health of the individual.</p>	<p><u>7.4.5 Personnel Decontamination/First Aid</u>                      Individuals are surveyed and then decontaminated or administered first aid. The order of decontamination/first aid administration is dependent on the severity of the contamination and injury. The criteria for deciding the order is that which is least detrimental to the overall health of the individual.</p>	<p><b>Editorial</b>                      Administrative change – revised wording for clarity regarding contaminate injured priority (does not presuppose a contaminated individual is injured).</p>
80.	<p><u>7.4.4 Emergency Exposure Control and Guidelines</u>                      Identification and control of radiation areas is performed the same as described in Section 7.4.2 for radioactive contamination. Measures and criteria for radiation, high radiation and locked high radiation areas encountered during a declared emergency are established the same as those used during normal operations as much as possible.</p> <p>Direct exposures of emergency workers are monitored by remote area monitoring (RAM) devices, portable survey instruments, and by the individuals' own</p>	<p><u>7.4.2 Emergency Exposure Control</u>                      In order to protect emergency workers from airborne contaminants, self-contained breathing apparatuses (SCBA) are available for their use.</p> <p>Emergency workers are protected from unnecessary contamination by protective clothing available in emergency supply lockers.</p> <p>Direct exposures of emergency workers are monitored by remote area monitoring (RAM) devices, portable survey instruments, and by the individuals' own</p>	<p><b>Non-RIE</b>                      Revised wording to update PAG basis EAP reference and to improve organization of information (such as moving SCBA and PPC information into previous section).</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
	<p>personal monitoring devices (such as electronic dosimeters). A supply of electronic dosimeters that can be set to alarm for dose and dose rate values are maintained on site for emergency worker use. Personnel exposure information is provided to the Emergency Director and tracked by the ERO.</p> <p>Emergency exposure guidelines for emergency workers, consistent with EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, U.S. Environmental Protection Agency, May 1992, Table 2-2, "Guidance on Dose Limits for Workers Performing Emergency Services," have been established as follows:  <a href="#">[Emergency exposure guidelines table]</a></p>	<p>personal monitoring devices. Information is provided to the EOC.</p> <p><u>7.4.3 Emergency Exposure Guidelines</u>                      The information provided in U.S EPA Manual of Protective Action Guides for Nuclear Incidents EPA 520/1-75/001 was used to arrive at the guidance listed in Table 1.</p> <p>Note: the Suggested Values (SV) listed in the table should be used except for situations in which local constraints would make them impractical to use; in those cases, the "Maximum" (Max) values may be used.  <a href="#">[Table 1 – PAG for Limiting Exposure to Radiation and Radioactive materials Under Emergency Conditions]</a></p>	
81.	<p><b>8 EMERGENCY FACILITIES AND EQUIPMENT Planning Standard (ANSI/ANS-15.16 Section 3.8 &amp; NUREG-0849 Section 8.0)</b></p> <p>The emergency plan should briefly describe the emergency facilities, types of equipment and their location.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
82.		<p><b>8.0 EMERGENCY FACILITIES AND EQUIPMENT</b>                      The Vallecitos Nuclear Center maintains extensive facilities and inventory of equipment on site. These facilities and equipment are all available during an emergency, and some are reserved solely for emergency use.</p>	<p><b>Editorial</b>                      Administrative change – Removed introduction paragraph which was replaced by planning standard wording.</p>
83.	<p><b>8.1 Emergency Control Center (ECC)</b>                      During an emergency [[                      ]]                      ]]                      ]]</p>	<p><b>8.1 Emergency Support Center</b>                      [[                      ]]in [[                      ]]. [[                      ]]. The communications center will be occupied at all times. The EOC will designate adjacent areas which, along with the communications center, will be the emergency support center.</p>	<p><b>Editorial</b>                      Administrative change – Revised description and title primary VNC response facility.</p>

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84.	<p><b>8.2 Assessment Facilities</b></p> <p>The reactor facilities are monitored by area radiation monitors (ARMs) and effluent radiation (stack) monitors as required by their technical specifications. Radiation monitors with remote readouts permit continuous assessment in some areas.</p> <p>Other monitoring devices are utilized to identify off-normal conditions, such as smoke detectors, criticality, fire and flood alarms, and onsite and offsite seismic and meteorological indicators. Several of these devices activate alarms locally and/[[ ]] for immediate response and assessment.</p> <p>Portable survey and personnel monitoring instruments are maintained throughout the site and are available for use during an emergency. Sampling equipment and counting laboratories are available on site for specific radionuclide identification and analysis.</p> <p>Company vehicles are available for use by emergency response personnel. Communication from the area experiencing the emergency is possible using the [[ ]].</p>	<p><b>8.2 Assessment Facilities</b></p> <p>The reactor facilities at the site are appropriately monitored by direct radiation monitors and airborne radiation monitors. Industrial emergencies are also monitored by such devices as fire alarms. These devices activate appropriate local or emergency communications center alarms for immediate response and assessment.</p> <p>Radiation monitors with remote readouts permit continuous assessment in some areas. Portable survey equipment and samplers and counting laboratories are maintained on site.</p> <p>Company vehicles are available for use by emergency response personnel such as the [[ ]].</p> <p>Communication from the area experiencing the emergency is possible using the [[ ]].</p>	<p><b>Editorial</b></p> <p>Administrative change – Revised description of facilities and equipment for clarity.</p>
85.	<p><b>8.3 First Aid and Medical Facilities</b></p> <p>The site contains numerous areas where radioactive materials are used. Consequently, there are numerous areas where contaminated injured individuals may be relocated for first aid administration and decontamination. On site company vehicles are available for transportation.</p> <p>First aid supplies, stretchers and industrial showers are located around the site.</p> <p>GEH will provide a radiation monitor to assist in the control and cleanup of contamination of ambulance and offsite medical facilities used when treating contaminated injured personal transported from the site as necessary.</p>	<p><b>8.3 First Aid and Medical Facilities</b></p> <p>The site contains numerous areas where radioactive materials are used. Consequently, there are numerous areas where injured contaminated individuals may be relocated for first aid administration and decontamination. Company vehicles are available for transportation.</p> <p>A number of site employees are trained in first aid. First aid supplies, stretchers and industrial showers are located around the site.</p> <p>Regulatory Compliance maintains an agreement with a local area medical facility for emergency medical treatment of contaminated or radiation exposed individuals. GE will provide a radiation monitor to assist in the control and cleanup of contamination as necessary.</p>	<p><b>Editorial</b></p> <p>Administrative change – Reworded content for clarity and removed information regarding first aid trained personnel and agreements which are contained in other sections of the REP.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
86.	8.4 [[ 8.4.1 [[ [[ ]]	8.4 [[ 8.4.1 [[ [[ ]]	<b>Editorial</b> Title changes.
87.	8.4.2 [[ [[ ]]	[REDACTED]	[[ ]]
88.	8.4.3 [[ [[ ]]	8.4.2 [[ [[ ]]	<b>Editorial</b> Title change.
89.	8.4.4 [[ [[ ]]	8.4.3 [[ [[ ]]	<b>No Change</b>
90.	8.4.5 [[ [[ ]]	8.4.4 [[ [[ ]]	<b>No Change</b>
91.	8.4.6 [[ [[ ]]	8.4.5 [[ [[ ]]	<b>No Change</b>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
92.	<p><b>8.5 Contingency Planning</b>                      Procedures include instructions for consideration in case the emergency renders the ECC or equipment employed during the response unusable. The VNC site contains several facilities that can be designated response locations should the ECC be unavailable. First-aid, personnel protective clothing, radiological, fire-fighting, etc. equipment and resources are maintained throughout the site such that access restrictions to a particular area would not likely result in the inability to perform necessary response activities.</p> <p>Mutual aid agreements between offsite support agencies provides assurance that fire, medical and law enforcement resources would be available when called upon.</p>		<p><b>Non-RIE</b>                      Added section to conform with ANSI standard.</p>
93.	<p><b>9 RECOVERY</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.9 &amp; NUREG-0849 Section 9.0)</u>                      This element of the emergency plan should describe the criteria for restoring the reactor facility to a safe status including reentry into the reactor building or portions of the facility that may have been evacuated because of the accident. The operations to recover from most severe accidents will be complex and depend on the actual conditions at the facility. It is not practicable to plan detailed recovery actions for all conceivable situations.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
94.		<p><b>9.0 RECOVERY</b>                      While it is not practical or even possible to plan detailed recovery actions for all conceivable situations, general criteria applicable to any recovery operation are presented.</p>	<p><b>Editorial</b>                      Administrative change – Removed introduction paragraph which was replaced by planning standard wording.</p>

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95.	<p><b>9.1 Reentry</b>                      During an emergency, immediate actions are directed toward limiting the consequences of the accident to afford maximum protection to personnel onsite. Once corrective measures have been taken and effective control of the facility has been reestablished, a more methodical approach to reentry is taken. Reentry into two separate categories:</p> <ul style="list-style-type: none"> <li>• Reentry during the emergency phase of an accident is performed to save a life, control a release of radioactive material, prevent further damage to or restore equipment. If necessary, this category of reentry may be performed using emergency exposure limits. Briefings, rather than written procedures, may be used when making these reentries.</li> </ul> <p>All reentry activities conducted during the emergency are authorized by the Emergency Director and coordinated by Incident Command.</p> <ul style="list-style-type: none"> <li>• Reentry during the recovery phase of an accident is performed using normal occupational exposure limits. Either normal procedures or procedures developed specifically for each reentry are used to control post-emergency activities.</li> </ul> <p>Reentry activities during the recovery phase are authorized by a Recovery Director or the VNC Manager, and coordinated by the recovery personnel directing and performing the reentry.</p>	<p><b>9.1 Re-entry</b>                      Re-entry into an affected facility during an emergency situation may be necessary to rescue injured or trapped personnel and to limit the actual or potential release of radioactive materials. In the case of a fire, re-entry may be necessary to effectively terminate the emergency. Section 7 discusses exposure control and allowable exposure for emergency workers.</p>	<p><b>Non-RIE</b>                      Reworded re-entry content contained in (and referenced to) other sections of the REP.</p>

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96.	<p><b>9.2 Recovery</b></p> <p>During a declared emergency, a point will be reached when the facility will be restored to a stable condition. The Emergency Director will determine when there is no longer a need to keep the ERO activated and the site can return to a normal organization for control.</p> <p>The extent and nature of the corrective and protective measures and the extent of facility recovery will depend on the remaining conditions, if any, and the status of site areas and equipment. The general goals for recovery are:</p> <ul style="list-style-type: none"> <li>• An orderly evaluation of the cause and effect of the event and the implementing of actions to prevent recurrence of the incident.</li> <li>• A planned approach for maintaining the facility in a stable condition by obtaining the appropriate manpower, materials, and equipment needed to accomplish that end.</li> <li>• An evaluation of the emergency radiation exposure records for all on-site emergency response personnel involved in the incident.</li> <li>• A planned approach to ensure that further radiation exposures and contamination control are restored under 10 CFR 20 requirements and are in keeping with the ALARA program.</li> </ul> <p>Procedures have been developed for the systematic transition from the declared state of emergency to recovery and termination.</p>	<p><b>9.2 System/Facility Restoration</b></p> <p>Detailed assessment is accomplished after termination of the emergency to determine the extent of damage and the ability of the system/facility to contain radioactivity. Specific actions are taken to (1) minimize personnel exposure, (2) restore necessary equipment to an operational status, (3) insure further release of radioactive material is prevented, and (4) decontaminate affected areas to acceptable levels. The restoration phase is continued to the extent required to restore the system/facility to a safe condition as a minimum. Further repair, etc., will be accomplished assuming that continued operation of the system/facility is warranted.</p> <p><b>9.3 Resumption of Operations</b></p> <p>Following even minor incidents where consequences (potential or actual) were inconsequential, at the request of the Facility Manager or Manager, Regulatory Compliance, investigations are made to determine the cause and to recommend appropriate actions to prevent recurrence. As the severity of an incident increases, regulations require reports be submitted, corrective actions performed and, in some cases, require detailed review of the incident by regulatory agencies prior to resumption of operations.</p> <p>These constraints are adequate to insure that a system/facility will be returned to a safe operating condition and the engineered safety systems are capable of performing their intended function prior to resumption of operations of a system/facility.</p>	<p><b>Non-RIE</b></p> <p>Expanded REP content for Recovery process that encompasses termination of the declared emergency in general terms in accordance with the ANSI standard.</p> <p>Removed restoration and resumption of operation information that does not apply to emergency response activities.</p>

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97.	<p><b>10 MAINTAINING EMERGENCY PREPAREDNESS</b>  <u>Planning Standard (ANSI/ANS-15.16 Section 3.10 &amp; NUREG-0849 Section 10.0)</u></p> <p>The emergency plan shall describe the elements necessary for maintaining an acceptable state of emergency preparedness. A description shall be provided of how the effectiveness of the emergency plan will be maintained, including training, review, and update of the emergency plan and associated implementing procedures along with maintenance and inventory of equipment and supplies that would be used in emergencies. Frequent coordination with emergency support organizations should also be maintained to ensure the necessary training and the efficient use of their capabilities.</p>		<p><b>Editorial</b>                      Administrative change – Planning Standard wording added to provide basis information directly within the emergency plan.</p>
98.	<p><b>10.1 Training and Drills</b>                      10.1.1 Training                      ERO personnel receive the appropriate level of site access, radiological, communications systems, facility evacuation, and position specific training. The training for ERO personnel is primarily developed from the position specific responsibilities and tasks as defined in this plan and the site emergency procedures.                      Emergency response and other personnel in the following categories receive knowledge and/or performance based training initially and annual retraining thereafter:</p>	<p><b>10.1 Training and Drills</b>                      Personnel are instructed in reporting and responding to alarms. Building Emergency Team members receive initial training and annual reviews in respiratory protection, radiological protection, first aid, fire protection and emergency support as appropriate for their assigned responsibilities.</p>	<p><b>Non-RIE</b>                      Added detail regarding general topics of REP training and basis for its content.</p>
99.	<p>1. <b>Emergency Directors</b>                      This position receives training to maintain proficiency on the topics listed below:</p> <ul style="list-style-type: none"> <li>• Event Classification / Emergency Action Levels</li> <li>• Event Notification and Communications</li> <li>• Accident Assessment and Mitigation</li> <li>• Protective Actions / Emergency Exposure Control</li> </ul>		<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
100.	<p>2. <u>Accident Assessment Personnel</u>                      Accident assessment activities are performed by Emergency Directors, Facilities Managers (as applicable), and GEH operations, radiological, security and maintenance managers as a function of their areas of expertise and ERO roles.</p>		<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>
101.	<p>3. <u>Radiological Monitoring and Analysis Teams</u>                      Radiological monitoring personnel will receive training for the actions they will be expected to perform during an emergency as part of their training. The following general topics will be included in the training:</p> <ul style="list-style-type: none"> <li>• Equipment and Equipment Checks</li> <li>• Emergency Communications</li> <li>• Radiological Release Surveys and Sampling</li> <li>• Emergency Exposure Control</li> </ul>		<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>
102.	<p>4. <u>First Aid and Rescue Personnel</u>                      A number of site employees are trained in first aid.                      Basic search and rescue activities may be performed by ERO personnel as part of event response.</p>	<p><b>8.3 First Aid and Medical Facilities</b>                      ....                      A number of site employees are trained in first aid. ....</p>	<p><b>Editorial</b>                      Moved content  <b>Non-RIE</b>                      Added statement for basic search and rescue capability by VNC ERO.</p>
103.	<p>5. <u>Medical Support Personnel</u>                      VNC does not maintain medical support personnel, such as a site nurse on staff.</p>		<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
104.	<p>6. <u>Police, Security, Ambulance and Fire-Fighting and Other Personnel</u></p> <p>a) Training of site security personnel is controlled by the VNC Security Plan.</p> <p>b) Building Emergency Team members receive initial training and annual reviews in respiratory protection, radiological protection, first aid, fire protection and emergency support as appropriate for their assigned responsibilities.</p> <p>c) The Site Fire Chief is responsible for fire protection training of designated personnel assigned to the site fire team, which is controlled outside this emergency plan as defined by the site fire protection program.</p> <p>d) Training is offered to the offsite support organizations that may be called upon to provide assistance in the event of an emergency (i.e., local law enforcement, fire-fighting, rescue, medical services, ambulance). The training made available is designed to acquaint the participants with the special characteristics of VNC (e.g. potential radiation and radiological contamination areas), notification procedures, and their expected roles. Organizations that must enter the site also receive instructions as to the identity (by position and title) of those VNC persons who will control their support activities.</p> <p>e) Badged site personnel who are not part of the ERO are instructed in reporting and responding to alarms.</p>		<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>

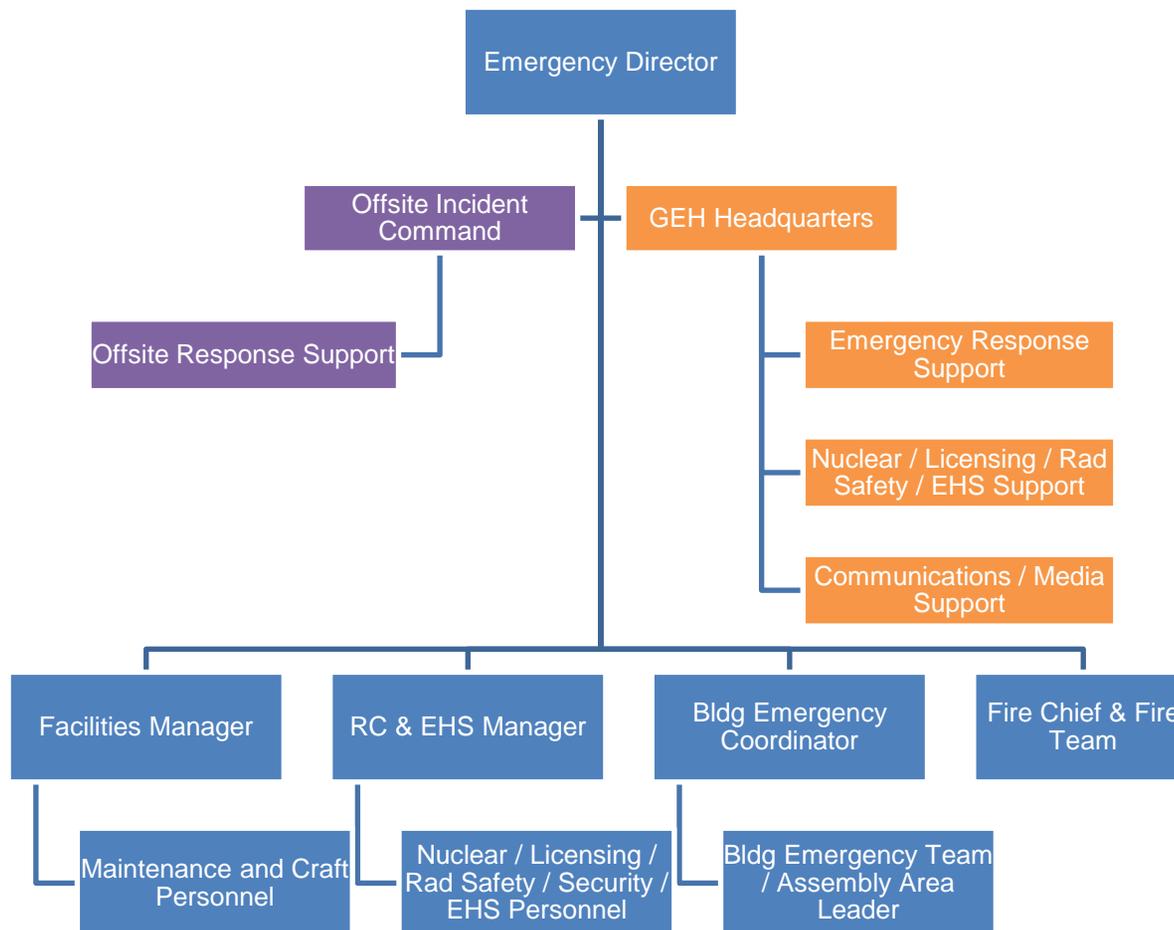
#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
105.	<p><b>10.1.2 Conduct of Drills</b>                      Drills are conducted annually to provide supervised instruction, training and practice opportunities for ERO members and are executed as realistically as is reasonably possible.</p> <p>Written scenarios, prepared in advance, govern the conduct of annual drill and include the following as applicable:</p> <ul style="list-style-type: none"> <li>• General Information – A section containing the scope of the scenario, time period, place(s), and participating organizations.</li> <li>• Timeline – A section containing the time schedule of initiating events.</li> <li>• Messages – A section for plant data, injects, messages, and symptomology cards.</li> <li>• Onsite Radiological Data – A section for area radiation maps and display system snapshots, if warranted by the scenario events.</li> <li>• Objectives – A section containing a table of performance objectives expected to be demonstrated during the scenario.</li> <li>• Participant/Controller/Evaluator/Observer Instructions – as applicable to the drill.</li> </ul> <p>Smaller response proficiency drills, such as evacuation drills, may be performed in addition to the larger scope annual drill in each occupied building at VNC.</p> <p>At least every two years, a drill shall be offered that contains provisions for coordination with off-site emergency personnel and should test, at a minimum, the communication links and notification procedures with those off-site agencies and support organizations.</p>	<p><b>10.1 Training and Drills</b>                      Periodically, emergency drills are conducted to test the adequacy of emergency plans and procedures. The drills will be planned and performed to specifically test the following:</p> <ul style="list-style-type: none"> <li>• System for notification of personnel.</li> <li>• Prompt and effective evacuation of the involved facility or area.</li> <li>• Performance of the emergency organization.</li> <li>• Availability of emergency equipment.</li> <li>• System for notification of off-site organizations.</li> </ul> <p>Drills are completed at least annually in each occupied building at the VNC Site, drills are held to test the integrated response of the on-site emergency control organization to simulated fire, Criticality and High Radiation. There will be an evacuation drill from all occupied buildings. At least every two years, drills are performed to test the system for notification of off-site organizations.</p>	<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>

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106.	<p><b>10.1.3 Critique of Drills</b>                      Following the observation of drills, a critique is conducted to evaluate areas such as personnel performance, response procedure processes, and facility and equipment adequacy and identify issues. Specifically, the critique is performed as soon as possible following the conclusion of a drill using preselected performance objectives that are evaluated against measurable demonstration criteria.</p> <p>A written critique report is prepared a drill to document whether the objectives were successfully demonstrated. Failed or degraded performance objectives are entered into the corrective action program (CAP). Failed or degraded demonstration criteria, improvement items and recommendations are dispositioned within the report and may be entered into the CAP.</p>	<p><b>10.1 Training and Drills</b>                      A critique is held for each drill performed. Lessons learned and pertinent observations will be identified and reported to management for evaluation. If appropriate, changes to emergency plans and procedures will be made.</p>	<p><b>Non-RIE</b>                      Added REP detail to conform with ANSI standard.</p>
107.	<p><b>10.2 Plan Review and Update</b>                      10.2.1 <u>Responsibility for the Plan</u>                      The Manager, VNC is the senior GEH employee on site with overall authority for site operations. This authority includes the responsibility for overall emergency preparedness activities at VNC.</p> <p>The Manager, RC &amp; EHS, is responsible for administering the program by coordinating and planning radiological emergency preparedness, updating the emergency plan, and coordinating plans with other appropriate organizations.</p>	<p><b>3.1.1 Manager, Vallecitos Nuclear Center (VNC)</b>                      The Manager, VNC, is the senior GE employee on site. He or his delegated alternate has overall responsibility for emergency response and preparedness activities. His authority extends to that of enjoiner; and in the face of conflict or indecision, his judgment is final.</p> <p><b>10.2 Plan Review and Update</b>                      .... Responsibility for maintenance of this plan is assigned to the Regulatory Compliance Manager.</p>	<p><b>Editorial</b>                      Administrative change – Changed titles and wording for clarity.</p>

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108.	<p><b>10.2 <u>Plan Review and Update</u></b></p> <p>10.2.2 <u>Review and Update</u></p> <p>The Emergency Plan will be reviewed to be current on a biennial basis, and updated if necessary. Any changes due to regulatory revisions, issues identified by drills and exercises, or other updates will be incorporated into the Emergency Plan.</p> <p>Agreements with supporting organizations will be reviewed on a biennial basis, and updated if necessary. Changes to agreements may be coordinated with the biennial review of the Emergency Plan.</p> <p>Emergency plan implementing and administrative procedures are reviewed biennially or when revised as needed.</p> <p>Changes will be processed in accordance with 10 CFR 50.54(q) requirements and distributed per site procedures.</p>	<p><b>10.2 <u>Plan Review and Update</u></b></p> <p>A biennial review is made of this plan and the implementing procedures to assure that they reflect current operations on the site. ....</p> <p>Document control is achieved and assured by compliance with administrative procedures. This plan is a controlled document. This document is required to be maintained on-site for NRC.</p>	<p><b>Editorial</b></p> <p>Administrative change – Added detail for review and update requirements.</p>
109.	<p><b>10.3 <u>Maintenance and Inventory of Emergency Equipment, Instrumentation, and Supplies</u></b></p> <p>In addition to supplies of normal use equipment and instruments, emergency kits are maintained at VNC. Annual inventories and quarterly surveillances are performed to verify supplies and kit contents, and inspect and operationally check emergency use equipment/instruments. The inventories will utilize the corrective action program to document follow-up action items that correct any deficiencies discovered. Sufficient reserves of instruments and equipment are maintained to replace those removed from emergency kits or lockers for calibration or repair.</p> <p>Requirements to operationally check emergency equipment and instruments prior to use, if needed, are contained in site procedures.</p> <p>Requirements to calibrate emergency equipment and instruments are specified in site procedures.</p> <p>Portable radiation monitoring instruments are calibrated upon initial acquisition, after major maintenance and at least annually. Radiation Protection is responsible for</p>	<p><b>10.3 <u>Maintenance and Inventory of Radiological Emergency Equipment, Instrumentation, and Supplies</u></b></p> <p>A periodic audit of emergency equipment and supplies is performed. The audit will include follow-up action items to correct any deficiencies discovered. Portable radiation monitoring instruments are calibrated upon initial acquisition, after major maintenance and at least annually. Equipment which is not used routinely such as the HICON phone is tested on a regular basis.</p>	<p><b>Non-RIE</b></p> <p>Added REP detail to conform with ANSI standard.</p>

#	Proposed Emergency Plan	Current Emergency Plan (January 2018)	Change Type
	the maintenance and storage of radiological equipment and instruments.		

**Proposed Emergency Plan Figure 3-1 – VNC Emergency Response Organization and Support Interface**



**Current Emergency Plan Figure 3 – VNC Emergency Control Organization**

