

July 24, 2003

Dr. Robert C. Mecredy
Vice President, Nuclear Operations
Rochester Gas and Electric Corporation
89 East Avenue
Rochester, NY 14649

SUBJECT: MINIMUM ON-SHIFT AND AUGMENTATION STAFFING REQUIREMENTS
FOR RADIOLOGICAL EMERGENCIES AT R. E. GINNA NUCLEAR POWER
PLANT (GINNA) (TAC NO. MB7240)

Dear Dr. Mecredy:

By letter dated May 23, 2003, Rochester Gas and Electric Corporation submitted proposed enhancements to the Ginna Nuclear Emergency Response Plan (NERP) following an evaluation of the on-shift and emergency plan staff augmentation issue raised by Inspection Report 50-244/02-09 and Task Interface Agreement (TIA) 2002-02. The proposed enhancements involve changes primarily in the following areas: (1) clarification of the minimum on-shift staffing levels, (2) compensation for the lack of 30-minute augmentation staff, and (3) revision to the number of one-hour emergency responders.

The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the proposed enhancements to the Ginna NERP and supporting documentation. The staff concluded that the proposed Ginna NERP Plan enhancements meet the current standards of Title 10 of the *Code of Federal Regulations*, Section 50.47(b) and the requirements of Appendix E of 10 CFR Part 50. Therefore, the proposed Ginna NERP enhancements are acceptable. The basis for this conclusion is contained in the enclosed safety evaluation.

On February 25, 2002, the NRC issued an Order modifying the operating license for Ginna to require compliance with the interim safeguards and security compensatory measures listed in Attachment 2 of the Order. Please note that in case of conflicts between the changes found acceptable by this letter and the requirements contained in the interim compensatory measures (ICM), the requirements of the Order take precedence.

Sincerely,

/RA/

Robert Clark, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-244

Enclosure: Safety Evaluation

cc w/encl: See next page

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The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the proposed enhancements to the Ginna NERP and supporting documentation. The staff concluded that the proposed Ginna NERP Plan enhancements meet the current standards of Title 10 of the *Code of Federal Regulations*, Section 50.47(b) and the requirements of Appendix E of 10 CFR Part 50. Therefore, the proposed Ginna NERP enhancements are acceptable. The basis for this conclusion is contained in the enclosed safety evaluation.

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R.E. Ginna Nuclear Power Plant

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO NUCLEAR EMERGENCY RESPONSE PLAN ENHANCEMENTS

ROCHESTER GAS & ELECTRIC CORPORATION

R. E. GINNA NUCLEAR POWER PLANT

DOCKET NO. 50-244

1.0 INTRODUCTION

By letter dated May 23, 2003, Rochester Gas and Electric Corporation (RG&E or the licensee) submitted proposed enhancements to the Ginna Nuclear Emergency Response Plan (NERP) following an evaluation of the on-shift and emergency plan staff augmentation issue raised by Inspection Report 50-244/02-09 and Task Interface Agreement (TIA) 2002-02. The proposed enhancements involve changes primarily in the following areas: (1) clarification of the minimum on-shift staffing levels, (2) compensation for the lack of 30-minute augmentation staff, and (3) revision to the number of one-hour emergency responders.

In the May 23, 2003, letter, RG&E stated that they are planning to complete implementation of the proposed enhancements, including training of the additional personnel and completion of the corrective actions associated with the unannounced, off-hours, call-out drill, and submitting the revised NERP to the U.S. Nuclear Regulatory Commission (NRC) by July 31, 2003.

2.0 REGULATORY EVALUATION

The regulatory requirements and guidance for which the NRC staff considered in its review of the application are as follows:

2.1 Regulations

Section 50.47(b)(2) of Title 10 of the *Code of Federal Regulations*, states, in part, "...adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available, and ..."

2.2 Guidance

- a. Regulatory Guide (RG) 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 3, states, in part, "The criteria and recommendations contained in Revision 1 of NUREG-0654/FEMA [Federal Emergency Management Agency]-REP-1 are considered by the NRC staff to be acceptable methods for complying with the standards in 10 CFR 50.47 that must be met for on-site and off-site emergency response plans."

- b. NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," states in:

Section II.B, "Onsite Emergency Organization," part 5, "Each licensee shall specify ... functional areas of emergency activity. . . These assignments shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1 . . . "

In Section I, "Accident Assessment," part 8, "Each organization, where appropriate, shall provide methods, equipment and expertise to make rapid assessments of the actual or potential magnitude and locations of any radiological hazards . . . This shall include activation, notification means, field team composition, transportation, communication, monitoring equipment and estimated deployment times."

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed RG&E's technical analyses in support of its proposed enhancements to the Ginna NERP, which are described in their letter dated May 23, 2003. The detailed evaluation below supports the conclusion that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed emergency plan enhancements will not be inimical to the common defense and security or to the health and safety of the public.

The NRC staff evaluated the proposed Ginna NERP enhancements in the following order: (1) clarification of the minimum on-shift staffing levels, (2) compensation for the lack of 30-minute augmentation staff, and (3) revision of the number of one-hour emergency responders.

RG&E's justification for the proposed enhancements to the NERP is given in the following sections followed by the NRC staff's evaluation of each enhancement.

3.1 Clarification of the Minimum On-Shift Staffing Levels

RG&E proposes three specific enhancements to the on-shift positions assigned emergency response functions. In this section of the safety evaluation, RG&E's justification for each enhancement is followed by the NRC staff's evaluation.

3.1.1 Chemistry/Radio-Chemistry Tasks - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I, Note 10, that Ginna currently does not have a separate on-shift rad/chem technician. Additional radiation protection (RP)/chemistry (rad/chem) qualified individuals (Ginna shift RP Technicians and Chemistry Technicians) are notified to respond as part of the automated emergency notification process described in RG&E's letter dated November 6, 2002. Since the completion of the NRC

inspection on April 17, 2002, RG&E has conducted an analysis to determine the adequacy of the on-shift staffing during the following high manpower-intensive events:

- Grid failure, direct entry into station blackout procedure, security available
- Security event in switchyard, loss of circuits 767 and 751, security not available
- Explosion in screen house, loss of buses 17 & 18, security available
- Security event in screen house, loss of buses 17 & 18, security not available
- Fire in the auxiliary building, security available
- Security event and subsequent fire in the auxiliary building, security not available
- Loss-of-coolant accident (LOCA) outside containment

The analysis found that although some activities would not be covered with the current on-shift RP technician staffing, those activities are not critical to the mitigation or recovery of the event. Specifically, there are no critical chemistry samples required by operations procedures to mitigate the events. The shift supervisor prioritization of non-critical activities would ensure that the activities were done as timely as possible.

Though the rad/chem technician function itself may not be time critical, RG&E has determined that an augmentation of the Ginna Shift RP Technician on-shift function with a new 30-minute responder would mean that these activities would be performed in a more timely manner. Since the Ginna Shift RP Technicians are qualified to perform chemistry analyses as well as radiological surveys and dose analyses, this augmentation would allow for the completion of the non-critical activities mentioned above as well as other activities. There are a total of 10 health physics (HP) qualified personnel and RP/chemistry managers with less than a 30-minute travel time to the plant.

In the letter dated May 23, 2003, RG&E states in Attachment I, Note 2, that the Ginna Shift RP Technicians are cross-trained in radio-chemistry/chemistry analysis.

NRC Staff's Evaluation

The radio-chemistry cross-training for the on-shift RP technicians, the addition of another cross-trained RP technician within 30 minutes, the analysis of potential manpower-intensive events at Ginna Station, and the capability of having 10 HP qualified personnel with less than a 30-minute travel time to the plant provides an acceptable alternative to the guidance for an on-shift radio-chemistry/chemistry task in Table B-1 of NUREG-0654.

3.1.2 Inclusion of the Fire Brigade in Table B -1- RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I, Note 16, that the Ginna Fire Protection Program requires a five-person fire brigade. The on-shift fire brigade consists of two auxiliary operators, who perform captain duties, and three additional separate dedicated fire brigade members. The local volunteer fire department is approximately 4 miles from the site and is able to respond very rapidly.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies that the fire brigade be established in accordance with the technical specifications for the plant. RG&E's justification is consistent with this guidance. Therefore, the proposed enhancement is acceptable.

3.1.3 Rescue Operations and First Aid - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I, Note 17, that rescue operations and first aid is provided on shift by three dedicated fire brigade members.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for an on-shift rescue operations and first aid capability of two individuals who may be shift personnel assigned other functions. The proposal to provide this capability with three dedicated fire brigade members is therefore acceptable.

3.2 Compensation for the Lack of 30-Minute Responders

The following subsections describe RG&E's enhancements/compensations to account for the lack of 30-minute responders.

3.2.1 Emergency Classification/General Site Characteristics

RG&E letter dated May 23, 2003 states that:

All NERP facilities are activated at the Alert emergency classification level. At the Alert level, the need for off-site assistance to immediately contain and mitigate the event is small. RG&E voluntarily changed when the emergency operations facility (EOF) was to be activated from a Site Area Emergency to an Alert classification many years ago, recognizing the need for early off-site support. RG&E further stated that although the historical response of the RG&E Emergency Response Organization (ERO) has been timely, there will be a reinforcement by senior management of the expectation that NERP responders will respond immediately upon being notified and not wait for additional time. This expectation has also been added to the annual responder training, which currently includes a discussion of the automated call-out process, and will be discussed within the NERP.

Four responders will be activated at the Notification of Unusual Event (NOUE) emergency classification. While these positions are not specified in NUREG-0654, they can help identify additional resources which are needed for slow moving events. The Technical Support Center (TSC) Director, Operations Assessment Manager, and Technical Assistant Manager or their alternates will report to the TSC to provide the following assistance:

- Provide and coordinate activities to relieve the control room of communications, emergency assessment, and manpower utilization.
- Direct and coordinate operations personnel in accident confirmation, mitigation, and recovery.
- Assist control room personnel with technical assessment of the event and other activities that are not essential control room functions.

- The fourth responder in the event of an NOUE emergency classification is the dose assessment manager, who will also report to the TSC to provide assistance.

Ginna is a small compact site/facility in comparison with most plants in the U.S. nuclear power industry. As such, it is much easier and quicker to gain access to the facility and to the necessary components. This feature allows for fewer individuals to be required to immediately respond to an event.

The compensations described above combined with the following proposed enhancements formed the bases by which RG&E justified the lack of 30-minute responders. RG&E's justification for each proposed enhancement is followed by the NRC staff's evaluation.

3.2.2 Notification/Communication Function - RG&E's Justification

RG&E's letter dated May 23, 2003, states in Attachment I, Note 4, that Ginna currently has a designated communicator on shift (one of three auxiliary operators) and a TSC communicator as a required 1-hour responder. Additional communicator-qualified personnel are notified to respond as part of the automated emergency notification process described in the RG&E letter dated November 6, 2002. The addition of the emergency response data system (ERDS) has also provided the NRC with the ability to remotely monitor key Ginna parameters. The shift technical advisor (STA) could also provide assistance with technical support of the NRC emergency phone line if required.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for a capability to augment the on-shift staff with another communicator within 30 minutes. The availability of the on-shift STA to assist with technical support of the NRC emergency phone line is sufficient compensation to fulfill the 30-minute notification/communication function until augmentation staff arrives. Therefore, the proposed change is acceptable.

3.2.3 Senior Health Physics Expertise/Offsite Dose Assessment Task - RG&E's Justification

RG&E's letter dated May 23, 2003, states in Attachment I, Note 6, that Ginna currently uses the on-shift HP technician to perform this function initially as a collateral duty. The STA is also trained to perform the dose assessment calculation. This calculation is done by the plant process computer and is backed up with a simple calculation form. For a fast-breaking general emergency, the protective action recommendation (PAR) procedure is implemented from the control room and recommends evacuation in a 2-mile radius and 5 miles downwind and sheltering the remainder of the populace. The PAR recommendation is based solely on the event classification and wind direction. Ginna also has a TSC dose assessment manager and an EOF dose assessment manager as required NERP 1-hour responders who provide enhanced dose assessment support, with five of these individuals having less than a 30-minute travel time from home to Ginna per Attachment V to the letter dated May 23, 2003. As an enhancement, RG&E proposes to add the TSC dose assessment manager position to the list of individuals who are notified to respond at the declaration of an NOUE.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for a capability to augment the on-shift staff with senior health physics expertise within 30 minutes. Based upon the TSC Dose Assessment Manager responding in the event of an NOUE and the availability of five other individuals who are qualified as TSC and EOF Dose Assessment Managers having less than a 30-minute travel time from home to Ginna Station per Attachment V to the letter dated May 23, 2003, the NRC staff finds the proposed change an acceptable alternative to the guidance in Table B-1 of NUREG-0654.

3.2.4 Off-Site and On-Site (Out-Of-Plant) Surveys - RG&E's Justification

RG&E's letter dated May 23, 2003, states in Attachment I Note 7 that Ginna Station currently does not have off-site survey personnel listed in the NERP as required 1-hour responders, though they are notified to respond as part of the automated emergency notification process as described in the RG&E letter dated November 6, 2002. Effluent monitor calculations and other plant RG 1.97 indications are the preferred method for rapid determination of Emergency Action Level (EALs) and PARs. That is the basis for the Ginna EAL classification and PAR procedures. Offsite radiological survey tasks such as soil, water, and vegetation sampling or environmental Thermoluminescent Dosimeter (TLD) retrieval can be performed when additional augmentation personnel arrive. These types of radiological survey tasks would be considered in the recovery phase following an offsite release of radioactive material and are not needed for the immediate protection of the public health and safety. There are a total of 15 qualified survey personnel (off-site and on-site) with less than a 30-minute travel time from home to Ginna Station per Attachment V of the letter dated May 23, 2003.

In Attachment VI to the letter dated May 23, 2003, RG&E identifies that one Survey Center Manager/Survey Team Member responded within 30 minutes during the call-out drill. However, in the cover letter to the letter dated May 23, 2003, RG&E states that the call-out drill overall response times and the number of responders was negatively impacted by the automated activation system. Unanticipated issues with the call-out process were identified due to the large number of proposed individuals who must now be contacted at an early stage following an event. There were also additional issues associated with personal pagers. These issues have been entered into the Ginna Station corrective action process (Action Report tracking number 2003-1009). RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

NRC Staff's Evaluation

The guidance in NUREG-0654 specifies the capability to augment on-shift personnel with three individuals within 30 minutes to perform off-site and on-site (out-of-plant) surveys. Based upon the capability for 15 qualified survey personnel (off-site and on-site) to respond within 30 minutes and RG&E's commitment to streamline the call-out process and perform additional testing to validate the call-out process by July 31, 2003, the proposed enhancements are acceptable.

3.2.5 In-Plant Surveys - RG&E's Justification

RG&E's letter dated May 23, 2003, Attachment V shows that 16 individuals qualified as Shift Radiation Protection (RP) Technicians, RP Technicians or the RP/Chemistry Manager (i.e., individuals qualified to perform in-plant surveys) have estimated staff augmentation travel times from their homes of less than 30 minutes. In Attachment VI to the letter dated May 23, 2003, RG&E shows that four individuals qualified as shift RP technicians, RP technicians or the RP/chemistry manager (i.e., individuals qualified to perform in-plant surveys) responded within 30 minutes during the unannounced, off-hours call-out drill. However, as discussed in Section 3.2.3, the call-out drill overall response times and the number of responders was negatively impacted by the automated activation system. RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

Also, in the letter dated May 23, 2003, RG&E states in Attachment I Note 9 that Ginna currently has one on-shift RP technician. Additional HP qualified individuals (shift RP technicians and RP technicians) are notified to respond as part of the automated emergency notification process as described in the RG&E letter dated November 6, 2002. The on-shift control room operators, STA and Ginna Shift RP Technician have remote indication of in-plant area radiation monitors, process monitors, and effluent monitors in the control room. These initially would guide the assessment of in-plant radiological conditions, and deployment of auxiliary operators and fire brigade members. As an enhancement, RG&E proposes to add one individual qualified in either HP functions or rad/chemistry functions as a 30-minute responder who would respond to off-normal events (Unusual Event or unplanned reactor trip).

NRC Staff's Evaluation

The guidance in Table B-1 of NUREG-0654 identifies the capability to augment the on-shift staff with one additional HP technician to perform in-plant surveys within 30 minutes. The licensee's proposal to add one individual qualified in either HP functions or rad/chem functions as a 30-minute responder who would respond to off-normal events (Unusual Event or unplanned reactor trip) is an acceptable alternative to the guidance in NUREG-0654.

3.2.6 Core/thermal Hydraulics Expertise - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 11 that the on-shift STA is able to provide the core/thermal hydraulics expertise until the arrival of a dedicated individual. Also, in Attachment VI to the letter dated May 23, 2003, RG&E shows that one individual with core/thermal hydraulics expertise responded within 30 minutes during the call-out drill.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for a core/thermal hydraulics expertise capability within 30 minutes. Based upon the ability of the on-shift STA to provide the core/thermal hydraulics expertise until the arrival of a dedicated individual with core/thermal hydraulics expertise and the capability of an individual with core/thermal hydraulics expertise to respond within 30 minutes, the proposed enhancements meet the guidance in Table B-1 of NUREG-0654.

3.2.7 Electrical Maintenance Technician Expertise - RG&E's Justification

RG&E's letter dated May 23, 2003, Attachment V shows that two individuals with electrical maintenance expertise have estimated staff augmentation travel times from their homes of less than 30 minutes. In Attachment VI to the letter dated May 23, 2003, RG&E shows that no individuals with electrical maintenance expertise responded within 30 minutes. However, in the cover letter to the letter dated May 23, 2003, RG&E states that the call-out drill overall response times and the number of responders was negatively impacted by the automated activation system. Unanticipated issues with the call-out process were identified due to the large number of proposed individuals who must now be contacted at an early stage following an event. There were also additional issues associated with personal pagers. These issues have been entered into the Ginna Station corrective action process (Action Report tracking number 2003-1009). RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the capability to have one individual with electrical maintenance expertise respond within 30 minutes. Based on the capability for two electrical maintenance personnel to respond within 30 minutes and the commitment to streamline the call-out process, the proposed coverage for electrical maintenance expertise within 30 minutes is acceptable.

3.2.8 Instrument and Controls Technician Expertise - RG&E's Justification

RG&E's letter dated May 23, 2003, Attachment V shows that eight individuals with instrument and controls expertise have estimated staff augmentation travel times from their homes of less than 30 minutes. In Attachment VI to the letter dated May 23, 2003, RG&E shows that one individual with instrument and controls expertise responded within 30 minutes. However, in the cover letter to the letter dated May 23, 2003, RG&E states that the call-out drill overall response times and the number of responders was negatively impacted by the automated activation system. Unanticipated issues with the call-out process were identified due to the large number of proposed individuals who must now be contacted at an early stage following an event. There were also additional issues associated with personal pagers. These issues have been entered into the Ginna Station corrective action process (Action Report tracking number 2003-1009). RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the capability to have one individual with instrument and controls expertise respond within 30 minutes. Based on the capability for one instrument and controls technician to respond within 30 minutes and the commitment to streamline the call-out process, the proposed coverage for instrument and controls expertise within 30 minutes is acceptable.

3.2.9 In-Plant Protective Actions - RG&E's Justification

RG&E's letter dated May 23, 2003, Attachment I Note 15 states that Ginna has an on-shift RP technician who could assist with protective actions as prioritized by the shift supervisor. The on-shift auxiliary operators and fire brigade members receive basic radiation monitoring training. Radiation exposure monitoring has improved dramatically since NUREG-0654, Table B-1, was issued. The on-shift auxiliary operators, fire brigade, and security officers all use alarming dosimeters with dose and dose rate alarms. The auxiliary operators are also trained to use some portable radiation instrumentation for steam line monitoring. On-shift personnel can self-frisk when leaving a restricted area where Personnel Contamination Monitors (PCMs) are not available.

There are a total of 16 qualified shift RP technicians, RP technicians, or the RP/chemistry manager who could perform in-plant protective action tasks and live within less than a 30-minute travel time of the plant per Attachment V to the letter dated May 23, 2003. In Attachment VI to the letter dated May 23, 2003, RG&E shows that four individuals qualified as shift RP technicians, RP technicians or the RP/chemistry manager (i.e., individuals qualified to perform in-plant surveys) have estimated staff augmentation travel times of less than 30 minutes. However, in the cover letter of the letter dated May 23, 2003, RG&E states that the call-out drill overall response times and the number of responders was negatively impacted by the automated activation system. Unanticipated issues with the call-out process were identified due to the large number of proposed individuals who must now be contacted at an early stage following an event. There were also additional issues associated with personal pagers. These issues have been entered into the Ginna corrective action process (Action Report tracking number 2003-1009). RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for the capability to augment on-shift staff with two individuals to perform in-plant protective actions within 30 minutes. Four RP technicians responded within 30 minutes during the call-out drill conducted by RG&E. However, there are a total of 6 30-minute responders specified in Table B-1 of NUREG-0654 to perform offsite surveys, onsite (out-of-plant surveys, in-plant surveys and in-plant protective actions). RG&E has stated that there are 16 shift RP technicians, RP technicians, or the RP/chemistry manager who could perform in-plant protective action tasks and live within less than a 30-minute travel time of the plant per Attachment V to the letter dated May 23, 2003. RG&E has also committed to streamline the call-out process and handle the pager issues on an individual basis. Therefore, the proposed capability to perform in-plant protective actions within 30 minutes is acceptable.

3.2.10 Summary of On-Shift Staffing Changes

In the letter dated May 23, 2003, RG&E proposed changes to the Ginna NERP to enhance the 30-minute response capability. Augmentation staff response times were evaluated and a call-out drill was performed. However, unanticipated issues were identified and additional unannounced testing will be performed to validate the process prior to July 31, 2002. RG&E

has committed to streamline the call-out process and address pager issues on an individual basis. Additional justification for the proposed changes is provided in the letter dated May 23, 2003, in which RG&E states that it is the expectation of Ginna management that all individuals with an emergency response function to report to their assigned emergency facility as soon as possible when notified. Additional management is now called out in the event of an NOUE to enhance the early on response capability. Therefore, the proposed enhancements are acceptable.

3.3 Addition of 18 1-Hour Emergency Responders

Following is RG&E's justification for the proposed enhancements to the NERP followed by the NRC staff's evaluation of each enhancement.

3.3.1 Notification/Communication - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 4 that Ginna currently has a designated communicator on-shift (1 of 3 auxiliary operators) and a TSC communicator as a required NERP 1-hour responder. Additional communicator qualified personnel are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. The addition of the ERDS has also provided the NRC with the ability to remotely monitor key Ginna parameters. The STA could also provide assistance with technical support of the NRC emergency phone line if required. As an enhancement, RG&E proposes to add an EOF communicator as a NERP required 1-hour responder to provide for a communicator in each of the three command and control facilities. There are four qualified TSC communicators and seven EOF communicators with less than a 30-minute travel time per Attachment V to the letter dated May 23, 2003.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for a capability to augment the on-shift staff with two communicators within 60 minutes. RG&E proposes to add an EOF communicator as a NERP required 1-hour responder as an enhancement bringing the total number of 60-minute communicators to two. Therefore, the proposed enhancement meets the guidance in Table B-1 of NUREG-0654 and is acceptable.

3.3.2 Off-Site Surveys - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 7 that Ginna currently does not have off-site survey personnel listed in the NERP as required 1-hour responders, though they are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. Effluent monitor calculations and other plant RG 1.97 indications are the preferred method for rapid determination of EALs and PARs. That is the basis for the Ginna EAL classification and PAR procedures. Off-site radiological survey tasks such as soil, water, and vegetation sampling or environmental TLD retrieval can be performed when additional augmentation personnel arrive. These types of radiological survey tasks would be considered in the recovery phase following an off-site release of radioactive material and are not needed for the immediate protection of the public health and

safety. As an enhancement, RG&E proposes to add four off-site survey personnel as NERP required 1-hour responders. There are a total of 24 qualified survey personnel (off-site and on-site) with less than a 60-minute travel time per Attachment V to the letter dated May 23, 2003.

NRC Staff's Evaluation

Guidance in Table B-1 of NUREG-0654 identifies the need for two additional personnel to perform off-site surveys in 60 minutes. Therefore, the licensee's proposal to add four off-site survey personnel as NERP required 1-hour responders meets the guidance in Table B-1 of NUREG-0654 and is acceptable.

3.3.3 On-Site Surveys - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 8 that Ginna Station currently does not have on-site survey personnel listed in the NERP as required 1-hour responders, though they are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. Effluent monitor calculations and other plant RG 1.97 indications are the preferred method for rapid determination of EALs and PARs. That is the basis for the Ginna EAL and PAR procedures. As an enhancement, RG&E proposes to add two on-site survey personnel as NERP required 1-hour responders. There are a total of 24 qualified survey personnel (off-site and on-site) with less than a 60-minute travel time per Attachment V to the letter dated May 23, 2003.

NRC Staff's Evaluation

Guidance in Table B-1 of NUREG-0654 identifies that the licensee should have the capability to augment the on-shift staff with two 60-minute responders to perform on-site surveys. Since the proposed enhanced number of 1-hour responders to perform on-site surveys is the same as the guidance provided in Table B-1 of NUREG-0654, the proposed enhancement is acceptable.

3.3.4 In-Plant Surveys - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 9 that Ginna currently has one shift RP technician. Also, an RP/chem manager is a current NERP 1-hour responder that would assist in providing senior HP expertise. Additional HP qualified individuals (Ginna Shift RP Technicians and RP Technicians) are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. The on-shift control room operators, STA and Ginna Shift RP Technician have remote indication of in-plant area radiation monitors, process monitors, and effluent monitors in the control room. These initially would guide the assessment of in-plant radiological conditions, and deployment of auxiliary operators and fire brigade members.

As an enhancement, RG&E proposes to add one additional HP qualified individual as a NERP required 1-hour responder to support in-plant surveys. There are a total of 24 HP qualified personnel and RP/chemistry managers with less than a 60-minute travel time per Attachment V to the letter dated May 23, 2003.

NRC Staff's Evaluation

The guidance in Table B-1 of NUREG-0654 identifies the capability to augment the on-shift staff with one additional HP Technician to perform in-plant surveys within 60 minutes. Therefore, the licensee's proposal to add one additional HP qualified individual as a NERP required 1-hour responder to support in-plant surveys is acceptable.

3.3.5 Chemistry/Radiochemistry Function - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 10 that Ginna currently does not have a separate on-shift rad/chem technician. Additional rad/chem qualified individuals (Ginna Shift RP Technicians and Chemistry Technicians) are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. Since the completion of the inspection on April 17, 2002, RG&E has conducted an analysis to determine the adequacy of the on-shift staffing during the following high manpower intensive events:

- Grid failure, direct entry into station blackout procedure, security available
- Security event in switchyard, loss of circuits 767 and 751, security not available
- Explosion in screen house, loss of buses 17 & 18, security available
- Security event in screen house, loss of buses 17 & 18, security not available
- Fire in the auxiliary building, security available
- Security event and subsequent fire in the auxiliary building, security not available
- Loss-of-coolant accident (LOCA) outside containment

The analysis found that although some activities would not be covered with the current on-shift RP technician staffing, those activities are not critical to the mitigation or recovery of the event. Specifically, there are no critical chemistry samples required by operations procedures to mitigate the events. The shift supervisor prioritization of non-critical activities would ensure that the activities were done as timely as possible. However, as an enhancement, RG&E proposes to add one additional rad/chem qualified individual as a NERP required 1-hour responder to support chemistry analysis.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for a capability to have a rad/chem technician respond within 60 minutes. Since the licensee's proposed enhancement is the same as the guidance in Table B-1 of NUREG-0654, the proposed enhancement is acceptable.

3.3.6 Core/Thermal Hydraulics, Electrical and Mechanical Technical Support Expertise - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in the Notes to Attachment I that technical support personnel are provided to support supplemental actions needed to ensure the plant remains in a stable condition, restore capabilities needed for control of the plant, and assist in planning/preparing necessary corrective maintenance. As such, these functions are not needed during the initial stage of an emergency. The technical support personnel are needed for assessing the extent and impact of damage, practical long-term stabilization options, priority corrective maintenance, and other plant recovery work. Due to the time needed to stabilize the plant and assess the event, the initial phase of an accident scenario is not expected to involve a

large need for maintenance personnel for activities that could not be performed by the on-shift complement. Only after the plant is in stable and understood status can attention be refocused to corrective maintenance that may be needed to restore plant conditions. Until the reactor plant is stabilized and the causal agents are discerned, actual repairs or realignment of plant equipment should not require large-scale maintenance support.

Also, in the letter dated May 23, 2003, RG&E states in Attachment I Note 11 Ginna currently has a TSC technical assessment manager and an EOF engineering manager listed in the NERP as required 1 hour responders who can preliminarily fulfill these functions. These specific engineering discipline personnel are also currently notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. As an enhancement, RG&E proposes to supplement the current 1-hour engineering responders with three engineering discipline-specific personnel as NERP required 1-hour responders. In addition, RG&E has proposed reducing the number of 60-minute responders with core/thermal hydraulics expertise from two to one.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for two individuals to provide an electrical and mechanical technical support expertise capability within 60 minutes. However, Table B-1 of NUREG-0654 only specifies the need for core/thermal hydraulics expertise within 30 minutes. Therefore, the proposed reduction in the number of 60-minute responders with core/thermal hydraulics expertise is acceptable. Based upon the proposed enhancement of three engineering discipline-specific personnel as NERP required 1-hour responders, the proposed enhancements related to mechanical and electrical expertise within 60 minutes meet the guidance in Table B-1 of NUREG-0654 and are, therefore, acceptable.

3.3.7 Mechanical Maintenance/Rad Waste Operator Expertise - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 12 that Ginna currently has a maintenance assessment manager listed in the NERP as a required 1-hour responder whose task is to determine and prioritize the repair activities. Mechanical maintenance technician expertise is not needed until after the plant has been placed in a safe condition since these tasks typically require significant planning and coordination. All equipment manipulations would be initially performed by auxiliary operators, who could also perform minor activities such as tightening valve packing. The emergency coordinator directs the call-in of technicians to troubleshoot and correct equipment malfunctions whenever equipment problems are identified. Since the shift supervisor assumes the duties of the emergency coordinator at the classification of the event, the necessary technicians would be called in to perform the necessary troubleshooting and repair of equipment early during the event. As an enhancement, RG&E proposes to add a mechanical maintenance technician as a NERP required 1-hour responder.

In Attachment V to the letter dated May 23, 2003, RG&E shows that 24 mechanical maintenance personnel have estimated staff augmentation travel times from their homes of less than 60 minutes. In Attachment VI to the letter dated May 23, 2003, RG&E also identifies that one mechanical maintenance person responded within 30 minutes during the call-out drill. Note 3 to Attachment VI states that the number of Ginna maintenance personnel listed are those that were designated at the time of the unannounced, off-hours, call-out drill. Additional responders from each of the maintenance groups are being added. As discussed in Section 3.2, RG&E

states that the call-out drill overall response times and the number of responders was also negatively impacted by the automated activation system. RG&E is working with the automated activation system vendor to streamline the call-out process and is handling the pager issues on an individual basis. Additional unannounced testing (without actual response required) will be performed to validate the process prior to July 31, 2003.

In the letter dated May 23, 2003, Attachment I Note 13 RG&E states that Ginna currently does not have a rad waste operator as a required NERP 1-hour responder. There is no need for a radiological waste operator until well after the event has been mitigated. Any radiological waste processing would be performed by an auxiliary operator as part of their normal duties during the recovery phase of the event. Therefore, Ginna does not propose the addition of a separate rad waste operator as a NERP 1-hour responder.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the capability to have two individuals with mechanical maintenance/radwaste operator expertise respond within 60 minutes. As an enhancement, RG&E proposes to add a mechanical maintenance technician as a NERP required 1-hour responder. RG&E currently has 21 mechanical maintenance personnel who have estimated staff augmentation travel times from their homes of less than 60 minutes. Also, RG&E currently has a maintenance assessment manager listed in the NERP as a required 1-hour responder whose task is to determine and prioritize the repair activities. The existing 1-hour response capability in addition to the proposed enhancement to add a mechanical maintenance technician as a NERP required 1-hour responder meets the guidance in NUREG-0654 and is acceptable.

3.3.8 Electrical Maintenance/Instrument & Control Technician Expertise - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 14 that the maintenance assessment manager is a required 1-hour responder whose task is to determine and prioritize the repair activities. Electrical maintenance expertise is not needed until after the plant has been placed in a safe condition. All equipment manipulations would be initially performed by auxiliary operators, who could also perform minor activities such as replacing fuses and closing breakers. The emergency coordinator directs the call-in of technicians to troubleshoot and correct equipment malfunctions whenever equipment problems are identified. Since the shift supervisor assumes the duties of the emergency coordinator at the classification of the event, the necessary technicians would be called in to perform the necessary troubleshooting and repair of equipment early on during the event. As an enhancement, RG&E proposes to add an electrician as a NERP required 1-hour responder.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for the capability to augment the on-shift staff with one individual with electrical maintenance expertise to perform repair and corrective action tasks within 60 minutes. RG&E's proposal to add an Electrician as a NERP required 1-hour responder meets the guidance in Table B-1 of NUREG-0654 and is acceptable.

3.3.9 In-Plant Protective Actions - RG&E's Justification

In the letter dated May 23, 2003, RG&E states in Attachment I Note 15 that an RP/Chemistry Manager and Dose Assessment Manager are current NERP required 1-hour responders reporting to the TSC. These individuals are more experienced and can coordinate an in-depth assessment of radiological conditions inside or outside the plant. Additional HP qualified individuals are notified to respond as part of the automated emergency notification process as described in RG&E's letter dated November 6, 2002. As an enhancement, RG&E proposes to add three additional HP qualified individuals as NERP required 1-hour responders to support in-plant protective actions. Also, in the letter dated May 23, 2003, RG&E shows in Attachment VI that during off-hours unannounced call-out drill, 14 Shift RP Technicians, RP Technicians and/or an RP/Chemistry Manager, who are qualified to perform in-plant surveys and in-plant protective actions, responded within 60 minutes.

NRC Staff's Evaluation

Table B-1 of NUREG-0654 identifies the need for the capability to augment the on-shift staff with two individuals with HP Technician expertise within 60 minutes. RG&E's proposal to add three additional HP qualified individuals as NERP required 1-hour responders to support in-plant protective actions meets the guidance in NUREG-0654 and is acceptable.

3.3.10 Summary of 1-Hour Augmentation Staffing Changes

In the letter dated May 23, 2003, RG&E proposed to enhance their emergency response capability by adding 18 1-hour responder positions to the 13 1-hour responders currently identified in the Ginna NERP. The 13 current 1-hour responders include the following who will report to their position within approximately one hour of the declaration of an Alert of higher emergency classification level: the TSC Emergency Coordinator, the Operations Assessment Manager, the TSC Communicator, the Technical Assessment Manager, the Maintenance Assessment Manager, the TSC Dose Assessment Manager, the Radiation Protection and Chemistry Manager, the Survey Center Manager, the Recovery Manager, the EOF Nuclear Operations Manager, the EOF Engineering Manager, the News Center Manager, and the EOF Dose Assessment Manager. The following proposed additional responders provide additional expertise capability within 60 minutes: off-site surveys (4), on-site surveys (2), HP qualified individuals (4), nuclear assessment, instrument and control /electrical assessment, mechanical/hydraulic assessment, mechanical maintenance, an Electrician, an Instrument and Controls Technician, an RP/Chemistry Technician, and an EOF Communicator. Therefore, the RG&E proposal to enhance their emergency response organization with 18 1-hour responders meets the intent of the guidance in Table B-1 of NUREG-0654 and is acceptable.

4.0 RG&E COMMITMENTS

Following are the commitments related to enhancing the Ginna NERP that RG&E summarized in Attachment VII to the letter dated May 23, 2003. RG&E will complete these commitments by July 31, 2003.

- Addition, including training, of 18 1-hour responder positions to the 13 current one-hour responders.
- Addition, including training, of the one 30-minute responder to address the on shift difference with respect to the rad/chem technician position.
- Addition of a dose assessment manager to the list of responders who are activated at the declaration of an Unusual Event.
- A reinforcement by senior management of the expectation that NERP responders will respond immediately upon being notified and not wait for additional time. This expectation will also be discussed within the NERP.
- Completion of the corrective actions associated with the unannounced off-hours call out drill.
- Submittal of the revised NERP.

5.0 CONCLUSION

The NRC staff has determined that RG&E's enhancements to the Ginna NERP proposed in the letter dated May 23, 2003, are acceptable. The NRC staff also finds that the proposed Ginna NERP enhancements provide an acceptable alternative for complying with the standards in 10 CFR 50.47(b) (2) and the requirements of Appendix E of 10 CFR Part 50. Therefore, the NRC staff concludes, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed emergency plan changes will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Moody

Date: July 24, 2003