REVIEW OF
EMERGENCY PREPAREDNESS EFFECTIVENESS
DURING THE SITE AREA EMERGENCY
AT NINE MILE POINT UNIT 2
ON AUGUST 13, 1991

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A.M. Salemi
Director Emergency Preparedness
Team Leader

Introduction and Conclusions

On August 13, 1991 the Nine Mile Point Nuclear Station Unit 2 declared a Site Area Emergency due to the loss of all Control Room annunciators coincident with a plant transient (Reactor Scram). Subsequent to the response to the emergency, which included implementation of emergency preparedness activities (notifications, staffing of emergency facilities, etc.) a recovery plan was developed. This recovery plan required that an internal assessment be made of emergency preparedness effectiveness relating specifically to this actual emergency. This assessment was performed, and three areas were identified as requiring root cause investigations. These were initial emergency personnel accountability, emergency response organization notifications, and access control activities. Although opportunities for improvement were noted, the overall results are that emergency preparedness implementation were indeed effective during the course of the emergency.

Overall, the emergency plan was effective in allowing the Emergency Response Organization (ERO) to perform the functions necessary to assess and mitigate the event and bring the plant to a safe shutdown. At no time during this event was the health and safety of the public at risk.

This report provides information on the noted strengths and opportunities for improvements identified during the emergency activities. In addition, the process used to perform the assessment is described. This report constitutes the completion of the recovery plan requirement previously mentioned.

Summary of Events

Emergency Preparedness implementation began when the Unit 2 Station Shift Supervisor accurately assessed plant conditions as being in an emergency in accordance with emergency preparedness procedures. He identified the loss of all Control Room annunciators and a plant transient (Reactor Scram) as being the emergency action level for the declaration of a Site Area Emergency (SAE) (see Attachment 1). This declaration was made at 0600 and local (Oswego County) and New York State warning points were notified within the 15-minute time requirement. An attempt to make initial station announcements was unsuccessful since the initiating event made the GAItronics system inoperable at Unit 2. Therefore, Unit 1 Control Room staff were called upon to make the announcement of the SAE and the required Station Evacuation announcement. While personnel at both Unit 1 and Unit 2 were enroute to their evacuation assembly areas, additional notifications were being made in accordance with procedures. However, notification procedures provided inconsistent guidance which delayed the notification and activation of the Emergency Response Organization (ERO). This delay is discussed further in this report along with the root cause investigation results. Once notifications were made to the ERO their response was adequate with few exceptions. Initial manning of some Emergency Response Facilities began almost immediately after the station emergency announcement even though the event occurred off-hours.

Emergency personnel accountability began with the Station Evacuation announcement. Nuclear Security provided a protected area roll call report by 0611. However, the first actual Accountability Report was not run until 0704. This accountability report indicated that of the 255 people in the

protected area, 62 were not accounted for. This 0704 report was not produced in a timely manner and contributed to the inability to meet the goal of completing emergency personnel accountability within thirty minutes. Efforts to account for all "missing" personnel by Operations Support Center (OSC) staff continued until all personnel were finally accounted for. This effort took approximately 1 1/2 hours. Contributing factors to the untimely emergency personnel accountability performance are discussed further in this report.

While emergency personnel accountability was ongoing, protected area access was appropriately restricted to only "essential" staff. However, the criteria of "essential" as meaning holders of an Oswego County Emergency Identification Card was not well understood. This resulted in the denial of access of some emergency response designees and ultimately caused some delay in the staffing of emergency response facilities.

Access control continued with roadblocks at the east and west site access roads (Private Road) in accordance with procedures. Nuclear Security was later assisted by Oswego County Sheriff's deputies in restricting access to the station. Appropriately, the criteria used to gain access beyond the roadblocks was the Oswego County Emergency Identification cards. Although these roadblocks were for the most part effective, a contradiction was identified. While the roadblocks were restricting access to the site, non-essential people were still carrying on with normal work duties in the Nuclear Training Center, Energy Center, P-Building, etc. Even though a Site Evacuation (evacuation of the exclusion area which includes the protected area, Training Center, Energy Center, etc.) was not ordered, this contradiction of restricting site access while allowing people in the site already to continue normal work activities will be reviewed for resolution. Also, the roadblocks themselves caused traffic to backup according to some estimates up to two miles. This traffic congestion caused a delay for some of the emergency response designees reporting to their assigned areas.

Non-essential personnel were eventually directed to the Remote Assembly Area at the Volney Service Center. This was determined to be a good location to place people on standby for possible return to the site. Also, temporary Oswego County Emergency Identification Cards ("green" cards) could be issued at the nearby JAF/EOF in accordance with established procedures. Use of the Remote Assembly Area is described in procedures as it relates to a "Site Evacuation", and since no Site Evacuation occurred, the actual use of the Remote Assembly Area in this manner was not covered by procedural guidance. This situation identified several opportunities for improvement including lack of command and control, traffic control, etc. Also, the issuance of temporary green cards was hampered by lack of detailed procedural guidance as to Niagara Mohawk staff responsibilities at the JAF-EOF. A member of the Emergency Preparedness Training Staff directed the issuance of temporary green cards to allow for access of necessary staff. The necessity to issue temporary green cards was due to many ERO staff not having green cards as they should have.

Although there were challenges to the staffing of the Emergency Response Facilities (ERF's), some of which were previously discussed, the activation of ERF's was considered adequate. Even the Joint News Center (JNC) was operational with Oswego County and New York State officials (from Albany, New York) in just over two hours.

Overall operation of the ERF's was considered to be excellent. Overall command and control, assessment activities, communications, turnover of responsibilities were all rated high. The staff performed their responsibilities in a calm, professional manner, teamwork was evident and knowledge of equipment operation and use of procedures were also rated as exceptional.

As activities proceeded throughout the day additional attention focused on the emergency termination and recovery activities. By mid morning it was agreed that all the conditions in procedure S-EPP-25 (Revision 5) for termination of the emergency could be met except for one; that the reactor be in a cold shutdown condition (See Attachment 2). This cold shutdown condition, defined by the Unit 2 Technical Specifications, is the average reactor coolant temperature $\leq$200°F. The safety significance of actually having to be in a cold shutdown for this emergency event has been reviewed, and determined to require relaxation of this requirement. The emergency was finally terminated at 1943 when the reactor coolant reached 200°F. Post emergency review revealed that overall response was effective. Media interface at the JNC was good, including the press conference given by Messrs. B. Ralph Sylvia and J. F. Firlit.

It is anticipated that future drills will be used to assess the effectiveness of corrective actions that will be implemented as a result of the Site Area Emergency of August 13, 1991.

1. Notifications, Staffing and Activation of ERFs

Notification to personnel in the Emergency Response Organization (ERO) and staffing and activation of the Emergency Response Facilities (ERFs) were effectively accomplished on Tuesday, August 13, 1991, in spite of a number of minor problems. These problems in effect delayed staffing of the ERFs and included the loss of GAItronics at Unit 2 (due to the UPS failures), access delays (see Section 2), and a delay in the ERO notifications. A number of strengths contributed to overcoming these minor problems, most notably the strong support and help of individuals not required by procedure but who offered assistance. The SAE was declared at 0600. The first CAN message went out at 0700, and beepers were activated at 0701. The TSC was activated at 0737, the EOF at 0804, the OSC at 0807, and the JNC at 0825.

Strengths:

- The turnover of the response effort from the Control Room to the TSC was performed well.

Opportunities:

- A 30-minute delay occurred in the notification of ERO personnel due principally to a weakness in procedure S-EPP-20, Revision 13. The procedure specifies in paragraph 6.2 that NMPC should notify the NRC immediately after notification of New York State and Oswego County Agencies and not later than one hour after the SED declares one of the emergency classes. This procedure was followed, however, the focus on the NRC delayed initiation of the CAN notifications. S-EPP-20, Revision 14, corrects this problem. Revision 14 has been approved by SORC and is now being routed for signatures. Training of affected personnel has been completed.

- Duties and assignments of clerical staff in the ERFs were not always clear or understood. In some cases, people were assigned duties for which they had not been trained.

- Engineering support did not fully staff the TSC until after 0930.

- The term "essential personnel" (i.e., green card holders) needs to be clarified and understood by all.

- Not all departmental call-out lists had current pager and phone numbers.

- Some response participants were not "qualified" - i.e., their emergency response training status was not current. These included the Radiological Assessment Manager in the TSC, 11 members of OSC Damage Control Teams, 3 of 5 Control Room advisors, and 3 people in the Joint News Center, for a total of 18. Impact was minimal. Trained, qualified back-up supported the RAM, and he had been qualified for the position at other facilities.. Also, his technical expertise is high. The Control Room advisors were highly qualified technically, but had not taken the required EP essentials course or equivalent.

- The establishment of a operations position in the OSC may improve efficient coordination of Damage Control Teams. Ideally the level of expertise in this position should be a SRO.

- The recent reorganization (unitizing) may have created a need to identify subject matter experts (SME) who could be called in an emergency without regard to Unit affiliation.

- Although trained as Control Room Communications Aides, the Radwaste Operators may be better suited for other emergency functions.

2. Access Control

Actions were taken to control access to the NMP site during the Unit 2 Site Area Emergency. Actions included the restriction of personnel through security and establishment of roadblocks at the east and west site access roads (Private Road) which later was assisted by Oswego County Sheriff's personnel. Due to the time the emergency was declared and the arrival time of personnel reporting for normal work duties several areas of improvement were identified with regards to access control. Improvements made in the areas of access control criteria should include the clarification of the terms essential and non-essential people, control of non-essential people, and control of "Green" card access. These would result in a more effective Emergency Access Plan.

Strengths:

- The ERO was adequately staffed and functional in time to provide the necessary responses required.

- Access to the EOF, JNC, TSC and OSC was performed well.

Opportunities:

- Security initiated the initial control of access by not permitting the entry of any personnel regardless of whether they held an Oswego County Emergency Identification Card ("Green Card"). This was a result of active participants not having a clear understanding of the term emergency or essential personnel. Security also did not have the necessary emergency procedures readily available for reference nor were they trained in their use.

- Roadblocks were established at the east and west site access roads. At the time these roadblocks were established many non-essential people were already located at the offsite facilities: Nuclear Training Center, Energy Center, P-Building, etc., which contributed to the confusion of where non-essential personnel were to go. Procedural controls need to be established to address the control or direction of personnel located in offsite facilities at the time access is restricted.

- Access through roadblocks was obtained through use of "Green" cards; however, inconsistencies in use of green cards resulted in the allowance of access by personnel that did not themselves possess a "Green" card. This occurred when multiple passengers in one vehicle was permitted access when only the driver presented his/her "Green" card.

- Inconsistencies in roadblock direction resulted in non-essential personnel being directed to go to the Remote Assembly Area at Volney, while others were instructed to go home until they were called.

- Many temporary "Green" cards had to be issued as a result of many ERO staff not having "Green" cards as they should have and the need to bring in additional staffs to support the forced outage activities. It was observed that individuals who currently are not assigned ERO staffing responsibilities also possess a "Green" card.

- A misuse of the Temporary Green card resulted due to various ERO staff not having one.

- Confusion regarding the definition of "non-essential personnel" resulted in a reduction of the effectiveness of the emergency access control plan. This needs to be clarified and understood by all.

3. Emergency Personnel Accountability

Emergency Personnel Accountability (Accountability) begins with the announcement of a Station Evacuation. During the emergency there were several factors which led to the delay in the initiation of Emergency Personnel Accountability including the actual loss of the capability to make Unit 2 announcements.

Even though there are opportunities for improvements in the area of Emergency Personnel Accountability the overall rating for this activity during the actual emergency were rated as satisfactory. All personnel were accounted for, facility access was adequate in the response to this emergency and provisions necessary to accomplish emergency response, even though procedural guidance was not available, was satisfactory.

Nuclear Security is tasked with providing an Accountability Report initially during off-hours accountability. During this event, Nuclear Security was reacting to several situations, including the loss of Unit 2 security radio capabilities, which took away from the obtaining of an Accountability Report. A root cause evaluation of the inability to initiate Accountability in a timely manner concluded that supervisory methods and instructions need to be improved. It was noted that although Roll Call Reports were obtained at 0611 and 0627 hours, an actual Accountability Report was not obtained until 0704 hours. This Accountability Report indicated that of the 255 people in the protected area, 62 were unaccounted for. Subsequent evaluation showed that of these 62 people, about 75% were engaged in mitigation activities. The Personnel Accountability Coordinator (PAC) arrived in the Operations Support Center at 0719 hours. At this time, Accountability was considered complete and Search and Rescue activities began. About 1 1/2 hours later, at 0840 hours all "missing" people were accounted for. There were several contributing factors to the delay of Accountability and completion of Search and Rescue activities, perhaps the most significant was the loss of the Unit 2 plant page system (GAItronics).

The loss of the Unit UPS caused the Unit 2 portion of the GAItronics to become inoperable. Although the Unit 1 Control Room was contacted via telephone by Unit 2 Control Room staff to make the initial GAItronics announcements, the announcements could not be heard at Unit 2 locations. Therefore, some staff did not know to respond since they did not hear announcements and it made contacting people at Unit 2 who were considered "missing" difficult.

Accountability of all staff in the protected area was maintained throughout the emergency. The PAC and staff did an excellent job of carrying through with these responsibilities.

Although a Site Evacuation was not ordered during the emergency, some people were sent to the primary Remote Assembly Area at NMPC's Volney Service Center approximately 12 miles from the station. Initially the decision to send people to Volney was to relieve the site of some congestion of non-essential people because they were gathered at the two Security Buildings. Later it was decided that Volney would also be a good location to stage people for return to the station. Since the Remote Assembly Area was activated and used in a manner outside of the procedural guidance envisioned in procedure S-EPP-19, Site Evacuation, some opportunities for improvement in this area were noted. Specifically, there was no designated manager assigned to this facility. This caused a lack of coordination when 200+ people arrived. Also, communication links back to the station were not established, and the ability to recall specific staff members to the station was difficult. Also, people at Volney were not kept aware of the station emergency status and activities.

Strengths:

- Personnel Accountability staff did well in accounting for people throughout the emergency.

- Even though not initially understood, the use of the Oswego County Emergency Identification Card ("Green Card") was beneficial.

Opportunities:

- Initial emergency personnel accountability was slow.

- Criteria for "essential" people not well understood.

- Continuous accountability was difficult when workers were at the same time being requested to enter the protected area to work.

- Activities at the Remote Assembly Area (Volney) were not well coordinated.

4. Assessment, Mitigation and Termination

The actions taken by the Nine Mile Point Emergency Response personnel; their implementation of the Site Emergency Plan and Implementation Procedures in the areas of assessment (including initial classification) mitigation and termination of the Site Area Emergency were both appropriate and effective. This included radiological and dose assessment even though no abnormal radiological releases occurred during the emergency. Assessment and mitigation activities by both the Radiation Protection and Chemistry groups were particulary note worthy.

Strengths:

- Response actions taken by personnel of the (ERO) Emergency Response Organization minimized possible hazards to personnel. A RP technician was sent to the Control Room to establish habitability following the initial loss of all Control Room indicators. An Environmental Technician verified leaking transformer oil contained no PCBs prior to Damage Repair Teams entering.

- In the early stages of the Site Area Emergency Chemistry and Rad Protection provided invaluable support to the Operations Staff and assisted in their applicable areas in the efforts to mitigate the event (Attachment 6).

- All Damage Control Teams were dispatched without any difficulties. Briefings and debriefings went very smoothly. Radiation Protection assisted well with teams and communications with field teams went very well.

- Pertinent information from activities in the field was communicated to appropriate management personnel in a timely and effective manner. The posting of status boards in the OSC, TSC, and EOF were both accurate and timely.

- Responsible management remained cognizant of changing plant conditions and the status of repairs and modifications made to systems and equipment. Technical Support Center staff continuously kept the Site Emergency Director aware of the changes in plant conditions. This information was relayed to the Corporate Emergency Director located in the EOF on a continuous basis.

- Response teams received effective direction and support in the field and were dispatched in a timely manner, consistent with the urgency of expected actions. A total of 15 Damage Repair Teams were dispatched and tracked by Damage Repair Team coordinators. 59 Maintenance personnel and 17 RP technicians were available to support OSC activities.

- Emergency Preparedness staff, including Emergency Preparedness Training staff, because of their familiarity with the SEP and Implementing Procedures, provided support where needed in all the ERFs.

- The Recovery Plan was reviewed by SORC and SRAB in accordance with procedure S-EPP-25; Emergency Reclassification and Recovery.

<u>Opportunities:</u>

- The EAL termination may have been prolonged. While procedures were adhered to and termination did not occur until all exit criteria were reached, the procedure was determined to be too restrictive and has been modified.

- Many individuals in Niagara Mohawk are considered to be Subject Matter Experts (SMEs) who can prove to be invaluable to the ERO depending upon the accident scenario. A list of these SMEs should be developed and maintained in the appropriate Emergency Response Facilities.

- The requirement for being in cold shutdown before being able to exit the SAE prolonged the incident by several hours. This critieria has been examined and a modification of the procedure has been performed.

- Procedures do not allow for downgrading (de-escalating) an emergency classification (unless it was initially over-classified). This situation should be reviewed.

- Coordinating some operations of the plant through the OSC were difficult at times. The OSC location may have made it difficult for Unit 2 Operators to respond in a timely manner.

5. Communications

Most aspects of the NMPC NMPNS communications system operated effectively. This included telephone, radio and facsimile. Minor improvements and additions to equipment will result in an enhancement of the communications capability. The flow, quantity and quality of information between the ERFs, New York State, Oswego County and field personnel were generally excellent.

Strengths:

- All radio communications were effective with only few problem areas (dead spots, equipment failures, etc.) noted.

- Turnover of communications from the Control Room to the TSC was effective and timely.

- The NYS/Oswego County interface was excellent. Information to NYS and Oswego County was timely and of sufficient quantity to keep these offsite agencies well informed.

- Timely updates by the SED and the CED kept all participants in the TSC and EOF well informed.

- All Part 1 notifications were timely. These notifications were transmitted every thirty minutes.

- There was good information flow between the TSC and EOF. Facsimile, commercial and dedicated telephone lines worked well.

- There was excellent use of information aids, such as the diagram of the failed electrical system.

Opportunities:

- There were no updates to site personnel in the Training Center, Energy Center or the "Out" buildings. Though the public address system in the NTC could have been used for this, aside from GAItronics, no system of providing updates in the Energy Center or the "Out" buildings exists.

- The information flow to the JAF/EOF was poor. This is described in greater detail in the Access Control section of this report.

- There are some concerns over the number of telephones in the ERFs. For example, insufficient number of telephones at the CEDs desk in the EOF.

- Unit 2 Damage Repair Teams could not be communicated with via the OSC GAItronics. Radios were able to fill this gap.

- More informational resources (e.g. - electrical diagrams) may be needed in the EOF for purposes of generating information aids.

- The loss of the Unit 2 GAItronics due to the initiating event caused some communications problems.

6. Public Information

Public information activities in support of the Site Area Emergency, overall, were considered to be timely and accurate. This function was initially carried out from Corporate Headquarters in Syracuse, and subsequently transferred to the primary Joint News Center in Oswego upon its activation. The summary of events and observations will describe the response at both locations.

A. Syracuse

Under the Radiological Emergency Response Plan, the Public Affairs & Corporate Communications Staff in Syracuse, augmented by Corporate departments, is responsible for the initial preparation, clearance, and dissemination of news releases until the JNC is operational. The PACC staff received the first CAN notification at approximately 6:55 a.m. and began assuming its emergency posture. After preparation of the SAE news release, delays in clearance of the faxed copy were encountered as the Control Room (SSS/SED) did not respond to the request for approval. Approval subsequently came from the EOF. The delay easily cost Niagara Mohawk approximately a half-hour.

While awaiting the approval, the phones began ringing in from local news media who were tipped off to the SAE from plant neighbors' contacts, and by monitoring Oswego County police scanners. This combined delay created credibility problems with the media which later overshadowed the excellent work by the Syracuse and JNC staffs.

Minimum staffing at Syracuse Headquarters was completed shortly before 0800 hours as support personnel began arriving from other Corporate departments. A full round of public information activities was initiated including news media response, employee communications, financial relations, news media distribution and key official notifications.

A fault fax machine was replaced and an additional unit added to handle the large volume of transmissions. Fax distribution from Syracuse included: JNC, TSC, EOF, NRC, State EOC, Corporate Emergency Operations Center, Oswego County Office of Emergency Preparedness, State Emergency Management Office, The Energy Center, Oswego Commercial Office, Oswego Steam Station, NYPA, Albany and Buffalo PACC offices, four utility co-owners, and U.S. Council for Energy Awareness. A request has been made by the Public Service Commission to receive copies of the releases.

Employee Communications - Summaries of all news releases were distributed throughout the System from the PACC offices. Generally, the procedure worked effectively. In Oswego, Rumor Control reported receiving several calls from plant employees inquiring about the status of the emergency which would indicate that information was not being shared throughout the Nuclear Division. The Oswego Commercial Office also received inquiring calls from plant personnel during this period. A frequent shortcoming in all corporations during an emergency period is failure to keep all employees adequately informed.

B. Joint News Center, Oswego, New York

The Joint News Center served as the central point for the distribution of all official information about the SAE when it became operational. First employees arriving immediately went to their assigned positions until the registration desk was set up at 0720 hours. The JNC was fully operational at 0825 hours.

Contributing to the rapid activation was the Nuclear Building Services staff who responded to the SAE without any formal notification. Considering that Nuclear Building Services had only recently taken over setup responsibilities from the Syracuse Display Department, their initiative and effectiveness was all the more impressive.

Key Personnel - All major players at the JNC were on-board to ensure timely activation with the exception of the Radiological Briefers who arrived at approximately 10:00 a.m.

Mutual Aid - Contributing to the successful activation were nine NYPA personnel assisting under mutual aid. NYPA personnel were involved with activation, television services, news media briefing, and general administrative support. Two representatives from co-owners Rochester Gas and Electric, and one from New York State Electric and Gas also responded.

Rumor Control - Even though only four members were present initially, Rumor Control began taking calls at approximately 0730 hours. Fortunately, this group was experienced and handled their assignments in a very capable manner. Their numbers were gradually augmented with personnel from Syracuse, Albany, and co-owners. Oswego County provided one member.

Plus the media, the following calls were received: 17 from government and other agencies, 51 from the general public, and 17 from other nuclear facilities.

Media Response - From the onset of the emergency until approximately 2000 hours, the media response staff within Rumor Control handled 176 telephone inquiries. Media calls were received from all corners of the United States, Europe, Canada, Japan, and the Voice of America. This group was easily the busiest in the Rumor Control function.

Members adhered strictly to procedures by replying only from hard copy data. Technical Briefers were brought in when the situation required. Responses were frequently recorded and found their names appearing in dispatches circulated by Associated Press, United Press International and Reuters. This latter fact proved troublesome on the first and second day after the SAE as media outlets contacted them directly via Niagara Mohawk operators. Training and procedures must emphasize that these media response personnel function in that capacity only during an emergency and relinquish this role to appropriate Company personnel.

Media Monitoring - Rumor Control is also charged with checking the accuracy of media reports on four area TV stations (one Canadian) and major radio outlets. While normally relegated to a stepchild status during drills, it came into its own during the emergency. The two people staffing this function required assistance from the Administrative Support group which was readily provided. Further augmentation was made for the noontime and 1800 hours news blocks.

In addition to staffing limitations, radio reception from Syracuse was difficult to monitor owing to the poor reception.

Unrealistic Requests - Two unanticipated developments impacted on Rumor Control/Media Response during the SAE: Requests for faxing regular updates by many distant media callers and nuclear utilities requesting detailed technical information about the incident.

- Media callers were advised that JNC did not have the capacity and resources to handle individual requests, and that they should consult wire services for written updates. The JNC would continue to respond with verbal updates per individual call.

- Utilities were told that time and resources did not permit the specialized attention they sought. However, they were advised to contact INPO or the U.S. Council for Energy Awareness. Copies of news releases were being faxed to these industry sources.

Wall Street Concerns - The New York Stock Exchange contacted Investor Relations at 0915 hours advising they planned to suspend trading of Niagara Mohawk stock because of "uncertainty among investors." NYSE strongly suggested that the Company "clear" news releases with them first prior to general distribution. This request was unprecedented and was referred directly to the Corporate Emergency Director. He correctly replied that we would continue our standard distribution procedure as he and the Company's emergency response organization are charged with protecting the health and safety of the public. Regardless of how important the NYSE request was, it could not be accommodated in that form.

A compromise was worked out where NYSE would receive simultaneous notifications of subsequent press releases to allay their concerns. Further, press releases No. 4 and No. 5 contained the word "safe" high up in the copy since the investors were uneasy with the word "stable" which they claimed could also be used if there had been damage to the reactor. With this accommodation, and added sensitivity to investor concerns, trading of NM stock resumed after a 50-minute delay.

General Public - Rumor Control recorded 51 calls from the public during the SAE. However, another 30 and 35 calls related to the emergency were received by the Company's 1-800-NIAGARA number. This line is essentially a marketing and sales promotion tool and not intended for emergencies. Callers were referred to the Central Region CRT board which then provided the Rumor Control number. NOTE: Under new FEMA guidelines, JNC Rumor Control numbers will be made public at the first news briefing. Observation: If there were radiological consequences to the SAE, or the potential for greater impact off-site, public disclosure of the Rumor Control number may overwhelm the available lines available at the JNC. Other phones are dedicated to news media response.

Technical and Radiological Briefers - This group provided outstanding support for the JNC operations. The Tech Briefers were involved in virtually every phase of the public information function including assistance in news release preparation, briefing the media during press conferences, and between times, and providing technical support for media response telephone calls. Once on the scene, the Rad Briefers were prepared to respond in equal fashion, but were not called on because of the non-radiological aspects of the emergency. As required, Rad Briefers quickly set up monitoring equipment to ensure habitability of the JNC.

Television Services - TV coverage of news briefings is an extremely important asset since it provides an official record of what was reported to the news media, replay opportunities for late arriving media, and closed circuit service to JNC offices still at work, but requiring the updates. The NM TV supervisor and operator did not arrive until the second of five press conference. There is no record of the first briefing which could have been troublesome in documenting that some activities actually took place.
The TV supervisor is one of a kind among NYPA and NMPC with no equal backup. NYPA personnel present for the first briefing did not possess the skill to activate the video and audio system.

Non-JNC Public Statements - Two officials of the State Disaster Preparedness Commission (one SEMO) were interviewed by the Albany news media during the SAE. This appeared to contravene the "central location for all official information" philosophy although utility sources said the majority of their comments centered on the emergency response, but with some reference to the plant situation. NRC officials also went public from Bethesda.

EOF/JNC - Both Tech and Rad Briefers reported that communications and the flow of technical information between the EOF and JNC were the best in their experience. In addition to dedicated telephone links, the information from the EOF was reinforced regularly Part I Notifications.

A new wrinkle during the emergency which enhanced the quality of news media briefings was the transmission of schematic data of the faulty transformer and relationship to other systems. As quickly as this material was faxed, it was enlarged into poster size and displayed around the JNC.

News Release Preparation - The lone writer available at the JNC performed his responsibilities in excellent fashion over the duration of the SAE. Rapport among the writer, briefers, corporate spokesman, and JNC Director was excellent. Including the two press releases prepared in Syracuse, a total of 12 were issued during the emergency. Additionally, 10 status "boards" were prepared and placed at strategic locations in the JNC. This was an extremely productive effort. A significant shortcoming was the lack of a backup writer had the emergency been extended.

Outside Consultants - Both Dr. Walter Meyer, Syracuse University, and Robert Tyan, RPI, were unavailable. No provision had been made for backups, although substitutes could have been secured from the University of Rochester.

Spokesmanship - The quality of spokesmanship for Niagara Mohawk was excellent throughout the emergency. The Corporate spokesman is knowledgeable about the two plants, nuclear power and coordination with the county and state. He was cautioned to shorten his responses because of time considerations (and also not take media calls between press briefings in order to be available for consultation in the utility room and with state and county representatives.) The Oswego County PIO was a very good representative for her agency and handled the rigors of the assignment in convincing fashion. The state PIO was professional and polished in his duties. The rapport and cooperation among the three PIOs and their staffs were professional and effective at all times. There were five press briefings during the SAE.

The final press conference was at 2030 hours and featured Executive Vice President B. Ralph Sylvia and Vice President Joe Firlit. These Company Officers were excellent representatives for Niagara Mohawk and presented a friendly, confident, and knowledgeable demeanor. This was important in terms of news media exposure and also motivational for the JNC staff.

Pre-Briefing Conference - Before each press briefing the three PIOs, Technical and Rad Briefers, and JNC Director assembled in a small conference room to discuss key items and sequence of presentation. The State PIO recommended that more time be allocated for this coordination so that information could be exchanged in a more relaxed fashion.

NYS Liaison - The Company's Public Affairs Director in Albany arrived at the JNC approximately three hours after notification. However, he should have gone to the State Emergency Operations Center as Company liaison.

Accountability - A number of media inquiries were made about plant personnel: at the beginning of the emergency, those that remained to man the emergency response facilities, and those dismissed. Accountability details were not readily available from the EOF.

Local Government Officials - Reference was made previously to an irate call from a Town of Scriba Supervisor. Attending the second news briefing was Oswego Mayor John Sullivan, complete with his Administrative Assistant, Public Information Officer, and a sheaf of press releases. Sullivan was interviewed and spoke positively about cooperation from Niagara Mohawk. The situation underscored a weakness in the notification policy and raises questions as to how "far down" we should go.

Media interviews with Mayor Sullivan touched a lot of nerve endings with other local officials. Sullivan had been notified by the New York Power Authority of its Alert status (and apparently briefed on the Site Area Emergency at the same time). The other local officials including Village Majors, Town Supervisors, etc., received the NYPA calls, but complained sharply that they heard nothing from Niagara Mohawk. It was learned later that NYPA regularly notifies all local officials of emergency events starting at the Unusual Event level. Niagara Mohawk will have to rethink its procedure in this matter.

Other Government Contacts - The Public Affairs Director serving Oswego County subsequently called local members of the State Legislature and others after this shortcoming became evident. Calls were received from Congressman Horton's Washington Office (whose District includes four nuclear plants) at the JNC; and Senator Moynihan's office calling Syracuse.

Avoid the Business as Usual Letdown - One symptom of this was evident on the day after when the Emergency Director of Public Information and others were confronted with continuing heavy volumes of media inquiries -- without adequate support. If this were a formal recovery period, it can be assumed that support would have been provided. However, in the future, JNC-type support and organization should continue at appropriate levels to accommodate predictable media and government interest in the emergency's aftermath.

Special Telephone Number - During the SAE, the JNC received two inquiries from the EOF concerning a special telephone number (i.e. - the Emergency Preparedness Message Line) to provide information to the Emergency Response Organization. JNC was not familiar with such a number, nor who would have responsibility for developing the message.

7. Coordination With Offsite Agencies

NMPC ERO was responsive and timely to the needs of New York State (NYS) and Oswego County (OC). Both NYS and OCs response was limited in scope, with both agencies utilizing limited resources to respond to this event. Both NYS and OC were completely positive in their assessment of NMPC response.

Strengths:

- Oswego County felt that the overall response by his agency and by NMPC was excellent.
- The information flow from the NMPC ERO to OC was timely, accurate and of sufficient quantity (this includes Part 1, Part 2 and Part 3 Notifications, as well as other information such as field team data, ARMs, etc.)
- Oswego County and New York State were very satisfied with the quality, quantity and timeliness of information gleaned by their respective liaisons in the EOF.

Opportunities:

- The Sheriff's deputies who manned the roadblocks were occasionally given some difficulty by those attempting to gain site access without a "green card".
- It was noted by the OC Radiological Officer that the NMPC Liaisons to the County Emergency Operations Center (EOC) were not knowledgeable about Unit 2 or their role in the EOC.

8. Recovery

By mid morning it was agreed that all of the conditions in procedure S-EPP-25 (Revision 5) for termination of the Site Area Emergency could be met except for one; that the reactor be in a cold shutdown condition (see Attachment 2). This cold shutdown condition defined by the Unit 2 Technical Specifications is the average reactor coolant temperature $<200°F$.

All criteria for termination of the Site Area Emergency were met at 1943 following review and concurrence from the Site Operations and Review Committee (SORC) and Safety Review and Audit Board (SRAB). All Recovery Criteria were met concurrent with the emergency termination. At this time, the Recovery Organization (see Attachment 4) began implementation of the approved Recovery Plan (see Attachment 5).

Strengths:

- Establishment of priorities and goals for termination and recovery activities began as early as 0837.

- Although questions arose concerning procedural guidance, immediate concerns were addressed and strict adherence to procedures was observed.

- The Site Emergency Director in the TSC noted that the compilation of the Recovery Plan and Organization was performed in the EOF. This allowed the SED and staff in the TSC to concentrate on immediate on-site corrective actions.

- Frequent communications between the EOF, TSC and SORC led to a well organized effort in development of the Recovery Plan.

- The Corporate Emergency Director provided frequent updates to NMPC Senior Management, Oswego County, New York State, and the NRC on Recovery plans and actions.

- The NMPNS Recovery Team coordinated well with the NRC Inspection Team to assure that our independent assessment would be consistent with what the NRC would be evaluating.

- NMPC had formed an Event Assessment Team and identified their duties as part of the Recovery Organization four hours before actual termination of the event.

Opportunities:

- The safety significance of having to be in a cold shutdown vs. availability of long term core cooling for termination of this emergency event has been analyzed. S-EPP-25 has been modified.

- Guidance on reclassification in S-EPP-25 should be stressed by providing a specific section on De-escalation Criteria.

- Several sections in S-EPP-25 provide guidance regarding Recovery Actions which are unclear. Specifically,

  - Clarification of the content of a "written summary within 8 hours" (Sec. 8.4.4,b.,2.)
  - The "development of a Recovery Plan is essential except for emergencies that require little or no recovery efforts" (Sec. 8.5.2,a.)
  - SRAB review and concurrence of the Recovery Plan and organization (Sec. 8.5.2.,e.)

- Space allocations should be made for Work Control personnel to facilitate work on Recovery Plans. Off-site areas such as the Alternate EOF, or Niagara Mohawk offices in Syracuse were suggested.

9. Other Areas of Assessment

This section includes several miscellaneous items that did not specifically fit into any previous assessment categories.

Strengths:

- The performance of the ERO was excellent.

- The NRC was cognizant of their priority when requesting information from the EOF.

Opportunities:

- The NMPC Liaison (to County and State EOCs) call out procedure needs to be formalized. Specifically, identification of appropriate Unit 1 and Unit 2 liaisons, and the proceduralization of their notification and dispatch.

- The role of the EP staff during an emergency needs to be defined. This will probably include the dispatching on EP SMEs to the ERFs.

- Some miscellaneous equipment and supply matters need to be addressed.

Assessment Process Description

The need to establish criteria in which to compare the actual emergency response against was the first task the Emergency Preparedness Effectiveness Review Team (Review Team) undertook. The criteria which was established included:

- Classification of the event
- Notification of Emergency Response Organizations (EROs), including Oswego County and New York State (NYS)
- Access to the Site and Emergency Response Facilities (ERFs)
- Activation of ERFs
- Communications (Internal and External)
- Command and Control of ERFs
- Emergency Personnel Accountability, Search and Rescue
- ERFs and Equipment Adequacy
- Accident and Dose Assessment
- Turnover of Responsibilities
- "Green" Card Inventory, Distribution and Use
- Media Relations
- Emergency Preparedness (EP) Staff Role During Emergency
- Oswego County and NYS Response
- Termination Process
- Recovery Activities
- Post Emergency Clean Up/Inventory

Following the establishment of the above criteria a comprehensive list of strengths and opportunities for improvement was developed. In addition, a timeline was established (Attachment 3) to document significant observation. This timeline was eventually used to identify areas requiring root cause evaluations.

The strengths and opportunities for improvements were validated by reviewing emergency generated logs, facility paperwork, conducting interviews with key responders and performing other research activities. Upon completion of this work the Review Team began assembling the information for the review report.

In providing information for this report, the initial criteria were grouped into nine areas. Each noted strength and opportunity for improvement was then assigned to one or more of these nine areas. These areas were then assessed individually as to how effective they were during the emergency. In addition, some specific examples of strengths and/or opportunities for improvement were noted with each area assessed. The review team used the assessment of the nine areas and the initial criteria to develop its conclusion that emergency preparedness activities were very effective during the response to the August 13, 1991 emergency.

ATTACHMENT 2 (Cont)
FIGURE 2.E
HAZARDS AND OTHER CONDITIONS AFFECTING PLANT SAFETY (Unit 2)

Initiating Condition	Unusual Event	Alert	Site Area Emergency	General Emergency
Loss of Indicators, Annunciators, or Alarms in the Control Room and Loss of Emergency Assessment or Communication Capability	1)Loss of all Meteorological Data. OR 2)Loss of the following functions for a continuous period of 8 hours: a.SPDS out of service. OR b.Ability to update process computer. OR 3)Loss of the following communications systems: a.Emergency Notification System Line (Red phone) AND b.New York State Radiological Emergency Communication Line (RECS) AND c.Commercial Telephone Lines (New York Telephone).	Loss of all Control Room Alarms (Annunciators).	Loss of all Control Room alarms (annunciators) AND plant transient initiated or in progress.	Not Applicable

ATTACHMENT 1

ATTACHMENT 2

8.3.2 Site Area Emergency or General Emergency Termination Criteria

The SED may terminate a Site Area Emergency or General Emergency Classification when the following criteria are met:

a. Station radiation levels are stable or decreasing with time.

b. Radioactive effluents are under control or have ceased.

c. Any fire, flooding, or similar emergency conditions are under control or have ceased.

d. Drywell pressure is at normal levels.

e. Reactor and associated systems are in a safe, stable, long-term cold shutdown condition.

f. The Site Operations Review Committee (SORC) approves the termination of these emergency classifications. Representatives of the Nuclear Regulatory Commission (NRC) should be in attendance at this meeting.

8.4 Reclassify or Enter Recovery

If reclassifying the emergency or entering Recovery, the SED shall perform the following:

8.4.1 Ensure appropriate requirements stated in Section 8.3 are met.

8.4.2 Complete the following forms, found in S-EPP-20, Emergency Notifications, as appropriate:

a. Notification Fact Sheet - Part I

b. Notification Fact Sheet - Part II (Dose Assessment Fact Sheet)

c. Notification Fact Sheet - Part III (Plant Parameter Fact Sheet Unit 1 and/or Unit 2)

8.4.3 Provide Notification Fact Sheets to the Communications Coordinator, Communications Aide, or designee to commence emergency notifications.

ATTACHMENT 3

ROOT CAUSE EVALUATION UNIT 2

EMERGENCY PLANNING - SITE AREA EMERGENCY

Task:

Identify problems and perform root cause evaluations in accordance with Nuclear Division Procedure (NDP) 16.01, relative to the overall performance of the site emergency response team during the Site Area Emergency of August 13,1991

Problem:

There was confusion as to who should have access to the site during a Site Area Emergency (SAE).

During a Site Area Emergency as per S-EPP-14 revision 11 "Emergency Access Control" access to the protected area is usually limited to personnel with emergency response functions with the appropriate identification (Oswego County Emergency Identification cards, New York State I.D. Cards etc.). Qualified Emergency Response Personnel are defined in S-EPMP-3 revision 5"Review and Revisions of Site Emergency Plan and Procedures".

Cause:

The primary root cause of this event has been determined by causal factor analyses to be supervisory and managerial methods.

Contributing factors to this situation are that controlled copies of the Site Emergency Procedures that impact site access are not easily available to backshift Security supervision. It is believed that had the Site Emergency Procedures been available to the backshift security supervisor, access control would have been more fluid.

The procedures themselves are less than adequate, in that the title to the procedures can be misleading as to their contents. The training records of qualified emergency response personnel are listed in S-EPMP-3 revision 5 "Review and Revision of Site Emergency Plan and Procedures". The lists of qualified emergency response personnel are in alphabetical order by emergency function as opposed to alphabetical order by population.

Additionally, training on the site emergency access procedures is less than adequate. It is felt that additional training on site access emergency procedures would have improved the situation. The training should be performance based, grounded in realistic scenarios (off- hours etc.). As these are infrequently performed tasks more frequent practice would have facilitated the handling of the emergency.

There is also a lack of administrative control and accountability of the Oswego County Emergency Identification (OCEID) Cards. Some people with emergency response functions do not carry their cards, and others with emergency response

functions do not have the cards.

A secondary issue confounding access control was the use of the alternate EOF as a Remote Assembly Area (RAA). Confusion arose because of a lack of single point command and control, and specific instructions for non emergency response personnel. Single point accountability for responsibility for the remote assembly area would have facilitated communications between the RAA and the site.

Recommended Short Term Corrective Actions:

1) Have controlled copies of emergency procedures impacting site access available to all security supervision.

2) Provide more frequent training on emergency site access control to plant and security personnel.

3) Review the Site Emergency Procedures to for human factors criteria at the next applicable AP 2.0 review cycle.

4) Control and accountability of the Oswego County Emergency Identification Card program is necessary to provide a single point of contact to administratively control this program. Emergency Response Personnel should be required to carry their Oswego County Emergency Response Identification Cards at all times, as part of their job responsibilities.

5) Evaluate the possibility of a near site remote assembly area when no radioactive release in imminent. Provide for single point accountability and command and control through an organizationally and procedural identified single point of contact.

Recommended Long Term Corrective Actions:

1) Give sole administrative control of emergency site access to the Security Department (including a review of resource allocations, training, vehicles, traffic controls etc.). This would provide for single point accountability.

2) Evaluate the possibility to computerize the emergency site access process.

Problem:

The first Community Alert Network (CAN) notification message did not go out until 0700 hrs.

ATTACHMENT 3

Cause:

The primary root cause of this event has been determined by causal factor analyses to be written communication.

S-EPP-20 Revision 13 allows NRC notification after notifying New York State and Oswego County. After these notifications are made, the CAN notification is made. By procedure notifications are made by the control room's communication aide. In the emergency of August 13, 1991 the Control Room Communications Aide was on hold with the NRC, which delayed the CAN notification.

Recommended Corrective Actions:

1) S-EPP-20 Revision 14 will allow for CAN notifications prior to notifying the NRC.

2) Evaluate the need for two Communications Aides to facilitate the notification process.

Problem:

Site Accountability Report run at 0711, one hour and eleven minutes after the declaration of the Site Area Emergency.

Cause:

The primary root cause of this event has been determined by causal factor analyses to be managerial methods.

For the first half hour of the SAE, site gaitronic communications was out of service because the gaitronic speakers are powered by the stations Uninterruptible Power Supply (UPS) system. Since the site gaitronics system is the primary source of on site communication for notification of plant personnel during emergencies, the accountability process was adversely impacted. Security's initial attempt at an accountability report showed only operations personnel as on site. Because on duty Security Supervision lacked confidence in the initial accountability report, security started to implement an accountability process by running site Roll Call Reports. The Roll Call reports gave the security supervisor baseline data as to who was on site. (A Roll Call will list all personnel inside the station's Protected Area.)

Once the UPS restored normal communications, if took approximately forty minutes to complete the accountability process (personnel response time, generating the report etc.).

At that point, feeling that they had established baseline accountability data, Security was primarily concerned with providing emergency response personnel with site access.

ATTACHMENT 3

Recommended Corrective Actions:

1) Resolving problems with the Uninterruptible Power Supply will increase confidence in gaitronic system reliability.

2) Re- evaluate the classification and preventive/ corrective maintenance prioritization of the gaitronic system in light of its being the primary source of communication in emergencies.

3) Evaluate the possibility to tie the security radio system to the plant gaitronics.

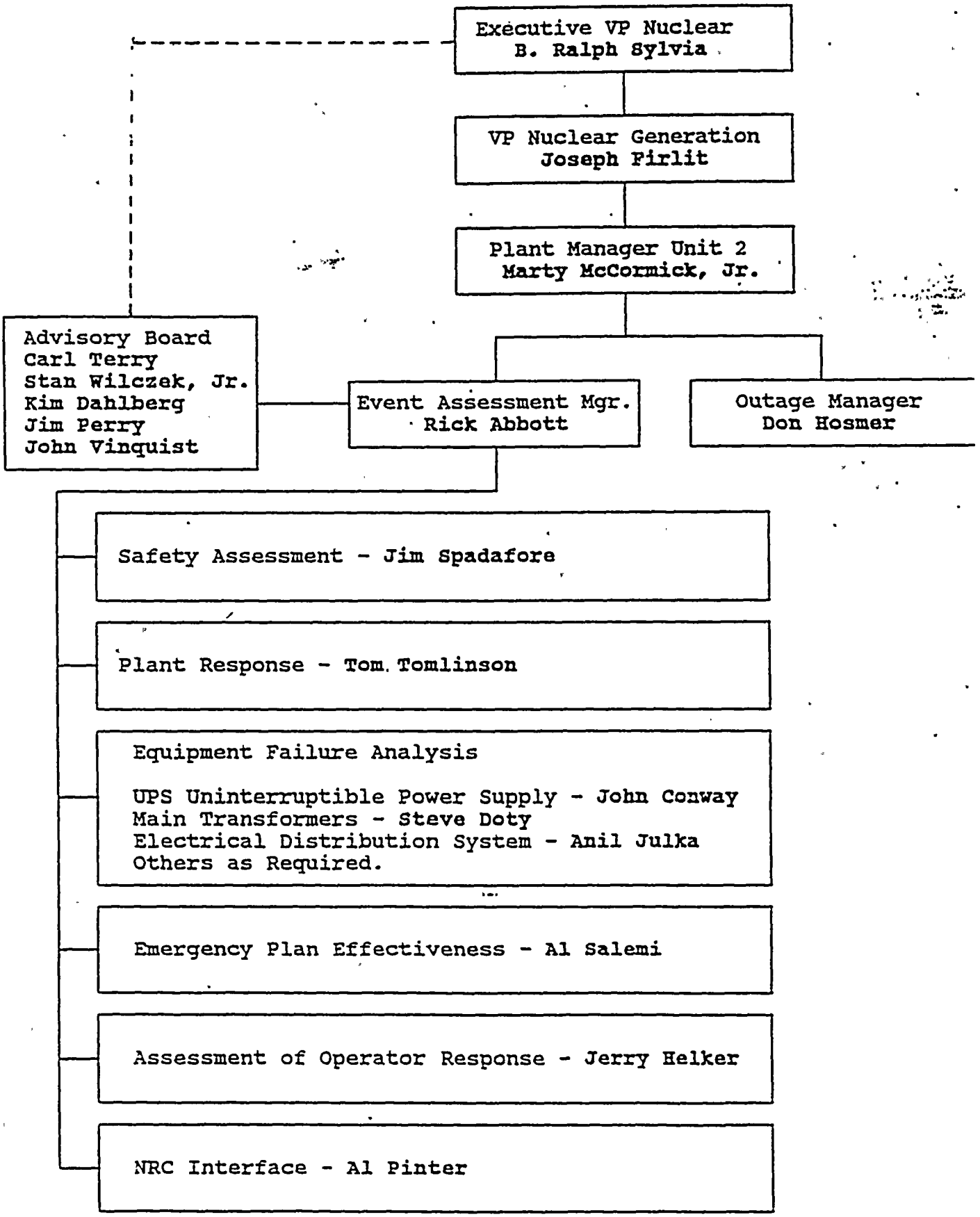
4) Security Supervision should re-evaluate the achievability of a thirty minute accountability report time line, with the loss of the primary site source of communications.

5) Security Supervision must stress the need for timely implementation of Accountability Reports in the face of conflicting priorities.

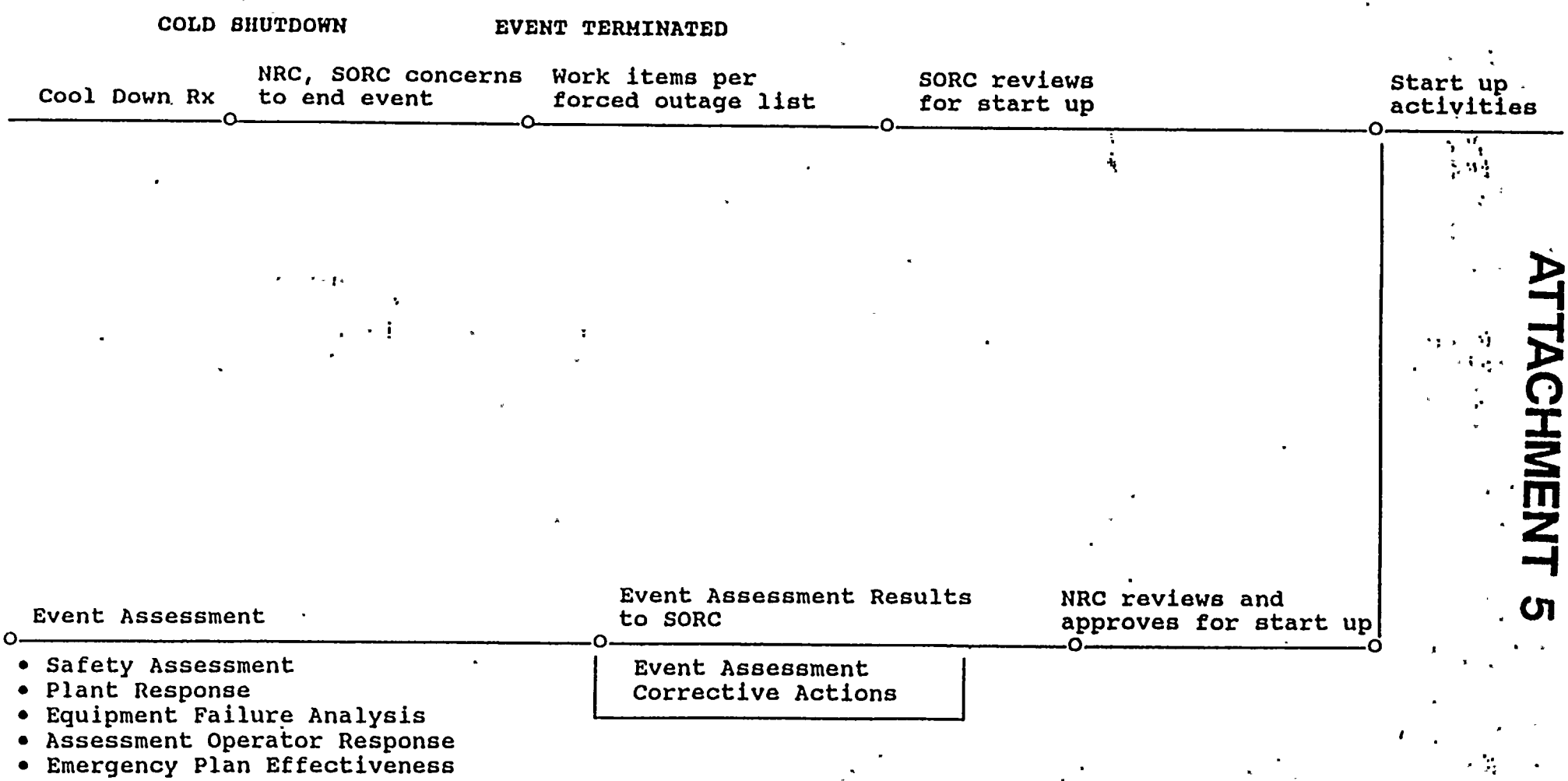
ATTACHMENT 4

REVISION 5

RECOVERY ORGANIZATION



RECOVERY PLAN



ATTACHMENT 5

ATTACHMENT 6

Radiation Protection

The following is a sequence of events involving Radiation Protection, this covers approximately the first three hours of the event on 08/13/91:

0600 - Site Area Emergency declared.
- Power lost to DRMS computer, RICs in Control Room verified operable - no alarms.
- RP techs in Reactor Building performing surveys.

0620 - Techs report leak on RX. 175', result - uncontaminated.

0630 - Plant power restored.

0655 - DRMS still not operable.

0700 - RP notified CSO of completion of Reactor Building survey-no abnormal conditions.

0715 - RP tech assigned as continuous watch at RIC panel.

0720 - RP support to Ops at RX. 240' WCS IV Room for valve line-up.

0725 - RP Supervision requests survey/air samples of Off-Gas and Turbine Building.

0740 - Off-Gas survey complete, survey conditions - normal.

0745 - Ops requests RP to log all entries to Turbine Building. RP Supervision request survey of "A" RHR system.

0755 - DRMS back in service.

0810 - Ops reports water on floor at RX. 175' DER Sump 2A.

0830 - Survey of DER Sump 2A water-contaminated; area roped off and posted.

0830 - Turbine Building survey complete, conditions normal, taking air sample on Turbine 306'.

0845 - RHR "A" survey complete, conditions normal.

ATTACHMENT 6

0900 - RP Supervision requests survey of Auxiliary Boiler Building.

0900 - SSS notified of leak on HVL-V98A, FW Heater Bay.

0905 - Turbine 306' air sample-no peaks identified.

- Inoperable friskalls; 2 of 7 friskalls were identified as "out of service" prior to the event, one at the Screenwell and one in the access trailer. The Turbine Building 250' and 306' access points were fully available, and 2 of 3 friskalls were available in the access trailers. No technicians reported any problems with access during the event.

- Radiation Monitor Alarms in the Turbine Building; there were no reports by RP techs of any rad. monitor alarms during the event. Additionally, the RP Chief tech on duty in the RP office neither logged any alarms or has recollection of anyone reporting alarms. If indeed alarms were heard, it is probably that these occurred for a very short period when power was restored at approximately 0630 or when the DRMS computer was restored to service at 0755.

  As a follow-up to this item and our discussion and walkdown of the concern on 09/01/91, I researched WTS for radiation monitor RMS-154. There are two open WRs on this monitor:

  1. WR #165473, written 01/09/91; monitor offline unreachable and alarming for no reason. This WR is in I&C "hold" file awaiting PMT.

  2. WR #165770, written 06/11/91; monitor offline unreachable, unable to reset from DRMS console. This WR is in I&C "hold" file awaiting MOD work for cooling (I&C notes that monitor is heat affected).

- Turbine Building Access Denied; at no time did the RP Chief deny access to the Turbine Building, he was, however, requested by OOs to log individuals entering. In discussion with the chief tech, he remembered receiving a call from Ops wanting to know when the Turbine Building survey would be complete. He felt it may be possible that Ops was under the impression that no entry was allowed until the survey was completed.

ATTACHMENT 6

Chemistry:

The following is a sequence of events involving Chemistry, this covers approximately the first three hours of the event on 08/13/91.

1. The stack GEMS was operable during and after the site area emergency although the Control Room chart recorder lost communication with GEMS for a brief period. Particulate and iodine sample acquisition was continuous during and after the event. Computer Control of the system was interrupted for two (2) brief periods.

   Period A - At 0551 the system apparently had a power interruption and automatically restored itself within one (1) minute. However, communication the Control Room Chart recorder was apparently lost at this time which also affected input to SPDS. The cause of the loss of communication with the Control Room recorder is currently under investigation but is believed to be related to a GEMS software response after a power interruption.

   Period B - The system was manually shut down at 0757 using the TB306 computer terminal to initiate a reboot of the system and attempt to restore communication with the Control Room Chart recorder. Reinitialization of the program was successfully completed at 0828.

2. Chemistry Supervisor T. Kurtz dispatched Chemistry Technician J. Hauke to TB 306 to evaluate plant effluents at approximately 0700. Radiation levels in the plant per the TSC were normal at this time.

   Technician J. Hauke examined the GEMS data logger/display and noted that stack effluent release was normal (i.e., 3.38 cps) at 0707. This information was communicated to the dose assessment advisor in the Control Room who in turn communicated the information to SSS Conway.

   Since the vent GEMS was taken out of service on 8/11/91 for once/refuel cycle calibration, Mr. Hauke was directed to sample and analyze the Vent Noble Gas effluent. This was done; analysis results were available at 0855. No detectable activity was found.

   Between 0730 and 0757, Mr. Hauke evaluated the spectral display on the Stack Multichannel Channel analyzer which was actively updating and collecting a spectrum. No anomalous peaks or count rates were observed.

ATTACHMENT 6

The stack particulate and iodine samples were changed out at approximately 1120 on 8/13/91 to assess whether operation of the mechanical air removal pumps resulted in increased effluent releases. Results of the analysis were available at 1425 and indicated for the period 8/6/91 to 8/13/91.

I-131	77 μCi
I-133	3516 μCi
Cr-51	88 μCi
Mo-99	12 μCi
Co-60	5 μCi

These results were considered higher than normal operation but no abnormal for a reactor scram.

Since vent noble gas release rates were normal and there was no evidence of fuel damage during the event, the vent particulate and iodine samples were not changed out until 8/14/91 at 1130. Results of these analyses showed no detectable activity.

3. As indicated in response to Q2, Chemistry Technician J. Hauke was dispatched at approximately 0700 to monitor effluent releases. He was in contact with PASA/Effluent OSC Coordinator T. Kurtz who in turn was in contact with PASA/Effluent TSC Coordinator J. Blasiak.

   Restoration of the Stack GEMS communication with the Control Room recorder at 0828 provided a direct link to the Control Room and SPDS for effluent releases. Chemistry Technician (Effluent Specialist) P. Chalone was stationed in the Main Control Room at about 0930 after the Stack GEMS problems were resolved.

4. At 0730, when the air removal pumps were started, the Stark GEMS was actively monitoring noble gas effluents. Computer printouts from the system at 0727, 0737, 0747, and 0757 yield normal noble gas count rates of 2.15, 2.36, 3.54, 2.70 cps respectively (corresponding to <10 μCi/sec).

5. An unmonitored release could not have occurred out of the stack or associated systems (i.e., HVT) since (a) Stack GEMS remained operable during the event, (b) examination of the spectral display at approximately 0730 - 0757 was normal, (c) noble gas count rate printouts beginning at 0706 were normal, and (d) particulate and iodine samples (which were continuously acquired) showed normal activity for a post scram event.

   Monitoring of vent releases during and after the event showed no detectable activity as described in Q2. Furthermore, Reactor Building and Radwaste area monitors, containment gaseous and particulate monitors and Reactor Building Ventilation monitors were all normal during the event.

6. The attached log of activities shows Reactor Coolant sample results were available at 0850 (conductivity) and 0929 (iodine).