LILCO, October 12, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322 (OL)
	)	(Emergency Planning --
(Shoreham Nuclear Power Station, Unit 1)	)	Phase I)
	)	

TESTIMONY OF
H. MARK BLAUER, MATTHEW CORDARO, AND JAMES RIVELLO
ON BEHALF OF THE LONG ISLAND LIGHTING COMPANY
ON PHASE I EMERGENCY PLANNING CONTENTION EP 7(B) --
ABILITY TO AUGMENT WITHIN 30 MINUTES

PURPOSE

The purpose of this testimony is to respond to Suffolk County's Contention EP 7(B), which suggests that LILCO is not able to augment its onsite staff quickly enough in an emergency. This testimony will show that, apart from augmentation, the on-shift staffing at Shoreham has been planned to be adequate to handle the emergencies for which the emergency plan is designed. Morever, LILCO will supply senior management personnel with beepers so that they can be reached quickly; personnel assigned the role of Emergency Director will have portable radios for their cars so that they can

communicate with the station en route. Finally, LILCO has done a survey of its employees' travel times to establish that those employees can get to the station in a timely manner.

Attachments to this Testimony:

7(B)-1	Resume of Mark Blauer
7(B)-2	Resume of Matthew Cordaro
7(B)-3	Resume of James Rivello
7(B)-4	LILCO Emergency Plan, pages 5-1 through 5-8 and Figures 5-2 through 5-6
7(B)-5	SP 69.009.01
7(B)-6	Table B-1 from NUREG-0654
7(B)-7	Letter from William J. Dircks to KMC, Inc., October 26, 1981
7(B)-8	Pages 19-20 from NRC Staff Recommendations, SECY 82-111
7(B)-9	Response Time Survey

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Q1. Will the witnesses please identify yourselves?

A1. [Blauer] My name is Mark Blauer. My business address is 175 East Old Country Road, Hicksville, New York 11801. I am LILCO's Emergency Planning Coordinator and Chairman of LILCO's Emergency Planning Task Force. A statement of my professional qualifications is attached (Attachment 7(B)-1).

[Cordaro] My name is Matthew Cordaro. I am Vice President, Engineering for LILCO. My business address is 175 East Old Country Road, Hicksville, New York 11801. A copy of my professional qualifications is

attached (Attachment 7(B)-2). My role in emergency planning is to ensure that LILCO's emergency planning needs are being met and that management is kept apprised of emergency planning needs and problems.

[Rivello] My name is James Rivello. My business address is Shoreham Nuclear Power Station, P.O. Box 628, Wading River, New York 11792. I am employed by LILCO as Plant Manager of the Shoreham Station. A copy of my professional qualifications is attached to this testimony (Attachment 7(B)-3).

Q2. What does Contention EP 7(B) say?

A2. [All witnesses] Contention EP 7(B) reads as follows:

> B. Table 5-1 does not clearly demonstrate LILCO's ability to augment its staff within 30 minutes of declaration of an emergency and is not in compliance with Table B-1 of NUREG 0654.

Q3. Where in the LILCO emergency plan is augmentation of onsite staff discussed?

A3. [Blauer, Rivello] In chapter 5, particularly pages 5-1 through 5-8 and Figures 5-2 through 5-6. These parts of the plan are Attachment 7(B)-4 to this testimony. The relevant procedure, SP 69.009.01 (Attachment 7(B)-5), gives the notification procedure for all emergency levels and lists personnel who would be called to augment the emergency response organization.

Q4. What do Table 5-1 and Table B-1 provide?

A4. [All witnesses] Table 5-1 has been deleted from the LILCO emergency plan. Table B-1 from NUREG-0654 (Attachment 7(B)-6) is now included as Figure 5-6 in the LILCO plan and is attached to this testimony (as part of Attachment 7(B)-4). Table B-1 is entitled "Minimum Staffing Requirements for NRC Licensees." It has a column for on-shift personnel and other columns for personnel to be added within 30 minutes and 60 minutes.

Q5. What personnel does LILCO presently have on shift at all times?

A5. [Rivello] Typically many people are working on the site at any given time. Even when this is not the case, the minimum shift manning (a total of 10) is as follows: 1 Watch Engineer, 1 Watch Supervisor, 1 Nuclear Station Operator, 1 Nuclear Assistant Station Operator, 3 Equipment Operators, 1 Shift Technical Advisor, and 2 Health Physics/Rad Chem Technicians. In addition, at least five shift security personnel are on duty at any given time. This on-shift organization is described in sections 5.1.1 and 5.2 and illustrated in Figures 5-2 and 5-3 of the LILCO plan (see Attachment 7(B)-4).

Q6. What support is provided to the shift personnel upon activation of the Technical Support Center (TSC)?

A6. [Rivello] The primary initial support is the relief of the Watch Engineer as Emergency Director by the responding Emergency Director. This reduces the administrative responsibilities of the Watch Engineer in the areas of communications to outside agencies (e.g., State, County, and media personnel) and verification of emergency actions taken by the on-shift complement (e.g., Health Physics/Rad Chem Technicians, Security Shift Technical Advisor). Additionally, the communication transfer frees one equipment operator to perform operational duties.

Q7. How did you determine which accident scenarios would be most demanding of the on-shift personnel?

A7. [Rivello] To determine what personnel would be required within 30 and 60 minutes, we reviewed the events involved in all Emergency Action Levels (EAL's). Using the relevant emergency procedures, we reviewed what operator actions would be required within 30 and 60 minutes, setting time zero at the points where the emergency procedures require the Watch Engineer to classify the events.

Q8. What accident scenario was most demanding of site personnel?

A8. [Rivello] The fire in the Control Room was the most demanding. The reason is that by federal requirements one operationally qualified person must be on our fire brigade. This prevents our Watch Supervisor from performing operations duties for approximately 30 minutes. Also, in our review of this scenario we assumed evacuation of the Control Room; thus we assumed that we had to relocate to, and function from, the Remote Shutdown Panel. This relocation was accomplished in less than 45 minutes in our scenario; it could usually be done more quickly, but our scenario used the worst-case time.

Q9. Are you saying, then, that the on-shift personnel, without augmentation, can handle any of the emergencies covered by the LILCO plan for at least 60 minutes?

A9. [Rivello] Yes.

Q10. Is there any NRC requirement to augment onsite emergency response personnel within 30 minutes and 60 minutes?

A10. [Blauer] No. Table B-1 is not a requirement. A letter of October 26, 1981, from the NRC's William J. Dircks to KMC, Inc. (Attachment 7(B)-7 to this testimony) in pertinent part states:

> [C]onsistent with our policy for Regulatory Guides, we regard the Table B-1 criteria as having the same level of authority as a Regulatory Guide. (Revision 2 to Regulatory Guide 1.101 is now in publication which incorporates NUREG-0654 by reference). Facilities whose staffing augmentation capabilities meet the Table B-1 criteria would be acceptable. Those facilities which do not meet these criteria will be reviewed on a case-by-case basis.

In addition, pages 19-20 of the "NRC Staff Recommendations on the Requirements for Emergency Response Capability," SECY 82-111 (Attachment 7(B)-8 to this testimony), describe the Staff's position regarding augmentation of emergency response facilities within 30 and 60 minutes:

> The TSC [Technical Support Center] will be:
> . . . .
> 9. Staffed by sufficient technical, engineering, and senior designated licensee officials to provided needed support, and be fully operational within approximately 1 hour after activation.

Q11. What measures has LILCO taken to meet the objectives of Table B-1?

A11. [Blauer, Rivello] We have instituted a duty officer system; that is, personnel who would be needed to augment the onsite staff are required, on a rotating basis, to be listed on a duty roster and to be available

to come to the site if called. Senior management personnel are assigned pagers ("beepers") to ensure their prompt notification. Additionally, those people who have been designated to assume the Emergency Director role will have two-way radios installed in their cars, permitting direct communication with the Main Control Room; these radios will allow the Emergency Director to be briefed on the status of emergency operations before his arrival on site, expediting the activation of the TSC. Also, a conference call capability has been provided so that a single phone call from the Control Room will connect several key personnel at once. Automatic card dialer capability allows the communicators at the site to dial the offsite personnel simply by inserting a card into the phone; this feature both speeds dialing and eliminates error.

Finally, the LILCO personnel who would be called upon to come to the site have been polled, and the times it takes them to get to the site, during normal commuting times, are listed in Attachment 7(B)-9.

Q12. Do you believe, then, that LILCO satisfies the "objectives" of Table B-1?

A12. [Blauer, Rivello] Yes, based on the measures described above and the response times shown in Attachment /(B)-9.

PROFESSIONAL QUALIFICATIONS

H. MARK BLAUER
Chairman, Emergency Planning Task Force
Emergency Planning Coordinator
LONG ISLAND LIGHTING COMPANY

My name is H. Mark Blauer. My business address is Long Island Lighting Company, 175 East Old Country Road, Hicksville, New York 11801. I am Chairman of the Emergency Planning Task Force and Emergency Planning Coordinator. In this capacity, I report to the Vice Presdient, Nuclear, and the Vice President, Engineering. I also report to the Manager, Nuclear Engineering Department. My duties include overall technical and administration responsibility for the Emergency Planning Task Force. The Task Force is responsible for developing and maintaining the Shoreham Nuclear Power Station Emergency Plan; Emergency Training curriculum, manuals, and lesson plans; qualification and selection of emergency response personnel; Emergency Plan procedures; onsite and offsite emergency support facilities; the Prompt Notification System; the interfacing with Federal (NRC, DOE, FEMA, Coast Guard), State (Department of Health, Disaster Preparedness Commission) and Local (Suffolk County,

hospitals and fire departments) authorities as well as other nuclear industry support groups (INPG).

I received my Bachelor and Master of Science degrees from the State University of New York at Stony Brook in 1968 and 1971, respectively. I received my Doctorate in Nuclear Chemistry from the University of Glasgow, Scotland in 1977.

From 1971 to 1975 I was a Research Assistant (U.S. equivalent: Assistant Professor) at the University of Glasgow teaching nuclear chemistry and researching low-level tritium techniques. I was a Research Assistant (U.S. equivalent: Assistant Professor) at University College, London from 1975 to 1977 teaching isotope geology, researching major and trace element techniques and acting as consultant to several water authorities. During this period the following were published:

Anderson, A., Blauer, H. M. and Baxter, M.S. (1977). A controlled power supply for the electrolytic enrichment of tritium, J. Physics, V10, pp. 1286-1294.

Beckinsale, R.D., Bowles, J.F.W., Pankhurst, R.J., Wells, M.K. and Blauer, H.M. (1977). Rubidium-strontium age studies and geochemistry of acid veins in the Freetown complex, Sierra Leone, Mineralogical Magazine, V41, pp. 501-511.

Blauer, H.M., Baxter, M.S. and Anderson, A. (1978). An improved technique for the electrolytic enrichment of tritium, Analyst, V103, pp. 823-829.

Hope, C.A., Blauer, H.M. and Reiderer, J. (1980). Recent analysis of 18th dynasty pottery in "Studien zur Altagyptischen Keramic," edited Dorothea Arnold, Philip von Zabern, Mainz.

In 1977 I returned to the United States and assumed the

position of Assistant Professor at the University of Pittsburgh, Department of Radiation Health from 1977 to 1980. I taught radiation health, radiation chemistry and nuclear chemical separation techniques; researched bioassay techniques and low-level environmental measurement techniques; directed an EPA certified radio-chemical laboratory; and consulted with several major uranium producers. During this period the following were published:

Dennis, Nancy A., Blauer, H. Mark, and Kent, Jacqueline E. (1981). Dissolution fractions and half-times of single source yellowcake in simulated lung fluids, Health Physics, V41.

Culp, P. and Blauer, H.M. (1979). Dissolution rates of radionucleides from coal and coal ashes, Twenty-fourth Annual Meeting of the Health Physics Society, Philadelphia, PA.

Dennis, N.A. and Blauer, H.M. (1979). Dissolution rates of uranium in yellowcake in simulated lung fluids, Twenty-fourth Annual Meeting of the Health Physics Society, Philadelphia, PA.

Padezanin, T. and Blauer, H.M. (1979). Comparison of uranium urinalysis methods, Twenty-fourth Annual Meeting of the Health Physics Society, Philadelphia, PA.

Blauer, H.M. and Dennis, N.A. (1979). Dissolution rates of uranium from single source yellowcake in both simulated interstitial and surfactant lung fluids, Twenty-fifth Annual Conference on Bioassay, Enviromental and Analystical Chemistry, Las Vegas, N.Y.

Maitz, A.H. and Blauer, H.M. (1980). Pure uranium oxides: their dissolution rates plus relationship to yellowcake dissolution characteristics, Twenty-fifth Annual Meeting of the Health Physics Society, Seattle, WA.

Blauer, H.M. and Brown, S.H. (1980). Physical and chemical parameters affecting dissolution

characteristics of yellowcake in simulated lung fluids, Twenty-fifth Annual Meeting of the Health Physics Society, Seattle, WA.

Brown, S.H. and Blauer, H.M. (1980). Characterization of yellow-cake (U3O8) from multiple sources and some implications regarding uranium mill bioassay, Twenty-fifth Annual Meeting of the Health Physics Society, Seattle, WA.

From 1980 to 1981 I was Environmental Scientist at Three Mile Island Nuclear Generating Station responsible for audits, the Radiological Environmental Monitoring Program, offsite dose calculations and health effects studies. During this period the following positions and procedures were written:

Blauer, H. Mark (1981). Three Mile Island Nuclear Station, Comments on the Articles "The First Casualty at TMI" and "The Lethal Path of TMI Fallout" by Ernest J. Sternglass.

Blauer, H. Mark (1981) TMI Enviromental Controls REMP Procedure, Determination of REMP investigation levels and subsequent actions, ECP 1507, Rev. 1.

Blauer, H. Mark (1981) TMI Environmental Controls Emergency REMP Procedure, operating procedure for the CRT, ECP 1601, Rev. 0.

Blauer, H. Mark (1981) TMI Environmental Controls Emergency REMP Procedure Determination of Off-Site Dose, ECP 1602, Rev. 1.

Blauer, H. Mark (1981) TMI Environmental Controls Procedure Ge(li) detector system using series 80, ECP 1719, Rev. 0.

I joined LILCO in 1981 as Senior Scientist, Nuclear Licensing Division. My responsibilities include providing support to corporate and plant staff in the areas of Radiation

Protection, Health Physics, ALARA, Emergency Planning and REMP. In 1982 I became Chairman of the Emergency Planning Task Force responsible for all technical and administrative functions. During this period, the following courses and procedures were prepared:

General Physics - BWR Familiarization Course (1 week)

LILCO - BWR Familiarization Course (2 weeks)

Blauer, H. Mark (1981) REMP data receipt and running tables, RP 4.2, Rev. 0

Blauer, H. Mark (1981) Anomalous data results - LLD and positive value exceptions, RP 4.3, Rev. 0

Blauer, H. Mark (1982) Acceptance Criteria, RP 4.4, Rev. 0

Blauer, H. Mark (1982) Determination of REMP investigation levels and subsequent actions, RP 4.5, Rev. 0.

I am certified by the American Chemical Society and a member of the American Geophysical Union and Health Physics Society.

PROFESSIONAL QUALIFICATIONS

MATTHEW C. CORDARO

Vice President of Engineering

LONG ISLAND LIGHTING COMPANY

My name is Matthew C. Cordaro. My business address is Long Island Lighting Company, 175 East Old Country Road, Hicksville, New York 11801. I am currently Vice President of Engineering and have held this position since the spring of 1978. As Vice President of Engineering, I am responsible for all of LILCO's engineering activities. This includes responsibility in the areas of facility planning and engineering for nuclear and fossil electric generating plants, as well as electric and gas transmission and distribution systems. In addition, I am responsible for assessing the environmental impacts of all LILCO operations.

I received my Bachelor of Science degree in Engineering Science from C. W. Post College in 1965. I received my Master of Science degree in Nuclear Engineering from New York University in 1967. I received my Doctorate in Applied Nuclear Physics from the Cooper Union School of Engineering and Science in 1970. I was awarded the Atomic Energy Commission Special Fellowship in Nuclear Science and Engineering.

My past professional affiliations include a position as Guest Research Associate at Brookhaven National Laboratory, Adjunct Associate Professor of Nuclear Engineering at Polytechnic Institute of New York and Adjunct Assistant Professor at C. W. Post College.

I joined LILCO in 1966 and from 1966 to 1970 I held the positions of Assistant Engineer (1966), Associate Engineer (1967), Nuclear Physicist (1968) and Senior Environmental Engineer (1970). In these earliest positions with LILCO I was involved as a principal in all phases of nuclear power plant design, licensing and fuel management. I was also a lead witness for the Company in Federal and State licensing proceedings for the Shoreham and Jamesport Nuclear Power Stations.

In 1972 I assumed the position of Manager of Environmental Engineering. In this capacity I was responsible for the environmental impact of all LILCO operations. This position involved the supervision, administration and direction of all environmental programs aimed at demonstrating compliance with applicable standards.

I am a member of a number of related professional organizations including: the Board of Directors, Adelphi University's Center on Energy Studies; and the Council of Overseers, C. W. Post College. Other related professional

affiliations are: the Technical Resources Advisory Council to the New York State Department of Environmental Conservation; the New York Power Pool Environmental Committee; Advisory Task Forces and Committees of the Atomic Industrial Forum; the Long Island Association of Commerce and Industry Environmental Committee; the Advisory Board to Environmental Technology Seminar; the Environment and Energy Committee of the Edison Electric Institute; and the HSA Environmental Task Force. I have also been a member of the Research Planning Advisory Committee for the New England River Basins Commission Study of Long Island Sound, the Marine Advisory Council to the New York State Sea Grants Seminar, and the Nassau-Suffolk Health Systems Agency (HSA), Suffolk County Council.

In addition, I am a member of the American Nuclear Society, the Health Physics Society and the Environmental Technology Seminar.

My most recent publications include a paper on methodology for power plant site selection, papers presented at the World Energy Conference on space heating alternatives and power plant cooling systems, a paper related to power plant waste heat utilization, and a paper on the transportation of nuclear wastes. I have also published journal articles in the fields of environmental science and nuclear science, as well as

numerous studies and reports related to the environmental effects of energy production.

I recently testified before Congressional Committees on Nuclear W. ste Transport and the Economics and Environmental Impacts of Coal Utilization.

PROFESSIONAL QUALIFICATIONS

JAMES RIVELLO

Plant Manager

LONG ISLAND LIGHTING COMPANY

My name is James Rivello. My business address is Long Island Lighting Company, Shoreham Nuclear Power Station, P. O. Box 628, Wading River, New York 11792. I am Plant Manager of the Shoreham Nuclear Power Station and have held this position since 1978. I am responsible for managing all plant activities in a manner which provides efficient overall plant operation and ensures the generation of the maximum amount of electric power at the highest plant efficiency, reliability, and availability. This objective must be achieved at the most economical cost consistent with prudent management. I am also responsible for ensuring that all plant activities are conducted in compliance with plant technical specifications, licenses, QA, nuclear safety, radiation control, health physics, environmental, security, and other factors. Plant operations must meet Nuclear Regulatory Commission (NRC), Federal, State, and Company Requirements, with the minimum radiation exposure to the general public and employees. I delegate responsibility to four subordinate Engineers. Each of these Engineers is responsible

for a particular facet of the plant operations requiring specialized knowledge and ability, and for coordinating their activities with those of the other Engineers to create a responsive and cohesive plant organization. I represent the Shoreham Plant in engineering, construction and testing activities as well as technical licensing efforts with federal, state and local regulatory groups. I formulate all policies to operate the nuclear plant within the requirements specified in the Technical Specifications, FSAR, Title 10 Code of Federal Regulations and other industry standards and guidelines. In the event of an accident I am Emergency Director of the Plant. I also chair both the Review of Operations Committee, which approves the performance of all safety related aspects of the plant, and the Joint Test Group during the Preoperational Phase to overview the Startup Staff Test Program.

I graduated from Manhattan College in 1963 with a Bachelor of Mechanical Engineering degree. I completed two years of the Nuclear Engineering Masters Program at Long Island University C. W. Post Campus (1967-69). In 1973 I completed specialized nuclear courses at the University of Michigan. I have also completed courses conducted by the General Electric Company in BWR Technology (August 1973) and BWR Simulator and have received Senior Reactor Operator Certification (December 1973).

Before assuming my present position, I was Startup Manager for the Shoreham Station (1974-1978). I developed the Startup Program, the Implementing Manual, and the Checkout and Initial Operations Test Program. My responsibility was to coordinate engineering, construction, and plant staff activities as they relate to system completion regarding design, construction, documentation of testing and compatibility of generated data in the respective organizations. I directly managed six Engineers, including the S&W lead Advisory Engineer, the General Electric Company Site Operations Manager, and four Lead Startup Engineers.

From December 1973 to November 1974 I was assigned to Commonwealth Edison Company's Dresden Nuclear Station as a Technical Staff Engineer (five months) and Project Engineer (six months). As a Technical Staff Engineer, one of my major duties was coordination of a refueling outage of D-3, not including basic maintenance work. I worked directly for the Lead Nuclear Engineer and Assistant Plant Manager. I participated in post refueling outage startup testing which included neutron monitoring overlap tests, flux shaping safety relief valve capacity tests, etc. I also provided substantial input to planning for the refueling outage of D-2 as a result of my past experience on D-3. I performed all activities of Technical Staff Engineer from unusual event reports (abnormal occurrences) to major and minor modification safety evaluations, engineering,

procurement, and operational testing (e.g., off-gas system installation and startup, SBLC and HPCI surveillance tests, shutdown margin tests, fuel sipping, RC pump "freeze plug" repair, integrated leak rate test, jet pump calibration, refueling jib crane replacement, control rod friction testing, nuclear materials safeguards program, hydraulic snubber inspections, torus level instrumentation replacement, etc.).

As a Project Engineer, I was directly responsible for the final construction schedule and initial operations testing of a major high conductivity drain waste concentration/evaporation system. I conducted and evaluated all tests on this system and recommended and implemented changes and met the EPA in-service date. I coordinated operator training on system operations and ran the system for one month under heavy demand conditions. Throughout this assignment, I performed many substantial projects for the onsite review committee and special nuclear systems testing and evaluations including, for example, evaluation of off-gas system explosions and installation of new Safety Relief Valves (Target Rock).

From April 1971 to May of 1973 I was Chief Engineer (Assistant Plant Manager) of a multi-unit 400 MW fossil fueled station. From June 1963 to May 1971 I held supervisory positions in four different fossil fueled stations, following the normal progression of Associate Engineer (entry level for engineers), Plant Engineer, Operating Engineer, Maintenance and I&C Engineer.

I am a member of the New England Nuclear Superintendents Association, the Edison Electric Institute Nuclear Operations Committee, and the American Nuclear Society.

5.0 ORGANIZATIONAL CONTROL OF EMERGENCIES

Using the normal operating organization (Fig. 5-1) as a base, this section of the plan describes the activation of the emergency organization and the assignment of authority and responsibility for functional areas of the emergency response. The latter part of this section describes the functions of offsite organizations and their emergency roles.

5.1 Normal Operation Organization

Responsibility for LILCO nuclear operations is assigned to the Vice President-Nuclear who reports to the Senior Vice President-Transmission, Distribution and Operations. The Vice President-Nuclear is assisted by the Shoreham Plant Manager who is responsible for the station organization including technical support, quality assurance, engineering and operations. This organization is shown in detail in Figure 5.1.

Furthermore, as stated in Section 13.1.2 of the Shoreham Nuclear Station (SNPS) FSAR, the Station Organization will consist of a minimum of 165 full-time employees functioning in one of 11 main sections reporting through their respective Section Heads to one of three divisions headed by either the Chief Operating Engineer, Chief Technical Engineer, or Technical Support Manager who reports to the Plant Manager.

The Operating Quality Assurance Division reports to the Plant Manager through the Operating Quality Assurance Engineer, as described in Section 17.2 of the FSAR. The Maintenance Section of the station will have a minimum of 26 men experienced in mechanical and electrical maintenance of large steam-electric generating stations. The force will be supervised by the Maintenance Foreman who in turn reports to the Maintenance Engineer. This number of maintenance personnel will be adequate for normal maintenance, but will be supplemented by additional competent maintenance personnel from other LILCO power stations or organizations, or outside contractors, as may be required. Supplemental maintenance personnel will not work on nuclear systems unless qualified.

The technical sections will consist of a Chief Technical Engineer, with a minimum staff of 39 engineers and technicians who will function in the areas of instrumentation and control, reactor physics, conventional chemistry, radiochemistry, radiological protection, fuel management, plus overall reactor coolant system and station performance.

The technical support staff will consist of a Technical Support Manager with a minimum staff of 8 engineering and technical personnel who will functions in the areas of NRC compliance, modification coordination, in-service inspection coordination, document review, and non-routine testing.

The Operating Section of the station will include a minimum of 32 supervisors and operators and will be responsible for operation of the station. The station will have a Watch Engineer directing the operations of each shift through the Watch Supervisor Nuclear Station Operator and Nuclear Assistant Station Operator. The Watch Engineer will report to the Operating Engineer.

The Watch Engineer is responsible for overall operation of the unit during his assigned shift. He directs the activities of station personnel assigned to his shift and is cognizant of maintenance and operations activities being performed while he is on duty. The Watch Engineer on duty has both the authority and the obligation to shut down the unit if in his judgment, conditions warrant this action.

5.1.1 On Shift Organization

The normal operating shift (Fig. 5-2) consists of 10 individuals and security personnel. The Watch Engineer, who holds a Senior Reactor Operator (SRO) license, is in direct charge of all plant operations during his assigned shift and is directly responsible for the actions of his crew. Each shift crew consists of the following individuals: one Watch Supervisor who also holds an SRO license, a Nuclear Station Operator and a Nuclear Assistant Station Operator both possessing Reactor Operator (RO) licenses, and three Equipment Operators. Technical support assigned to each operating shift consists of a Radiation Protection Technician, A Radiation Chemistry Technician and a Shift Technical Advisor. Individual responsibilities for normal operation are defined in administrative procedures.

When initiating conditions exist that result in one of the EALs being reached, the Watch Engineer has the responsibility and authority to declare that an emergency situation exists and to take immediate action in accordance with written operating procedures to mitigate the consequences the emergency. He will assign the appropriate emergency classification and initiate the necessary Implementing Procedures.

5.2 Emergency Response Organization

The LILCO emergency response organization will initially consist of the on-shift personnel as shown in Figure 5-3. Depending upon the emergency classification declared this emergency organization will activate the Alert Emergency Response Organization shown in Figure 5-4 or the Site Area and General Emergency Response Organization shown in Figure 5-5. Required response times are noted on the organization charts. Table 5-1 correlates SNPS emergency organization with Table B-1 of NUREG-0654. This section details the assignment of the functional areas of the emergency response to the on-shift and augmented emergency organizations. Detailed job descriptions for emergency response personnel are contained in the Emergency Plan Implementing Procedures.

Emergency response organization positions will be assigned to qualified LILCO personnel performing similar functions at corresponding levels of responsibility within the normal operating organization. Qualification of personnel will be in accordance with the training requirements detailed in the Emergency Plan Training Manual.

5.2.1 Emergency Direction and Control

The responsibility for emergency direction and control, emergency classification, the decision to notify and recommend offsite protective actions and commitment of corporate resources is held

The Watch Engineer is responsible for overall operation of the unit during his assigned shift. He directs the activities of station personnel assigned to his shift and is cognizant of maintenance and operations activities being performed while he is on duty. The Watch Engineer on duty has both the authority and the obligation to shut down the unit if in his judgment, conditions warrant this action.

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Additionally, senior management personnel are assigned "beepers" to ensure their prompt notification of emergency situations and TSC Emergency Directors are assigned protable radios for their vehicles to allow communications with Control Room while in route to SNPS.

Emergency Response organization positions will be assigned to qualified LILCO personnel performing similar functions at corresponding levels of responsibility within the normal operating organization. Qualification of personnel will be in accordance with the training requirements detailed in the Emergency Plan Training Manual.

initially by the Emergency Director and passes to the Response Manager as this individual augments the emergency organization. The responsibilities associated with this position are non-delegatable.

1. On Shift

   The Watch Engineer is the Emergency Director and provides emergency direction and control. He has the authority and responsibility to immediately and unilaterally initiate any emergency actions.

2. Alert Emergency Augment

   Upon augmentation to an Alert emergency organization, the Plant Manager will report to the activated TSC and assume the Emergency Director position from the Watch Engineer. The Operations Manager will coordinate any repair and maintenance actions between the Control Room and Operations Support Center. The Emergency Planning Advisor No. 2 will assist the Emergency Director in the TSC. Emergency Planning Advisor No. 1 will report within 60 minutes and assume direction of the EOF and place the facility in a standby status.

3. Site Area and General Emergency Augment

   Upon augmentation to either a Site Area or General Emergency, the Response Manager will report to the EOF and assume responsibility for overall direction and control of the response. The Technical Support Manager acts as a liaison between the Emergency Director and the Response Manager. The Technical Support Manager is also responsible for providing plant related protective action recommendations to the Response Manager in the TSC. The Emergency Planning Advisor No. 1 will assist the Response Manager in his emergency response function. He will also send, as requested, a representative to each of the government EOCs to assist with communications with off-site authorities.

   The Emergency Director retains the authority and responsibility to immediately and unilaterally initiate measures to protect the plant.

5.2.2 Plant Operations

During any stage of an emergency, the normal Control Room staff will remain intact. A more senior licensed operator, such as the Operation Manager, may assume operational control after completing proper relief procedures. If while the Watch Engineer is the Emergency Director and the Operations Manager or other licensed operator assumes plant operation control from the Watch Engineer, the Watch Engineer will continue to serve as the Emergency Director and maintain overall direction and control.

5.2.3 Corrective Actions and Support of Operations

1. On-Shift

The Emergency Director will dispatch qualified personnel available on-shift to perform corrective actions which may consist of realignment of plant systems. The Nuclear Assistant Station Operator and the Equipment Operators will be trained to assume responsibilities for these corrective actions. In addition, the on-shift fire brigade will be provided as per Technical Specifications. At least one person on each shift will be trained in First Aid. Corrective actions will be directed from the Control Room by the Emergency Director.

2. Alert Emergency Augment

Upon augmentation to an Alert Emergency organization, the Operational Support Center (OSC) will be activated. The OSC Supervisor will coordinate the arrival and dispatch of technicians and keep the TSC informed of available personnel. The Maintenance Manager in the TSC will direct in-plant corrective actions and repairs. He will coordinate these activities with the Operations Manager to ensure that they do not adversely affect plant operations. Additional electricians, mechanics, instrument and control technicians, and fire brigade members will report to the OSC as shown in Figure 5-4.

3. Site Area and General Emergency

Upon augmentation to a Site Area or General Emergency, additional personnel will be called in to support corrective actions and repairs. The specific personnel will depend upon the type of accident and the technical capabilities required. Thus, only the minimum personnel are shown in Figure 5.5.The Design and Construction Manager will direct his staff in the contracting and construction necessary to meet the needs of the emergency response.

5.2.4 Technical Support

1. On-Shift

The Shift Technical Advisor (STA) is available at all times to assist the Emergency Director in the determination of plant conditions, accident classification and protective action recommendations. The STA is qualified in the area of thermal hydraulics, reactor engineering and plant analysis.

2. Alert Emergency Augment

The Plant Technical Manager will report to the TSC and receive a plant status update from the STA. The Plant Technical Manager, supported by several plant staff engineers, shall provide the Emergency Director with an analysis of plant conditions and trends for use in the determination of corrective actions and protective actions recommendations.

3. Site Area and General Emergency Augment

The Technical Support Manager (TSM) will be the key individual directing technical and engineering assistance during the emergency response. Upon reporting to the EOF, he will contact the Plant Technical Manager (or STA) and receive a plant status report and discuss the need for detailed analysis and engineered corrective actions to assist plant staff. Based upon these discussions, the TSM will contact the Technical Support Coordinator at Support Corporate Headquarters, Hicksville, and have him obtain the necessary LILCO, G.E., and S&W support to provide the assistance required.

5.2.5 Radiological Accident Assessment

1. On-Shift

The In-Plant Radiation Monitoring Technician No. 1 will be qualified to calculate projected offsite doses and assist the Emergency Director in determining appropriate protective action recommendations. The STA and the Radiation Chemistry Technician No. 1 will assist in the analysis of source term and plant conditions.

2. Alert Emergency Augment

Dose Assessment Staff Member No. 1 upon reporting to the TSC will relieve the In-Plant Radiation Monitoring Technician No. 1 of his offsite dose assessment duties. An offsite radiation monitoring team will be available for dispatch to measure the quantity and movement of an airborne radioactive release. The Radiation Protection Manager will relay the dose projection and/or monitoring results to the Emergency Director for use in the determination of Protective Actions.

3. Site Area and General Emergency Augment

The Radiation Control Manager will report to the activated EOF and assume responsibility for offsite dose projections and field monitoring. Three field monitoring teams, each consisting of a technician and an assistant, will be available via data link and direct communication with the Radiation Protection Manager. The Radiation Control Manager will relay the dose projection and/or monitoring results to the Response Manager for use in determination of protective action recommendations.

5.2.6 Onsite Radiation Protection

1. On-Shift

The In-Plant Radiation Monitoring Technician No. 1 is qualified to evaluate radiological hazards, determine exposure time limits and conduct decontamination as necessary. He may be assisted by Radiation Chemistry Technician No. 1 who is qualified to perform

area and personnel monitoring has required. The Emergency Director will have final authority in determining exposure limitations for emergency response personnel.

2. Alert Emergency Augment

The Radiation Protection Manager (RPM) will direct radiation protection activities from the TSC. Emergency exposure limits onsite will be approved by either the RPM or Emergency Director. Additional technicians will be available to conduct in-plant radiation surveys and provide health physics coverage of onsite fire fighting, repairs and corrective actions.

3. Site Area and General Emergency Augment

In addition to the Alert Emergency Augment at these emergency levels, personnel will be available to conduct out-of-plant surveys and provide health physics coverage. The Radwaste Supervisor is responsible for the storage and handling of both liquid and solid radwaste material during an emergency response. The Radiation Protection Manager will provide assistance to the Radiation Control Manager as necessary.

5.2.7 Administrative Support

1. On-Shift

The Emergency Director shall delegate administrative responsibilities to available personnel not otherwise involved with the emergency response. These responsibilities consist of distributing appropriate logs, forms and procedures or other details requested by the Emergency Director.

2. Alert Emergency Augment

Upon activation of the TSC, the Administrative Supervisor shall assume responsibility for providing clerical and logistical support. He will augment as necessary the emergency response organization with additional personnel not shown in Figure 5-4.

3. Site Area and General Emergency Augment

The Administration and Scheduling Manager will provide and coordinate the financial, logistical, clerical and all other administrative support from the EOF. He will be assisted by personnel at the EOF and Support Corporate Headquarters. Additional administrative staff will provide assistance at the TSC and Support Corporate Headquarters engineering group. These administrative personnel will coordinate their requests, associated with the emergency response effort, through the Administration and Scheduling Manager in the EOF.

5.2.8 Communications

1. On-Shift

Upon declaration of an emergency, an Equipment Operator will be designated as a Communicator. The Emergency Director will provide updated information to the Communicator for transmission to offsite authorities. The Communicator will make all required notifications and answer phones and dedicated lines.

2. Alert Emergency Augment

Two communicators will be assigned to the activated TSC. These communicators will handle incoming calls and assume the duty for making required communications with offsite authorities. The Emergency Director, via the Administrative Supervisor, will provide updated information to the communicators. The Control Room Communicator will continue to handle the phones in the Control Room.

3. Site Area and General Emergency Augment

The activated EOF will have three communicators. Two will support general administration and will handle communications as directed by the Administration and Scheduling Manager. A third communicator will support the Radiation Control Manager and his staff by transmitting dose assessment data to offsite authorities. At the TSC, a third communicator will augment the Administrative Supervisor and his staff.

5.2.9 Public Affairs

1. On-Shift

The Emergency Communications Liaison will be contacted as part of the initial notification. This individual will prepare appropriate press releases for plant managemnt and corporate approval. He will also contact additional LILCO public relations personnel as necessary.

2. Alert Emergency Augment

The Emergency Communications Liaison will report to the activated TSC. He will prepare press releases based upon information provided by the Emergency Director. Press releases will be approved by the Emergency Director and LILCO's Public Affairs Department and distributed to local newspapers and television stations.

3. Site Area and General Emergency Augment

The Emergency Communications Director will be in charge of LILCO's public affairs program from the activated EOF. The Emergency News Manager and staff will direct operation of the Emergency News Center (ENC). They will conduct press conferences which may be attended by the Response Manager and Emergency Communications Director. The Emergency Communications Liaison

will report to the ENC and assume the position of Emergency Information Supervisor. Additional staff at Support Corporate Headquarters will handle communications with government officials, inquiries from the general public and other details.

5.2.10 Security

The Security force at Shoreham Nuclear Power Station shall respond to an emergency in accordance with the Security Plan.

5.3 Offsite Assistance for Onsite Support

Fire protection for the area of Long Island where the plant is located is provided by volunteer fire departments which operate under the State and County Mutual Aid Plan. Under this plan, nearby departments provide support for the fire department involved in fighting a fire. Similar arrangements exist for the ambulances associated with these fire departments.

The Shoreham Nuclear Power Station is located in the fire district of the Wading River Fire Department. Plans have been developed to provide fire protection, ambulance, and rescue services. A letter of agreement from the Wading River Fire Department is contained in Appendix B.

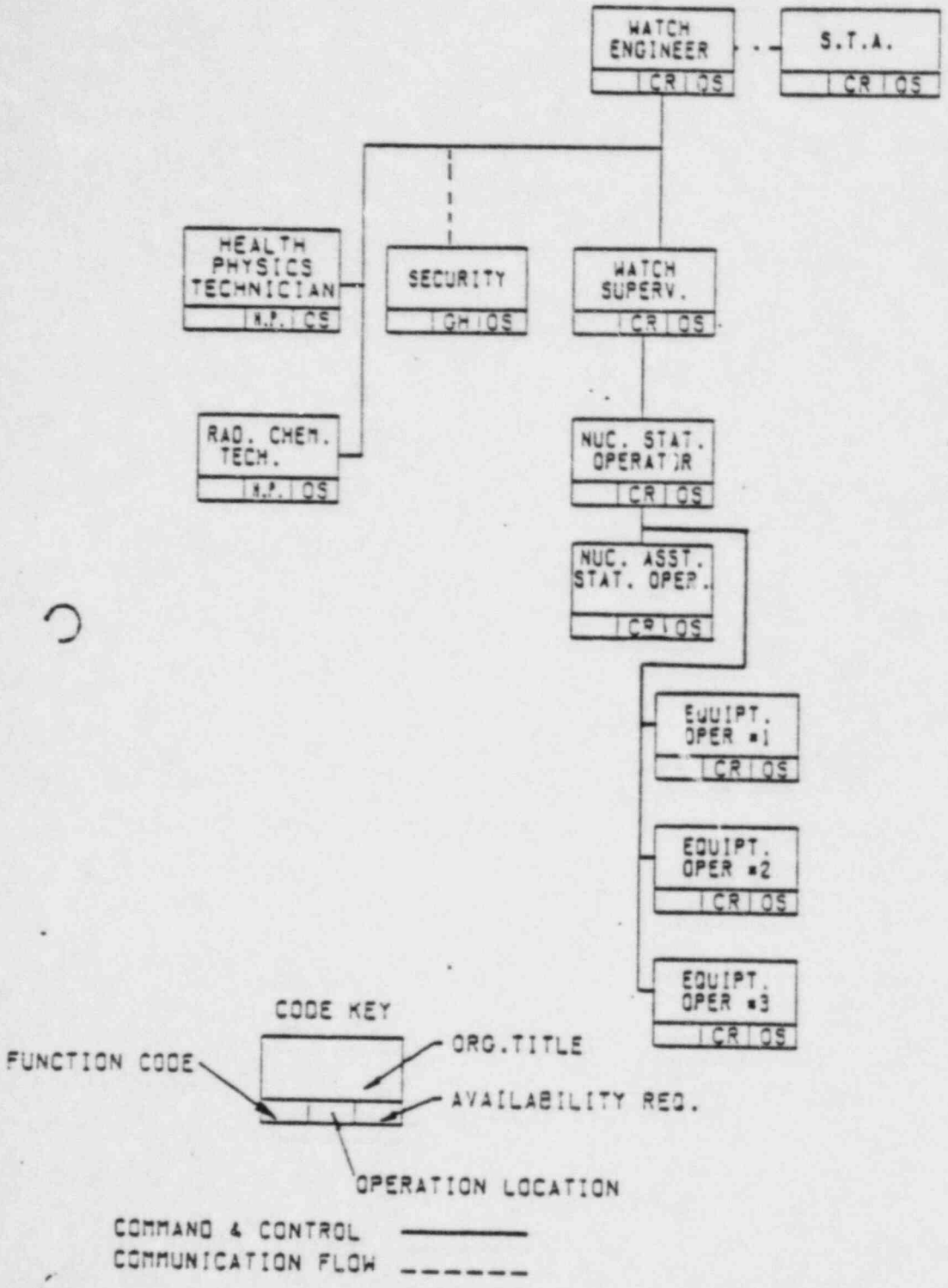
The Plans for hospital and medical support are described in Section 6.5.3. A letter of agreement from the Central Suffolk Hospital is contained in Appendix B.

Although no Federal assistance is expected other than that provided for and specified in the Suffolk County Radiological Emergency Plan, the New York State Radiological Emergency Preparedness Plan and the Federal Radiological Monitoring and Assessment Plan (FRMAP), should the need arise, the Response Manager has the authority to request any and all Federal assistance considered appropriate for the given situation.

The FRMAP for the Northeast region is located within 10 miles of the shoreham site, at Brookhaven National Laboratory (BNL), lending itself to fully supporting response in a short period of time. Depending on the nature of the incident, the FRMAP team shall respond accordingly. Furthermore, because of BNL's proximity to Shoreham, it is concluded that it would serve as a self-supporting center for any additional Federal emergency support.

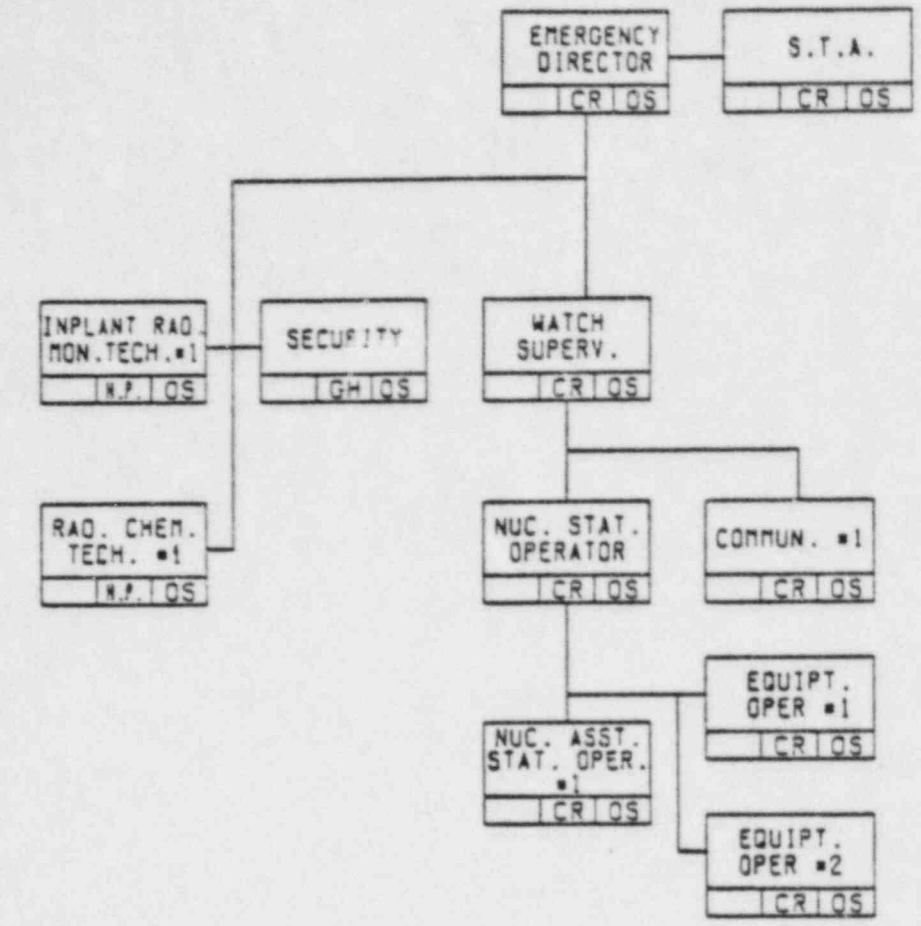
5.3.1 Institute of Nuclear Power Operations

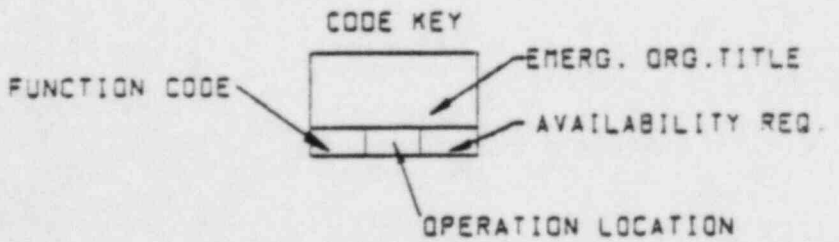
The Institute of Nuclear Power Operations was organized by the electric utility industry as a response to the needs of the utility industry following the Three Mile Island accident. The Institute of Nuclear Power Operations is working in several areas concerning training, operating experience evaluation, criteria development, assistance to the utilities, and emergency preparedness. Assistance is provided to utilities in emergency preparedness to upgrade their capability to respond to an accident. Resources such as equipment and manpower can be coordinated during an accident through the Institute



SHOREHAM NUCLEAR POWER STATION
ON SHIFT ORGANIZATION

FIGURE 5-2 REV. 0





COMMAND & CONTROL ——————

COMMUNICATION FLOW - - - - - -

SHOREHAM NUCLEAR POWER STATION
ON SHIFT
EMERGENCY RESPONSE ORGANIZATION

FIGURE 5-3 REV.2

11606.SCH 83

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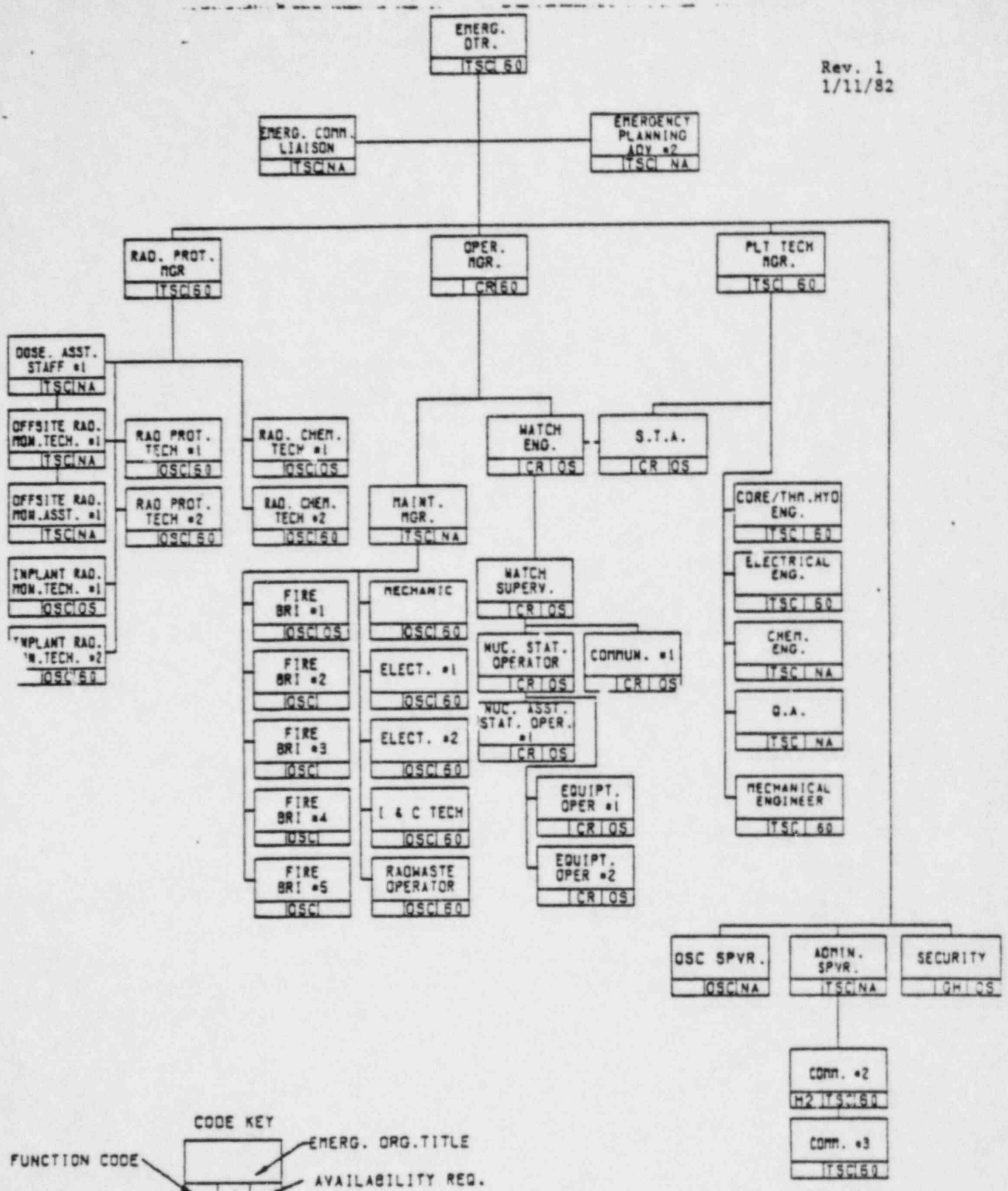
1/11/82

Rev. 1
1/11/82



SHOREHAM NUCLEAR POWER STATION
ALERT EMERGENCY AUGMENT
EMERGENCY RESPONSE ORGANIZATION

FIGURE 5-4 REV.03

SHOREHAM NUCLEAR POWER STATION
SITE AREA AND GENERAL
EMERGENCY AUGMENT
EMERGENCY RESPONSE ORGANIZATION

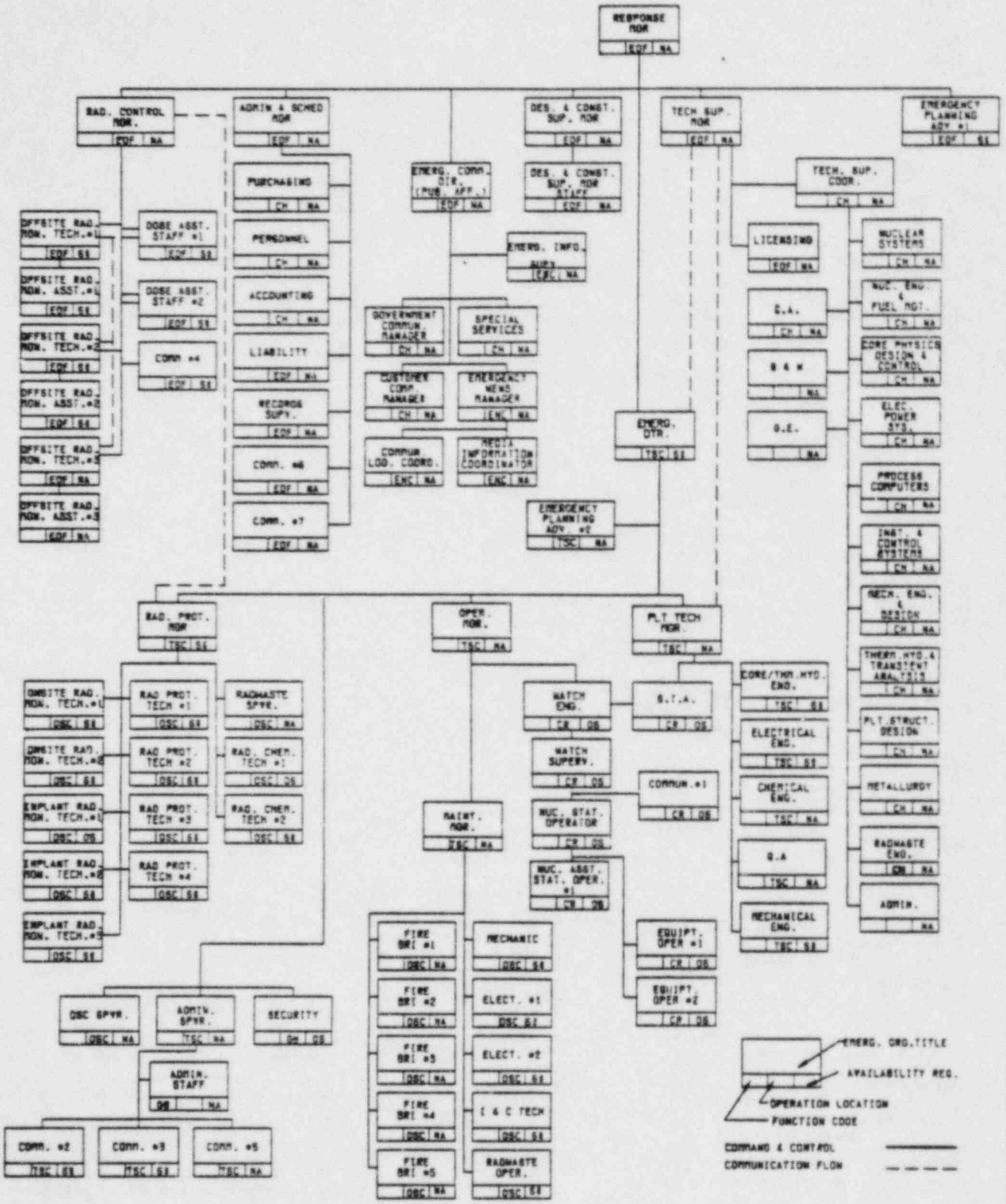


FIGURE 5-5

(Fig. 5-6)

TABLE B-1

MINIMUM STAFFING REQUIREMENTS FOR NRC LICENSEES
FOR NUCLEAR POWER PLANT EMERGENCIES

MAJOR FUNCTIONAL AREA	MAJOR TASKS	POSITION TITLE OR EXPERTISE	ON SHIFT	30 MIN.	60 MIN.
Plant Operations and Assessment of Operational Aspects		Shift Supervisor (SRO)	1	--	--
		Shift Foreman (SRO)	1	--	--
		Control Room Operators	2	--	--
		Auxiliary Operators	2	--	--
Emergency Direction and Control (Emergency Coordinator)***		Shift Technical Advisor, Shift Supervisor or designated facility manager	1**	--	--
Notification/ Communication****	Notify licensee, State local and Federal personnel & maintain communication		1	1	2
Radiological Accident Assessment and Support of Operational Accident Assessment	Emergency Operations Facility (EOF) Director	Senior Manager	--	--	1
	Offsite Dose Assessment	Senior Health Physics (HP) Expertise		1	--
	Offsite Surveys		--	2	2
	Onsite (out-of-plant)		--	1	1
	In-plant surveys	HP Technicians	1	1	1
	Chemistry/Radiochemistry	Rad/Chem Technicians	1	--	1
Plant System Engineering, Repair and Corrective Actions	Technical Support	Shift Technical Advisor	1	--	--
		Core/Thermal Hydraulics	--	1	--
		Electrical	--	--	1
		Mechanical	--	--	1
	Repair and Corrective Actions	Mechanical Maintenance/ Rad Waste Operator	1**	--	1
					1
		Electrical Maintenance/ Instrument and Control (I&C) Technician	1**	1	1
			--	1	--
Protective Actions (In Plant)	Radiation Protection: a. Access Control b. HP Coverage for repair, corrective actions, search and rescue first-aid & firefighting c. Personnel monitoring d. Dosimetry	HP Technicians	2**	2	2
Firefighting	--	--	Fire Brigade per Technical Specifications	Local Support	
Rescue Operations and First-Aid	--	--	2**	Local Support	
Site Access Control and Personnel Accountability	Security, firefighting communications, personnel accountability	Security Personnel	All per Security plan		
		TOTAL	10	11	12

NOTES:

** May be provided by shift personnel assigned other functions.

*** Overall direction of facility response to be assumed by EOF director when all centers are fully manned. Director of minute-to-minute facility operations remains with senior manager in technical support center or control room.

**** [illegible]

MC-1

Submitted: N D Mascio

Reviewed/OQA Engr.: Robert L Sleeper

Approved/Plant Mgr.: J Rivello

SP Number 69.009.01
Revision 0
Date Eff 7/9/82
TPC
TPC
TPC

NOTIFICATIONS

1.0 PURPOSE

To specify the means by which notification for all emergency levels are made and to delineate personnel who would be called to augment the emergency response organization.

2.0 RESPONSIBILITY

The Health Physics Engineer is responsible for ensuring compliance with this procedure.

3.0 DISCUSSION

3.1 Establishment of a quick effective means of notification of an emergency is a critical part of emergency response. Primary and secondary modes of communication are provided to insure the availability of proper communications.

3.2 Preplanned message statements allow for accurate and complete transfer of information. Persons making the notification simply read prewritten statements containing the necessary information. Communications guidelines are given in Appendix 12.6.

3.3 The preplanned message forms are filled out by either a Communicator (CR), EPA #2 (TSC) or EPA #1 (EOF) depending upon the highest facility activated. The fact sheet is approved by either the Emergency Director or the Response Manager before transmission to appropriate authorities.

3.4 Topics covered in this procedure:

4.0 PRECAUTIONS

Only persons authorized by the Emergency Director/Response Manager shall make notifications as prescribed in this procedure.

5.0 PREREQUISITES

An emergency has been classified in accordance with SP 69.Ø1Ø.Ø1, Classification of Emergency Action Levels.

6.0 LIMITATIONS AND ACTIONS

N/A

7.0 MATERIALS AND EQUIPMENT

Communications equipment as described in Ref. 11.1.

8.0 PROCEDURE

8.1 Initial Notification

8.1.1 Communicator (CR) fill out a Notification Fact Sheet (Appendix 12.1) and submit it to the Emergency Director for approval.

8.1.2 Emergency Director provide an approved Notification Fact Sheet to the Communicator and direct him to make the following notifications.

8.1.3 Communicator, using the primary communications mode given in the Required Notification Call List (Appendix 12.3) make the following notifications by reading the Notification Fact Sheet. Obtain all information required to fill in Appendix 12.3.

1. Notify the following personnel:

   Plant Manager
   Vice President - Nuclear
   Chief Operating Engineer
   Chief Technical Engineer

NOTE: If these personnel are notified by beeper, do not read off the Notification Fact Sheet.

2. Notify the LILCO Gas Systems Operator by means of the Card Dialer Phone, so that appropriate corporate personnel can be notified in accordance with CIP-1, Corporate Notifications

3. Notify New York State, Suffolk County and New York State Sourthern District Office by means of the hotline within 15 minutes of classification.

8.1.4 Licensed Operator, make initial notification to the NRC within 1 hour of declaration by use of the Emergency Notification System (ENS). After the TSC is activated, this function shall be continuted at that center. Record the notification on Appendix 12.3.

NOTE: The NRC will require the ENS to be continuously manned if they so desire in order to be kept appraised of the emergency situation. Provide all information asked for, if possible. The operator should ask the NRC if they will speak to a different person so that you can resume operational duties.

8.2 Subsequent Notifications

8.2.1 Communicator, using the primary communications mode given in the Supplementary Notification Call List (Appendix 12.4) and record them on the Call List. Obtain all necessary information to

complete the Call List.

NOTE: Some supplementary notifications may have to be performed expeditiously for prompt response (e.g. Coast Guard for waterborne releases). Guidelines for all supplementary notifications are given in Appendix 12.4.

8.2.2 Communicator, call in additional station personnel as directed. Use the Internal Notification Call List (Appendix 12.5) for the appropriate on or off-hour time and emergency classification.

8.3 Verification

8.3.1 Notifications made by use of dedicated lines require no verification.

8.3.2 All calls made to offsite agencies by use of commercial lines require the individual receiving the notification to call back and verify that the necessary information has been received.

8.3.3 Notification by beeper of essential personnel (Step 8.1.3.1) is verified when these personnel call on the Conference Phone and are briefed by the Emergency Director on the status of plant conditions.

8.4 Follow-up Notification

8.4.1 Communicator (CR) or Emergency Planning Advisor #1 or 2 (TSC or EOF) fill out a Dose Assessment Fact Sheet (Appendix 12.2) and submit it to the Emergency Director/Response Manager for approval.

8.4.2 Emergency Director/Response Manager, provide a completed Dose Assessment Fact Sheet to a Communicator and direct him to make notifications to the agencies on the Notification Call List (Appendix 12.3) and to appropriate agencies on the Subsequent Notification Call List (Appendix 12.4).

8.4.3 Communicator, notify the appropriate authorities on Appendix 12.3 and 12.4, using the Dose Assessment Fact Sheet (Appendix 12.2). Obtain the necessary information to complete the Call Lists.

9.0 ACCEPTANCE CRITERIA

N/A

10.0 FINAL CONDITIONS

All notifications have been logged on the appropriate call lists.

11.0 REFERENCES

11.1 CIP-3 , Communications Equipment

11.2 SP 69.Ø1Ø.Ø1, Classifications of Emergency Action Levels

12.0 APPENDICES

12.1 Notification Fact Sheet, SPF 69.ØØ9.Ø1-1

12.2 Dose Assessment Fact Sheet, SPF 69.ØØ9.Ø1-2

12.3 Notification Call List, SPF 69.ØØ9.Ø1-3

12.4 Supplementary Notification Call List, SPF 69.ØØ9.Ø1-4

12.5 Internal Notification Call List, SPF 69.ØØ9.Ø1-5

12.6 Communications Guidelines

12.7 NRC Notification Call List, SPF 69.ØØ9.Ø1-6

Part 1 - NOTIFICATION FACT SHEET

1. Date and Time of Message Transmittal:

   _____ / _____
   Date Time (24 hr clock)

2. Nuclear Facility providing the initial report:
   - (A) Indian Pt. No. 2
   - (B) Indian Pt. No. 3
   - (C) Ginna Station
   - (D) Nine Mile Pt. Unit 1
   - (E) Fitzpatrick Plant
   - (F) Shoreham Station
   - (G) Other _____

3. Reported by: (A) _____ (B) _____
   Name Title

4. This (A) is (B) is NOT, an excerise.

5. Emergency Classification:
   - (A) Unusual Event
   - (B) Alert
   - (C) Site Area Emergency
   - (D) General Emergency

6. This Classification occured at _____ , _____ .
   Date Time (24 hr clock)

7. Brief Event Description/Initiating Condition: _____
   _____
   _____

8. There:
   - (A) has NOT been a release of radioactivity.
   - (B) has been a release of radioactivity to the ATMOSPHERE.
   - (C) has been a release of radioactivity to a BODY OF WATER.
   - (D) has been a GROUND SPILL release of radioactivity. _____

9. The release (A) is continuing (B) has terminated (C) not applicable.

10. Protective Actions:
    - (A) There is no need for protective actions outside the site boundary.
    - (B) Protective Actions are under consideration.
    - (C) Recommended Protective Actions:

      Shelter within _____ miles/or sectors/or ERPA's.
      Evacuate within _____ miles/or sectors/or ERPA's.

11. Weather:
    - (A) Wind Speed _____ miles per hour or _____ meters per second.
    - (B) Direction (from) _____ degrees.
    - (C) Stability Class (A-G) _____ .
    - (D) General Weather Conditions (if available) _____

ED/RM Approval _____

SPF 69.009.01-1, Rev. 0

Part II - DOSE ASSESSMENT FACT SHEET

12. Prognosis for Worsening or Termination of the Emergency: _____

_____

13. In Plant Emergency Response Actions Underway: _____

_____

14. Utility Off-Site Emergency Response Action Underway: _____

_____

15. Release Information

(A) ATMOSPHERIC RELEASE	Actual	Projected
Date and Time Release Started	_____	_____
Duration of Release	_____ hrs	_____ hrs
Noble Gas Release Rate	_____ Ci/sec	_____ Ci/sec
Radioiodine Release	_____ Ci/sec	_____ Ci/sec
Elevated or Ground Release	_____	_____

(B) WATERBORNE RELEASE		
Date and Time Release Started	_____	_____
Duration of Release	_____ hrs	_____ hrs
Volume of Release	_____ gal	_____ gal
Radioactivity Concentration (gross)	_____ uCI/ml	_____ uCi/ml
Total Radioactivity Released	_____ Ci	_____ Ci
Radionuclides in Release	_____ uCi/ml	_____ uCi/ml
	_____ uCi/ml	_____ uCi/ml
	_____ uCi/ml	_____ uCi/ml

Basis for release data e.g. effluent monitors, grab sample, composite sample and sample location: _____

16. Dose and Measurements and Projections

(A) SITE BOUNDARY	Actual	Projected
Whole Body Dose Rate	_____ mR	_____ mr/hr
Whole Body Commitment		_____ Rem
Thyroid Dose	_____ mRem	_____ mRem
Thyroid Dose		_____ Rem

(B) PROJECTED OFFSITE	2 Miles	5 Miles	10 Miles
Whole Body Dose Rate (mr/hr)	_____	_____	_____
Whole Body Dose (Rem)	_____	_____	_____
Thyroid Dose Commitment (1 hr Exposure) (mRem)	_____	_____	_____
Thyroid Dose (Total Commitment) (Rem)	_____	_____	_____

17. Protective Action Recommendations and the basis for that recommendation.

_____

_____

_____

ED/RM Approval _____

REQUIRED NOTIFICATION CALL LIST

	Organization Individual	Communications Mode Primary/Alternates	Agency/Person Contacted Time/Intitials	Name of Person Contacted	Message Received and Verified Time/Initials
1.	Plant Manager	1. Beeper 2. X-201 3. Card Dialer Phone	/		/
2.	Vice President Nuclear	1. Beeper 2. 733-4013 3. Card Dialer Phone	/		/
3.	Chief Operating Engineer	1. Beeper 2. X-202 3. Card Dialer Phone	/		/
4.	Chief Technical Engineer	1. Beeper 2. X-203 3. Card Dialer Phone	/		/
5.	Gas Systems Operator	1. Card Dialer Phone	/		/

NOTE: These Notifications to be made within 15 minutes of Declaration

o.	New York State Emergency Operations	1. Hotline 2. NAWAS 3. Card Dialer Phone	/		/
7.	New York State Southern District Office	1. Hotline 2. NAWAS	/		/
8.	Suffolk County Emergency Operations Center	1. Hotline 2. NAWAS 3. Card Dialer Phone	/		/

SPF 69.009.01-3, Rev. 0

SUPPLEMENTARY NOTIFICATION CALL LIST

	Organization/ Individual	Communications Mode Primary/Alternates	Agency/Person Contacted Time/Initials	Name of Person Contacted	Message Received and Verified Time/Initials
1.	St. Joseph's Villa	1. Card Dialer Phone	/		/
	NOTE: Notify for all incidents involving offsite radiological consequences.				
2.	U.S. Coast Guard	1. Card Dialer Phone	/		/
	NOTE: Notify only for incidents affecting Long Island Sound				
3.	Radiation Management Corporation	1. Card Dialer Phone	/		/
	NOTE: Notify only for incidents involving severely contaminated individuals.				
4.	INPO	1. Card Dialer Phone	/		/
	NOTE: Notify for alert or higher classification				
	U.S. EPA	1. Card Dialer Phone	/		/
	NOTE: Notify for all incidents affecting environment.				
6.	U.S. Doe FRMAP Team	1. Card Dialer Phone	/		/
	NOTE: Notify only when directed by the Radiation Protection Manager/Radiological Control Manager				

INTERNAL NOTIFICATION CALL LIST

(LATER)

SPF 69.ØØ9.Ø1-5, Rev. Ø

COMMUNICATIONS GUIDELINES

Notify individuals/organizations listed in the Call Lists (Appendices 12.3 or 12.4) using one of the preplanned message forms as follows:

1. Call each individual/organization using the primary mode of communication. If the party cannot be contacted using the primary method, use the alternate method.

2. If a party cannot be contacted, bypass that party and proceed to the next one on the list. After all notifications have been completed, attempt to contact the bypassed parties. If a party still cannot be contacted, consider other methods such as relaying information through a third party.

3. When the party answers, identify yourself and inform the individual to obtain the form on which to record the notification. Pause to permit the individual time to obtain the form.

4. Read the notification, annunciating the information which is to be entered on the form.

5. After the notification has been completed, ask the individual to read back the notification and, if necessary, correct any errors.

6. Record the name of the individual and the time of contact on the Notification Call Lists.

7. Proceed to the next agency on the Call List until all organizations have been notified.

NRC NOTIFICATION CALL LIST

	Organization Individual	Communications Mode Primary/Alternates	Agency/Person Contacted Time/Initials	Name of Person Contacted	Message Received and Verifed Time/Initials
	NOTE:	NRC Notifications (#9 and 10) to be performed by Licensed Operator only. Notification to NRC within 1 hour of classification.			
1.	NRC, Washington Office, Bethesda	1. Emerg. Notification System (ENS) Dedicated Phone 2. Card Dialer Phone	____/____	_____	____/____
2.	NRC, Regional Office, King of Prussia	1. Emerg. Notification System (ENS) Dedicated Phone 2. Card Dialer Phone	____/____	_____	____/____

Table B-1

MINIMUM STAFFING REQUIREMENTS FOR NRC LICENSEES FOR NUCLEAR POWER PLANT EMERGENCIES (See B.5.)

Major Functional Area	Location	Major Tasks	Position Title or Expertise	On Shift*	Capability for Additions 30 min	Capability for Additions 60 min
Plant Operations and Assessment of Operational Aspects			Shift Supervisor (SRO)	1	--	--
			Shift Foreman (SRO)	1	--	--
			Control Room Operators	2	--	--
			Auxiliary Operators	2	--	--
Emergency Direction and Control (Emergency Coordinator)***			Shift Technical Advisor, Shift Supervisor or designated facility manager	1**	--	--
Notification/ Communication****		Notify licensee, State local and Federal personnel & maintain communication		1	1	2
Radiological Accident Assessment and Support of Operational Accident Assessment		Emergency Operations Facility (EOF) Director	Senior Manager	--	--	1
		Offsite Dose Assessment	Senior Health Physics (HP) Expertise		1	--
		Offsite Surveys		--	2	2
		Onsite (out-of-plant)		--	1	1
		In-plant surveys	HP Technicians	1	1	1
		Chemistry/Radio-chemistry	Rad/Chem Technicians	1	--	1
Plant System Engineering, Repair and Corrective Actions		Technical Support	Shift Technical Advisor	1	--	--
			Core/Thermal Hydraulics	--	1	
			Electrical	--	--	1
			Mechanical	--	--	1
		Repair and Corrective Actions	Mechanical Maintenance/ Rad Waste Operator	1**	--	1
						1
			Electrical Maintenance/ Instrument and Control (I&C) Technician	1**	1	1
				--	1	--

Table B-1 (contd)

Major Functional Area	Major Tasks	Position Title or Expertise	On Shift*	Capability for Additions 30 min	Capability for Additions 60 min
Protective Actions (In-Plant)	Radiation Protection: a. Access Control b. HP Coverage for repair, corrective actions, search and rescue first-aid & firefighting c. Personnel monitoring d. Dosimetry	HP Technicians	2**	2	2
Firefighting	--	--	Fire Brigade per Technical Specifications	Local Support	
Rescue Operations and First-Aid	--	--	2**	Local Support	
Site Access Control and Personnel Accountability	Security, firefighting communications, personnel accountability	Security Personnel	All per Security plan		
		Total	10	11	15

Notes:

* For each unaffected nuclear unit in operation, maintain at least one shift foreman, one control room operator and one auxiliary operator except that units sharing a control room may share a shift foreman if all functions are covered.

** May be provided by shift personnel assigned other functions.

*** Overall direction of facility response to be assumed by EOF director when all centers are fully manned. Director of minute-to-minute facility operations remains with senior manager in technical support center or control room.

**** May be performed by engineering aide to shift supervisor.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 26 1981

Dr. Donald F. Knuth
President
KMC, Inc.
1747 Pennsylvania Avenue, N.W.
Washington, D.C. 20006

Dear Dr. ~~Knuth~~ Don:

This is in response to your letter dated October 5, 1981 regarding the capability for rapid augmentation of a nuclear power plant staff in the event of an emergency. We expect that each utility will expend its best efforts to meet the augmentation criteria of Table B-1 of NUREG-0654/FEMA-REP-1 with respect to additional skills, such as professional health physics expertise, which may not be present on shift and to assure that enough "hands" are available to perform the many tasks that would result from an emergency.

Therefore, consistent with our policy for Regulatory Guides, we regard the Table B-1 criteria as having the same level of authority as a Regulatory Guide. (Revision 2 to Regulatory Guide 1.101 is now in publication which incorporates NUREG-0654 by reference). Facilities whose staffing augmentation capabilities meet the Table B-1 criteria would be acceptable. Those facilities which do not meet these criteria will be reviewed on a case-by-case basis.

Failure to meet the criteria in a particular drill would clearly not call for a civil penalty as indicated in your letter. Repeated failure to meet the design objective (goal) would be cause for the NRC to request utility management attention to this problem.

The response times listed in Table B-1 are certainly not rigid inviolate requirements as suggested in your letter because weather conditions, for example, could influence arrival times. A treatment of this problem in a recent SER (for the Callaway plant) is enclosed which gives an indication of the staff approach to this matter.

Sincerely,

Bill

William J. Dircks
Executive Director for Operations

Enclosure:
Excerpt from Appendix F
of the Callaway SER

ENCLOSURE 1

EXCERPT FROM APPENDIX F OF THE CALLAWAY SER

DATED OCTOBER 1981

"The onsite (minimum) emergency organization for non-normal working hours, backshifts, and holidays is described in the Plan. Emergency assignments have been made, and the relationship between the emergency organization and the normal staff complement are described in the Plan. Positions and/or titles and qualifications of shift and plant personnel both onsite and offsite who are assigned major emergency functional duties are listed. Minimum shift manning and shift augmentation are in the Plan and guidance for timely shift augmentation is provided.

The minimum on-shift staffing levels discussed in the Plan meet the objectives of Table B-1 of NUREG-0654. The Plan describes the capability to augment the minimum on-shift staff after declaration of an emergency. This capability meets the design objectives of Table B-1 and is prioritized to provide capability within 30 to 45 minutes and 60 to 75 minutes.

The following minimum on-shift expertise will be maintained 24 hours per day: one Shift Supervisor (SRO), one Operating Supervisor (SRO), two Unit Reactor Operators, two Equipment Operators, two Assistant Equipment Operators, one Instrument-Control Tech., one Radiation-Chemistry Tech., and one Shift Technical Advisor. This makes a total of eleven persons on shift capability of performing all necessary major functions called for in Table B-1. A person on-shift will be qualified to conduct in-plant radiation surveys. This is maintained 24 hours per day.

Within 30 to 45 minutes, depending on road and weather conditions, the additional personnel will be available for communications, in-plant protective actions, radiological accident assessment and operational support, and plant system engineering and repair actions. Within 60 to 75 minutes, fifteen additional persons will be available to augment the above mentioned functional area.

Because shift augmentation does not conform to the staff guidelines of 30 to 60 minutes, the licensee has committed to an extensive duty officer system to strengthen their existing augmentation capability. Further, periodic unannounced drills will be conducted of the system to ensure the design objectives of Table B-1 can be achieved. Records will be maintained for inspection. The duty officer system will ensure sufficient management and supervisory personnel will be on call 24 hours per day with a reliable pager system or automatic telephone system. Prioritized shift augmentation procedures will be developed and tested. In addition to the above, a dedicated Emergency Duty Officer will be maintained 24 hours per day who can act as the EPOM.

The staff finds that adequate shift staffing and augmentation capabilities exist and will examine the duty officer system during the preoperational inspection".

Technical Support Center (TSC)

Functional Statement

The TSC is the onsite technical support center for emergency response. When activated, the TSC is staffed by predesignated technical, engineering, senior management, and other licensee personnel, and five predesignated NRC personnel. During periods of activation, the TSC will operate uninterrupted to provide plant management and technical support to plant operations personnel, and to relieve the reactor operators of peripheral duties and communications not directly related to reactor system manipulations. The TSC will perform EOF functions for the Alert Emergency class and for the Site Area Emergency class and General Emergency class until the EOF is functional.

Recommended Requirements

The TSC will be:

1. Located within the site protected area so as to facilitate necessary interaction with control room, OSC, EOF and other personnel involved with the emergency.

2. Sufficient to accommodate and support NRC and licensee predesignated personnel, equipment and documentation in the center.

3. Structurally built in accordance with the National Uniform Building Code.

4. Environmentally controlled to provide room air temperature, humidity and cleanliness appropriate for personnel and equipment.

5. Provided with radiological protection and monitoring equipment necessary to assure that radiation exposure to any person working in the TSC would not exceed 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident.

6. Provided with reliable voice and data communications with the control room and EOF and reliable voice communciations with the OSC, NRC Operations Centers and state and local operations centers.

7. Capable of reliable data collection, storage, analysis, display and communication sufficient to determine site and regional status, determine changes in status, forecast status and take appropriate actions. The following variables shall be available in the TSC:

   (a) the variables in the appropriate Table 1 or 2 of Regulatory Guide 1.97 (Rev. 2) that are essential for performance of TSC functions; and

   (b) the meteorological variables in Regulatory Guide 1.97 (Rev. 2) for site vicinity and National Weather Service data available by voice communication for the region in which the plant is located.

Principally those data must be available that would enable evaluating incident sequence, determining mitigating actions, evaluating damages and determining plant status during recovery operations.

8. Provided with accurate, complete and current plant records (drawings, schematic diagrams, etc.) essential for evaluation of the plant under accident conditions.

9. Staffed by sufficient technical, engineering, and senior designated licensee officials to provide needed support, and be fully operational within approximately 1 hour after activation.

10. Designed taking into account good human factors engineering principles.

Response Time Survey

1 Major functional area	2 Position title or expertise	3 LILCO personnel to fill position	4 Normal commute time	5 Beeper
Notifications/ Communications	N/A	Individual 1	20 min.	no
		Individual 2	20 min.	no
		Individual 3	30 min.	no
		Individual 4	40 min.	no
		Individual 5	45 min.	no
		Individual 6	75 min.	no
Rad Accident Assessment and Support of Operational Accident Assessment	Senior Mgr.	Individual 1	30 min.	yes
		Individual 2	30 min.	yes
		Individual 3	50 min.	yes
	Senior Health Physics Expertise	Individual 1	18 min.	yes
		Individual 2	30 min.	yes
		Individual 3	5 min.	yes
	HP Technicians	Individual 1	13 min.	no
		Individual 2	15 min.	no
		Individual 3	15 min.	no
		Individual 4	15 min.	no
		Individual 5	15 min.	no

1 Major functional area	2 Position title or expertise	3 LILCO personnel to fill position	4 Normal commute time	5 Beeper
		Individual 6	20 min.	no
		Individual 7	25 min.	no
		Individual 8	35 min.	no
		Individual 9	45 min.	no
	Rad Chem Technicians	Individual 1	15 min.	no
		Individual 2	10 min.	no
		Individual 3	20 min.	no
		Individual 4	30 min.	no
		Individual 5	40 min.	no
		Individual 6	45 min.	no
		Individual 7	45 min.	no
		Individual 8	45 min.	no
		Individual 9	60 min.	no
		Individual 10	60 min.	no
		Individual 11	60 min.	no
Plant System Engineering, Repair and Corrective Actions	Core/Thermal Hydraulics	Individual 1	25 min.	yes
		Individual 2	10 min.	no
		Individual 3	15 min.	no
	Electrical	Individual 1	5 min.	yes
		Individual 2	45 min.	no

1 Major functional area	2 Position title or expertise	3 LILCO personnel to fill position	4 Normal commute time	5 Beeper
	Mechanical	Individual 1	25 min.	no
		Individual 2	8 min.	no
	Electrical and Mechanical Maintenance	Mechanics A[1]		
		Individual 1	20 min.	no
		Individual 2	20 min.	no
		Individual 3	20 min.	no
		Individual 4	25 min.	no
		Individual 5	30 min.	no
		Individual 6	30 min.	no
		Individual 7	38 min.	no
		Individual 8	40 min.	no
		Individual 9	40 min.	no
		Individual 10	40 min.	no
		Individual 11	40 min.	no
		Individual 12	45 min.	no
		Individual 13	66 min.	no
		Individual 14	75 min.	no
		Mechanics B[1]		
		Individual 1	4 min.	no
		Individual 2	7 min.	no
		Individual 3	10 min.	no
		Individual 4	15 min.	no
		Individual 5	20 min.	no

1 Major functional area	2 Position title or expertise	3 LILCO personnel to fill position	4 Normal commute time	5 Beeper
		Individual 6	20 min.	no
		Individual 7	30 min.	no
	Instrumentation and Control	Individual 1	5 min.	no
		Individual 2	8 min.	no
		Individual 3	20 min.	no
		Individual 4	20 min.	no
		Individual 5	25 min.	no
		Individual 6	25 min.	no
		Individual 7	25-30 min.	no
		Individual 8	25-30 min.	no
		Individual 9	30 min.	no
		Individual 10	40 min.	no
		Individual 11	45 min.	no
		Individual 12	45-60 min.	no
		Individual 13	60 min.	no
		Individual 14	60 min.	no
		Individual 15	65 min.	no
		Individual 16	75 min.	no
		Individual 17	90 min.	no