ENCLOSURE 1

ECD 16.1

CORPORATE EMERGENCY RESPONSE PROCEDURE

WISCONSIN PUBLIC SERVICE CORPORATION	ECD NO. 16.1	Rev. 0
ENGINEERING CONTROL DIRECTIVE	TITLE Corporate Emergency Response Procedure	
	DATE 5/14/81	PAGE 1 of 8
REVIEWED BY C R Luoma 5-14-81 /Date	APPROVED BY Carl W Giesler 5/18/81 Superintendent-Nuclear Power/Date	

1.0 Purpose

This directive describes the response of the Corporate Nuclear Engineering Staff (CNES) members to an activation of the Kewaunee Nuclear Power Plant's Radiological Emergency Response Plan (emergency plan).

2.0 Applicability

This directive applies to the members of the CNES following their notification of the activation of the emergency plan.

3.0 Definitions

3.1 Emergency Director - The Plant Manager or his designated alternate, is responsible for overall supervision of emergency activities implemented within the facility. The Emergency Director will keep the Emergency Response Manager informed of changing plant/emergency conditions.

3.2 Emergency Operations Facility (EOF) - An area in the training building, serving as the center for interaction with state and local authorities, NRC emergency response activities and a general assembly area that may be used for special press briefings.

3.3 Emergency Response Manager - The Assistant Manager, Nuclear Power or his designated alternate responsible for direction and management of all emergency activities within the EOF and provide for additional off-site resources required to respond to the emergency.

3.4 Radiation Protection Director - The Plant Services Superintendent or his designated alternate.

3.5 Kewaunee County EOC - (416 Fremont Street, Algoma, WI) Operations Center for the Kewaunee County Emergency Government organization.

4.0 Responsibilities

4.1 Emergency Response Manager

4.1.1 The Emergency Response Manager provides the overall direction of the Emergency Operations Facility (EOF) after arriving at the plant site in response to a request for headquarters staff support.

4.1.2 The Emergency Response Manager is responsible for the overall coordination of offsite support agencies and for assuring continuity of resources for long term operation of the response organization.

4.1.3 The Emergency Response Manager determines the extent of the CNES response required.

4.1.4 The Emergency Response Manager will notify appropriate off-site agencies when the emergency has been terminated.

4.1.5 The Emergency Response Manager will be immediately informed of any change of emergency classification by the Emergency Director.

5.0 Requirements

The CNES response is keyed by the level of emergency classification determined by on-site personnel. Accordingly, the following requirements are keyed to the emergency classification (Reference Kewaunee Administrative Directive 12.2 for classification criteria).

5.1 Unusual Event

The role of the Emergency Response Manager is not defined for an Unusual Event, however, contact is established with the corporate management via an information call from the Emergency Director to the management designee for the Emergency Response Manager in accordance with ACD 12.3, Unusual Event.

5.1.1 The management designee will advise the Public Information Department of the condition and assist in the preparation of a public statement.

5.1.2 The management designee will assure that the Public Service Commission is advised of the outage. (Manager, Nuclear Power makes notification).

5.2 Alert

5.2.1 The position of Emergency Response Manager is formally designated at this classification.

5.2.2 The Emergency Response Manager assures that notification requirements for an Unusual Event have been completed.

5.2.3 The Emergency Response Manager notifies the Public Information Department of the Alert condition.

5.2.4 The Emergency Response Manager notifies the Lakeshore Division Manager of the Alert condition.

5.2.5 The Emergency Response Manager initiates the request for other company resources if conditions warrant.

5.2.6 Emergency Response Manager determines the need for CNES response. This determination may be based upon plant status or requests from the plant.

5.3 Site Emergency

5.3.1 The Emergency Response Manager notifies the Public Information Department of the Site Emergency condition.

5.3.2 The Emergency Response Manager notifies the Lakeshore Division Manager of the Site Emergency condition.

5.3.3 The Emergency Response Manager will meet with the Emergency Director upon arriving at the site. This briefing may be waived if the Emergency Response Manager has been briefed prior to this arrival, if the Emergency Director is unavailable (and designates a briefing by an alternate member of the TSC staff), or if conditions prohibit face-to-face contact.

5.3.4 The Emergency Response Manager activates the Emergency Operations Facility. Prior to establishing operations from the facility, the Emergency Response Manager will contact the Radiological Protection Director to assure unlimited habitability or establish a maximum stay time. (Radiation monitoring will be established in the EOF).

5.3.5 The Emergency Response Manager will verify the actions on the EOF activation checklist (Table 1) have been performed.

5.3.6 Upon adequate staffing of the EOF, continuing contact with off-site support agencies will be transferred to the EOF.

5.3.7 The Emergency Response Manager determines the need for CNES support.

5.3.8 The Emergency Response Manager may dispatch a representative to the Kewaunee County Emergency Operations Center (EOC).

5.4 General Emergency

5.4.1 The Emergency Response Manager notifies the Public Information Department of the General Emergency condition.

5.4.2 The Emergency Response Manager notifies the Lakeshore Division Manager of the General Emergency condition.

5.4.3 The Emergency Response Manager determines the need for CNES response.

5.4.4 The Emergency Response Manager provides the overall direction of the EOF including recommendations to the state to initiate predetermined protective actions for the public.

Table 1

EOF Activation Checklist

1. Start time:

2. _____ Contact Radiation Protection Director and inform him of activation of the EOF and the need for radiation monitoring.

3. _____ Activate EOF following approval from Radiation Protection Director.

4. _____ Record EOF activation started in Log Book.

5. _____ Verify Communication capability with the Technical Support Center.

6. _____ Verify communication capability of State NAWAS Network.

7. _____ Notify necessary corporate staff and request that they report to the site. List individuals contacted.

Table 2

Emergency Response Manager Designee and Alternates

1. Assistant Manager, Nuclear Power (C. R. Luoma)
2. Manager, Nuclear Power (C. W. Giesler)
3. Nuclear Services Supervisor (K. H. Weinhauer)

Responsibilities According to Emergency Classification

Action to be taken	Unusual Event	Alert	Site Emergency	General Emergency
Notify Public Information	1	1	1	1
Assure notification of Public Service Commission of Wisconsin	1	2	2	2
Notify Lakeshore Division Manager	*	1	1	1
Notify Support Staff	← As Needed →			
Dispatch Representative to EOC (if requested)	*	*	1	2
Activate the EOF	*	*	1	2

1 - Initiate Action

2 - Verify lower event classification action performed.

* - No action necessary.

Table 3

Notification Phone List

Corporate Nuclear Engineering Staff
(alphabetically)

	Office (433-)	Pager No.
Draheim, R. E.	1313	-
Giesler, C. W.	1306	(1) 91
Luoma, C. R.	1309	(1) 92
Morrison, J. N.	1311	-
Nalepka, D. S.	1415	-
Ristau, D. J.	1325	-
Sauer, D. W.	1315	-
Schneider, D. P.	1282	-
Schrock, C. A.	1352	(1) 94
Thorgersen, J. G.	1303	-
Wallace, J. J.	1329	(1) 21
Weinhauer, K. H.	1312	(1) 93
Will, D. J.	1351	(1) 86

Mike Kiefer
Public Information Director
Office: 433-1620

Jim Derbique
Lakeshore Division Manager
Office: Internal (63) 211
Office: External 793-4561

Green Bay Transmitter: 1702 or 315

Kewaunee Transmitter: 316

* When activating Green Bay transmitter, dail 1 before pager number.

NOTE: USE PUSH BUTTON PHONE WHEN USING PAGER SYSTEM.

Table 4

SUPPORT AGENCIES - COMMERCIAL PHONE NUMBERS

NRC - Region III - Chicago Operations Office		1	(312) 932-2500
Wisconsin Division of Emergency Government		1	(608) 266-3232
East Central Area Office of Emergency Government - Fond du Lac		1	921-5365
State Police - Fond du Lac		1	921-0442
Kewaunee County (Sheriff's Department)		1	388-3100
Kewaunee County Emergency Government (EOC)		1	487-2940
Manitowoc County (Sheriff's Department)		1	684-4441
Manitowoc County Emergency Government Director		1	684-2949
Department of Energy	Day		(312) 972-4800
	Night		(312) 972-5731
Point Beach Nuclear Power Plant		1	755-2322
U.S. Coast Guard	(Day)	1	743-9448
	(Night)	1	743-3366
Medical Assistance			
Two Rivers Hospital		1	793-1178
Dr. Weld/Dr. Kaner		1	793-2281
U.W. Hospital		1	(608) 262-2398
Dr. Larson		1	(608) 263-7507
American Nuclear Insurers		1	(203) 677-7305
Westinghouse	(Day)	1	(312) 454-7255
	(Night)	1	(312) 369-9076
Fluor Power Services			
C. E. Agan, Director	(Office)	1	(312) 368-6868
T. L. Roell, Alternate	(Office)	1	(312) 368-3530
Public Service Commission of Wisconsin		1	(608) 266-3491

ENCLOSURE 2

SAFETY ASSESSMENT SYSTEM

GENERIC CONCEPTUAL DESIGN DESCRIPTION

JUNE 1, 1981

SAFETY ASSESSMENT SYSTEM

GENERIC CONCEPTUAL DESIGN DESCRIPTION

1.0 GENERAL CONSIDERATIONS

The Safety Assessment System (SAS) meets the requirements of the Safety Parameter Display System (SPDS). This report decribes that portion of the SAS which meets the SPDS requirements of NUREG-0696. It provides a centralized, flexible, computer-based data and display system to assist control room personnel in evaluating the safety status of the plant. This assistance is accomplished by providing the operators and the Emergency Response Facilities (ERF's) a high-level graphical display containing a minimum set of key plant parameters representative of the plant safety status. More detailed plant information is provided by several secondary displays. All graphical displays are presented to the control room operator on a high resolution multiple-color CRT.

All data displayed by the SAS is validated by comparing redundant sensors, checking the value against reasonable limits, calculating rates of change, and/or checking temperature versus pressure curves.

All displays of the SAS have been carefully designed by persons with plant operating experience and evaluated against human factors design criteria. The concepts used in the SAS design will be verified using data recorded from a similar power plant simulator. The intent of the SAS is to present to the control room personnel a few easily understandable displays which use color coding and pattern recognition techniques to indicate off-normal values. These displays are updated and validated on an essentially real-time basis.

The SAS will be operable during normal and abnormal plant operating conditions. The SAS will operate during all SPDS required modes of plant operation. The normal operation mode will encompass all plant conditions at or above normal operating pressure and temperature. When the reactor coolant system is intentionally cooled below normal operating values, the operator will select the Heatup-Cooldown mode which alters the limit checking algorithm for the key parameters. An additional mode may be provided to address concerns of cold shutdown plant conditions.

2.0 DISPLAY HARDWARE LOCATIONS AND OPERATION

The SPDS portion of the SAS may be implemented on a single CRT located in a central location of the control room visible to the control room operator and the Senior Reactor Operator. This CRT contains the high-level display from which the overall safety status of the plant may be assessed. A dedicated function button panel allows operator selection of several predetermined second level (trend) displays at any time.

The SAS has been designed such that control room personnel can utilize its features without requiring additional operations personnel.

The SAS displays may be provided to other ERF's such as the Technical Support Center and Emergency Operations Facility.

3.0 DISPLAY CONTENTS

The primary display consists of bar graphs of selected parameter values, digital status indicators for important safety system parameters and digital values. The parameters indicated by bar graphs and digital values include: RCS pressure, RCS temperature, pressurizer level, steam generator

levels and steam generator pressures. Status indicators are provided for containment environment and secondary system radiation. Reactor vessel level (if available), core exit temperature, amount of subcooling and containment radiation are indicated by digital values.

In addition, there is a message area which will be used to indicate that an appropriate secondary display provides further information in case an off-normal value is detected or an event is occurring.

Each of the bar graphs indicates wide-range values. If a parameter's value is outside the normal range, the bar color will turn red. Arrows next to the bar will indicate the trend direction (increasing or decreasing) based on data smoothing algorithms.

During normal operation, the message area will be used to display average power, reactor core average temperature, date, time, and unit name. These messages may be displaced by higher priority messages as required.

Secondary displays may be selected by the operator. Trend graph groups of selected parameters, showing the last thirty minutes of plant operation are available. These trend groupings were chosen to keep like parameters or related parameters on one display "page".

4.0 HUMAN FACTORS CONSIDERATIONS

Human factors engineering and industrial design techniques have been effectively combined to establish man-machine interface design requirements, maximize system effectiveness, reduce training and skill demands, and minimize operator error.

The CRT color graphic formats and functional keyboard designs have been developed through an interdisciplinary team of senior operational, human factors, industrial design and computer interface personnel.

Minimum use of color combined with simplified format throughout the CRT presentation have key design features to provide both normal and off-normal pattern recognition. The operator, who is the end user, has been directly involved from the conception to insure that man-machine interface goals of SAS have been satisfied. Human factor engineering standards and testing verification have been used which are consistent with accepted practices.

5.0 VALIDATION AND VERIFICATION

The SAS is implemented on a digital computer system which includes a peripheral display generator computer for color graphic displays. The software that controls the sensor data validation, key parameter construction, and display formats has been developed under strict verification and validation procedures. The original development of the SAS software began with a functional specification that was developed over a period of 18 months by a technical committee comprised of members from a number of utilities and consultants. These functional specifications are transformed into a design specification. Reviews of the design specification will assure conformance of the SPDS portion of the SAS to those functions discussed in NUREG-0696. The basis for selection of the primary display parameters will be a part of the final project documentation.

During the course of software development, a set of static test cases will be developed which test the key features of each software module. Further-

more, static system test cases will be developed and used to verify the correct operability of the total system. A set of dynamic test cases will be generated by recording nuclear plant simulator data on magnetic tape from a number of different plant transients which test the dynamic behavior of the system under "real" conditions. A design review that compares these test results to the original functional and design specifications will be performed. A selected number of the static test cases will be "frozen" such that they could be used to verify future changes to the software. In summary, verification and validation was addressed and designed into the SAS software from the beginning to provide a highly reliable product and a mechanism for identifying and controlling future changes.