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CRUTCHFIELD,D. Operating Reactors Branch 5

SUBJECT: Forwards functional description of upgraded meteorological measurements & analysis program & schedule for implementation,per NUREG-0737,Item III.A.2 & NUREG-0654, Revision 1,App. 2.

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TITLE: Response to NUREG-0737/NUREG-0660 TMI Action Plan Rqmts (OL's)

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JOHN E. MAIER
VICE PRESIDENT

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July 1, 1981

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield
Operating Reactors Branch No. 5
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUREG 0737 Item III.A.2
Emergency Preparedness
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

NUREG 0737, Item III.A.2, requires that a functional description of upgraded meteorological measurements and analysis programs and a schedule of implementation be provided by July 1, 1981. The attachment to this letter provides the required information. The attachment addresses the meteorological measurements systems, atmospheric transport and diffusion assessment, and remote interrogation capability. It is our understanding based on discussions with the NRC emergency planning staff that these three functions correspond to the four elements referred to in Item III.A.2.

In discussion with the NRC emergency planning staff, we were informed that both the technical requirements and the schedule requirements may be revised to provide consistency with other regulatory positions, such as those provided in NUREG-0696. We encourage the NRC to expeditiously issue any revisions so that our resources are not needlessly expended.

Very truly yours,

John E. Maier

J. E. Maier

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Attachment 1

Rochester Gas and Electric Corporation

Response To

NUREG-0737, Item III.A.2,
Improving Licensee Emergency Preparedness

and

NUREG-0654, Revision 1, Appendix 2,
Meteorological Criteria for Emergency
Preparedness at Operating Nuclear
Power Plants

Date: 7/1/81

RG&E Response to NUREG-0737, Item III.A.2
and NUREG-0654, Appendix 2, Annex 1

NRC Position

Implementation

Schedule for Operating Reactors -- For operating reactors the following implementation milestones shall be met to address the four basic elements of the introduction to Appendix 2 to NUREG-0654.

Milestones are numbered and tagged with the following code; a-date, b-activity, c-minimum acceptance criteria. They are as follows:

(1) a. January 2, 1981

b. Submittal of radiological emergency response plans

c. A description of the plan to include elements of NUREG-0654, Revision 1, Appendix 2

(2) a. March 1, 1981

b. Submittal of implementing procedures

c. Methods, systems, and equipment to assess and monitor actual or potential offsite consequences of a radiological emergency condition shall be provided

(3) a. April 1, 1981

b. Implementation of radiological emergency response plans

c. Four elements of Appendix 2 to NUREG-0654 with the exception of the Class B model of element 3, or

Alternative to item (3) requiring compensating actions:

A meteorological measurements program which is consistent with the existing technical specifications as the baseline or an element 1 program and/or element 2 system of Appendix 2 to NUREG-0654, or two independent element 2 systems shall provide the basic meteorological parameters (wind direction and speed and an indicator of atmospheric stability) on display in the control room. An operable dose calculational methodology (DCM) shall be in use in the control room and at appropriate emergency response facilities.

The following compensating actions shall be taken by the licensee for this alternative:

(i) if only element 1 or element 2 is in use:

- The licensee (the person who will be responsible for making offsite dose projections) shall check communications with the cognizant National Weather Service (NWS) first order station and NWS forecasting station on a monthly basis to ensure that routine meteorological observations and forecasts can be accessed.

- The licensee shall calibrate the meteorological measurements program at a frequency no less than quarterly and identify a readily available source of meteorological data (characteristic of site conditions) to which they can gain access during calibration periods.

- During conditions of measurements system unavailability, an alternate source of meteorological data which is characteristic of site conditions shall be identified to which the licensee can gain access.

- The licensee shall maintain a site inspection schedule for evaluation of the meteorological measurements program at a frequency no less than weekly.

- It shall be a reportable occurrence if the meteorological data unavailability exceeds the goals outlined in Proposed Revision 1 to Regulatory Guide 1.23 on a quarterly basis.

(ii) The portion of the DCM relating to the transport and diffusion of gaseous effluents shall be consistent with the characteristics of the Class A model outlined in element 3 of Appendix 2 to NUREG-0654.

(iii) Direct telephone access to the individual responsible for making offsite dose projections (Appendix E to 10 CFR Part 50(IV)(A)(4)) shall be available to the NRC in the event of a radiological emergency. Procedures for establishing contact and identification of contact individuals shall be provided as part of the implementing procedures.

This alternative shall not be exercised after July 1, 1982. Further, by July 1, 1981, a functional description of the upgraded programs (four elements) and schedule for installation and full operational capability shall be provided (see milestones 4 and 5.)

RG&E Response

1. Introduction

Our letter of April 28, 1981 provided a description of actions taken for upgrading the Ginna meteorological program in response to the April 1, 1981 implementation requirements of NUREG-0737 and NUREG-0654, Revision 1. Contained in the April 28 submittal were descriptions of existing meteorological and offsite dose assessment capability, access to National Weather Service data, intended tower calibration and meteorological system inspection frequencies, weather data availability and proposed upgrading of meteorological assessment capabilities. It was indicated at that time that a more detailed description of the upgraded meteorological program would be provided by July 1, 1981. These additional details are provided as follows:

Meteorological System Functional Description

(a) Meteorological Instrumentation: All meteorological sensors, with the exception of the precipitation measuring system are mounted on a 250-ft. primary weather tower located on the Ginna Plant site. Wind speed, wind direction and temperature are measured at the 33,150 and 250-ft. levels. Dew point will be measured at the 33-ft. elevation. Precipitation will be measured by a rainfall bucket atop an aluminum building described below. The final number and elevation placement of wind speed, wind direction, dew point, precipitation and temperature sensors for the primary Ginna weather tower are shown on Figure 1. Figure 2 describes the placement of 33-ft. wind speed and direction sensors on the back-up Ginna weather tower located at Substation 13A, approximately 2900 feet due south of the primary weather tower.

(b) Instrumentation Read-out and Recorders: Strip chart recorders for dewpoint, temperature, precipitation, wind speed and wind direction from the primary tower will be housed in a 10 ft x 24 ft environmentally controlled aluminum building located approximately 500 feet south of the primary tower.

The Control Room currently records the upper level (250 ft.) wind speed and direction sensor readings from the primary tower on its Radiation Monitoring System Panel. Ambient temperatures at the three tower levels are also currently indicated in the Control Room by digital display. Wind direction, wind speed and temperatures from the three tower elevations are also registered on the Ginna plant computer. It is

our intention to change the wind speed and direction indication to the lower (33 ft.) level in the Control Room and to modify the digital display to indicate delta temperature as well as ambient.

The additional weather instrumentation at Substation 13A is provided with a local readout of wind speed and direction on a strip chart recorder inside the adjacent substation building. Ginna Station Procedures SC-1.3A and SC-1.13 address requirements and instructions for accessing the Substation 13A weather data and communicating readings to the Emergency Survey Center or Control Room. Readings can be verbally transmitted by intercom, radio or telephone.

(c) Power Sources: Electrical power to the primary weather tower and associated meteorologial instrumentation and data collection equipment is supplied from the No. 238 power line running along Lake Road. Power to the Substation 13A meteorological measurements system is fed from the house service line into Substation 13A. Thus, both measurement systems are fed from separate electrical power sources.

In the event of loss in availability of the house service line, the No. 238 Lake Road line serves as a back-up power source to Substation 13A. A back-up power source will be provided for the primary meteorological system.

(d) Meteorological Assessment Computer Hardware: Figure 3 shows the near-term upgraded configuration to be installed for data acquisition and remote interrogation of the Ginna primary weather tower. Data will be collected and stored on a minicomputer to be housed in the environmentally-controlled onsite aluminum weather building described in item (b) above. Meteorological data will be transmitted at approximate 4-hour intervals, or more frequently if needed, by telephone link to an offsite computer facility currently expected to be Digital Graphics, Inc. (DGI) Rockville, Maryland. Site data will then be used to generate atmospheric dispersion values at DGI using the MIDAS software packages for routine and accident purposes. Computed dispersion values can then be accessed by terminal at Ginna for radiological dose assessment. In the event of interrupted data transmission between Ginna and DGI, paper tape provides back-up data storage capability.

This interim configuration, using a minicomputer for site data collection is intended to provide automated data collection and remote interrogation capability

in a timely manner, and to provide RG&E with system operating experience in advance of the July 1, 1982 final implementation date.

Figure 4 depicts the final configuration planned for the July 1, 1982 implementation date. This arrangement will utilize a remote serial link A/D to the Ginna computer instead of the minicomputer. The Ginna computer will therefore serve for data acquisition and remote interrogation of 10-second, 15-minute and hourly meteorological values. Back-up storage capability for raw weather data can be provided by an offsite computer facility such as the DGI computing facility or by networking the Ginna computer with a compatible computer at RG&E corporate headquarters. Similarly, the MIDAS meteorological and dose calculational routines will be able to be run at DGI or at RG&E.

(e) System Software: As previously described, RG&E will use the MIDAS software package containing routines for data averaging, and for calculation of atmospheric dispersion and offsite radiological exposure estimates on a real-time basis. The system will provide real-time estimates utilizing a Class A and Class B (or extended Class A) model as described in NUREG-0737 and NUREG-0654, Revision 1.

(f) Distribution of Meteorological Information: Meteorological information will be provided as shown on Figures 3 and 4.

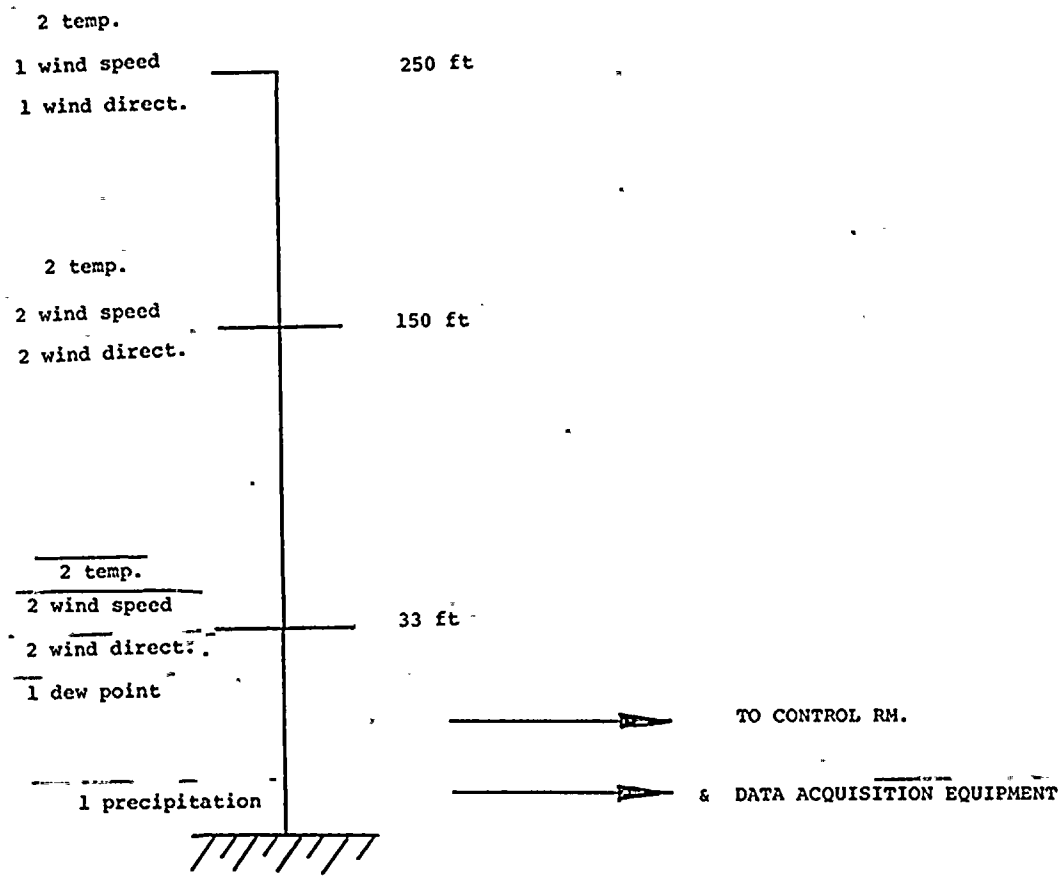
(g) Schedule

Modifications will be implemented in accordance with NRC schedule requirements. The NRC emergency planning staff has indicated that both the technical and schedule requirements of NUREG-0737 and NUREG-0654, Rev. 1, may be revised to provide consistency with other regulatory positions.

FIGURE 1

PROPOSED SENSOR PLACEMENT

GINNA PRIMARY WEATHER TOWER



PRIMARY TOWER

FIGURE 2

WIND SENSOR PLACEMENT

SUBSTATION 13A WEATHER TOWER

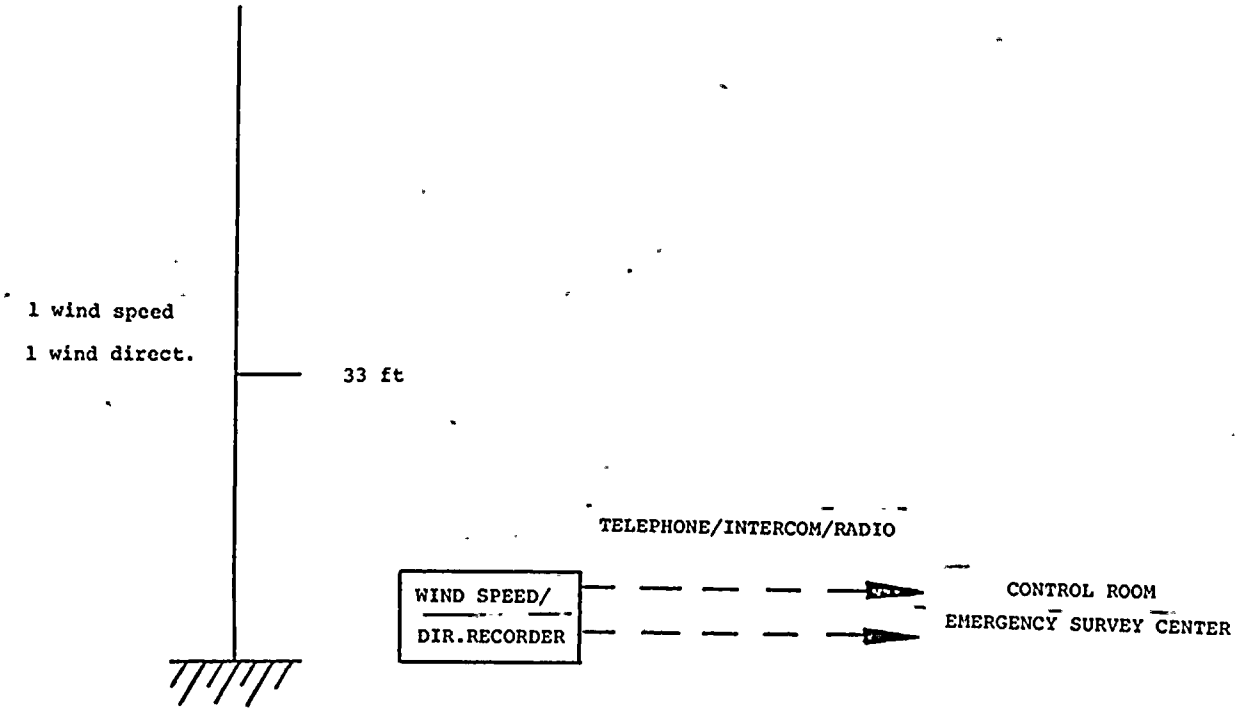


FIGURE 3

PROPOSED NEAR-TERM METEOROLOGICAL SYSTEM CONFIGURATION

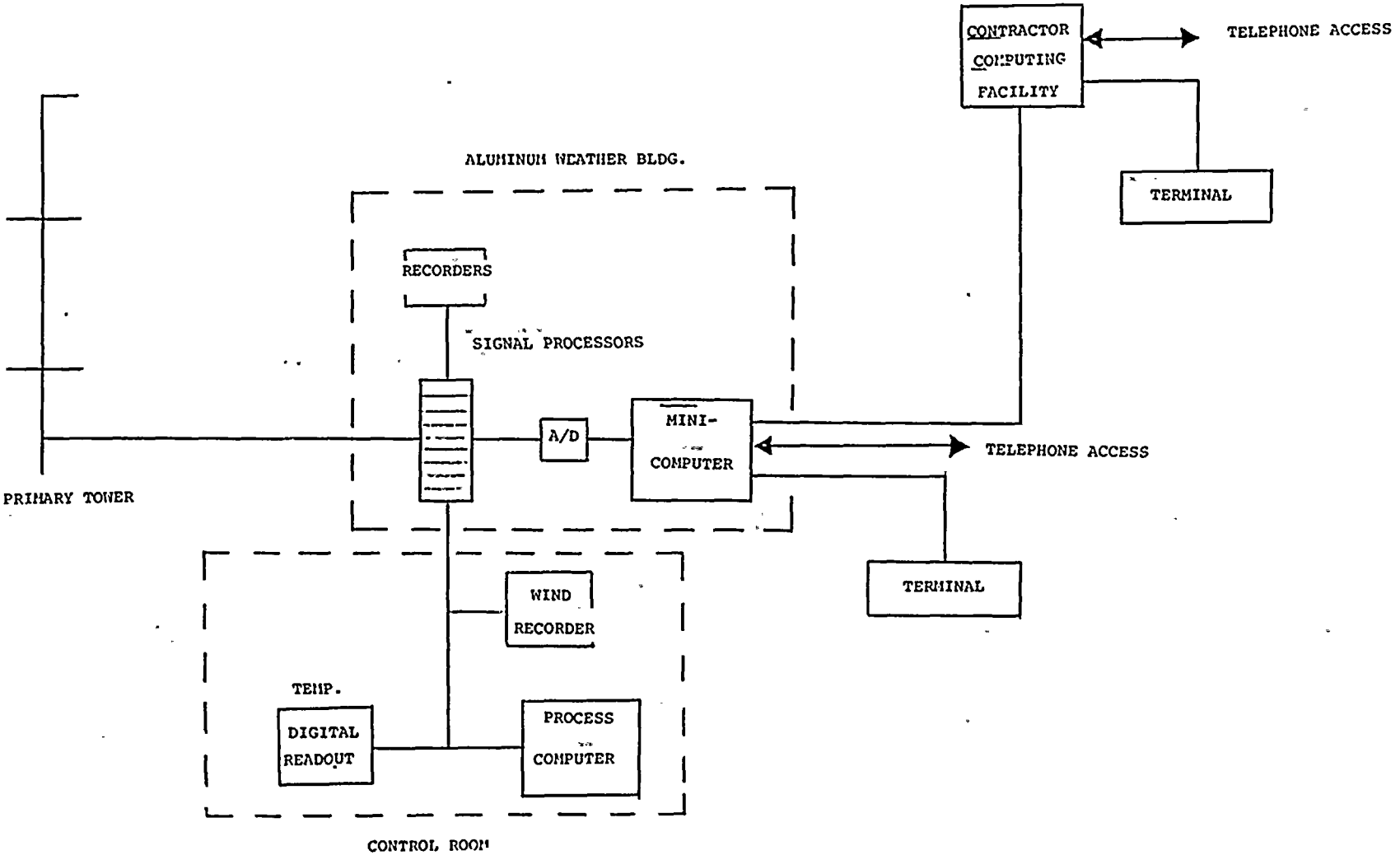


FIGURE 4

PROPOSED LONG-TERM METEOROLOGICAL SYSTEM CONFIGURATION