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

April 12, 1989

TO: ALL LICENSEES OF OPERATING PLANTS, APPLICANTS FOR OPERATING LICENSES, AND HOLDERS OF CONSTRUCTION PERMITS

SUBJECT: TASK ACTION PLAN ITEM I.D.2 - SAFETY PARAMETER DISPLAY SYSTEM - 10 CFR §50.54(f) - (GENERIC LETTER NO. 89-06)

On October 31, 1980, the NRC staff issued NUREG-0737 which provided guidance for implementing Three Mile Island (TMI) action items. On December 17, 1982, Generic Letter No. 82-33 transmitted Supplement 1 to NUREG-0737 to all licensees and applicants to clarify the TMI action items related to Emergency Response Capability, including item I.D.2, Safety Parameter Display System. Supplement 1 extracted the fundamental requirements for emergency response capability from the wide range of regulatory documents issued on the subject. It was written at the conceptual level to allow for a high degree of flexibility in scheduling and design. In recognition of the interrelationships among the action items addressed in Supplement 1, the staff made allowance for each licensee to negotiate a reasonable, achievable schedule for implementing its emergency response capability. However, the staff stated that because the SPDS can provide an important contribution to plant safety, it should be implemented promptly.

The staff evaluated licensee/applicant implementation of the safety parameter display system (SPDS) requirements at 57 units and found that a large percentage of designs do not fulfill the requirements identified in Supplement 1 to NUREG-0737. Enclosed with this letter is NUREG-1342 which provides to all licensees, applicants, and construction permit holders the benefit of the staff's experience to aid them in implementing SPDS requirements. NUREG-1342 describes methods used by some licensees/applicants to implement SPDS requirements in a manner found acceptable by the staff. NUREG-1342 also documents design features that the staff found unacceptable and gives the staff's reasons for finding them unacceptable. The information in NUREG-1342 does not constitute new requirements. Supplement 1 to NUREG-0737 establishes the legal requirements for SPDS. These requirements can be met with a relatively simple SPDS as well as with a more elaborate system.

Also enclosed is a checklist concerning SPDS implementation. The purpose of the checklist is to provide licensees with a guide to assist them in determining the status of their SPDS with respect to NRC requirements.

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The checklist, when completed and used in conjunction with NUREG-1342 and photographs of the SPDS layout, will provide licensees with comprehensive information that will facilitate establishing the implementation status of their SPDS. Accordingly, pursuant to 10 CFR 50.54(f), operating reactor licensees and holders of construction permits are requested to furnish within 90 days of the date of this letter, one of the following:

1. Certification that the SPDS fully meets the requirements of NUREG-0737, Supplement 1, taking into account the information provided in NUREG-1342. Licensees should maintain supporting documentation for three years, including the completed checklist and photographs used to establish SPDS implementation status.

2. Certification that the SPDS will be modified to fully meet the requirements of NUREG-0737, Supplement 1, taking into account the information provided in NUREG-1342. The implementation schedule for the modifications shall be provided. Licensees should maintain supporting documentation for three years, including the completed checklist and photographs used to establish SPDS implementation status.

3. If a certification cannot be provided, the licensee shall provide a discussion of the reasons for that finding and a discussion of the compensatory action the licensee intends to take or has taken.

Staff review has verified that the following nuclear units have a fully satisfactory SPDS: Catawba 1 and 2, Clinton, Hatch 1 and 2, McGuire 1 and 2, Millstone 3, River Bend, Susquehanna 1 and 2, and Yankee Rowe. No response is required for these units. Because of the very recent full power license reviews conducted for these units, South Texas Project 2 and Vogtle 2 will not be required to respond to this generic letter. Big Rock Point will not be required to respond to this generic letter because of the staff's ongoing review of their proposal for SPDS.

This request is covered by Office of Management and Budget Clearance Number 3150-0011 which expires December 31, 1989. The estimated average burden hours is 25 person hours per owner response, including searching data sources, gathering and analyzing the data, and preparing the required letters. These estimated average burden hours pertain only to these identified response-related matters and do not include the time for actual implementation of the requested actions. Comments on the accuracy of this estimate and suggestions to reduce the burden may be directed to the Paperwork Reduction Project (3150-0011), Office of Management and Budget, Washington, D.C. 20503, and to the U.S. Nuclear Regulatory Commission, Records and Reports Management Branch, Division of Information Support Sources, Office of Information Resources Management, Washington, D.C. 20555.

If you have any questions about this matter, please contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-1105.

Sincerely,

James G. Partlow
Associate Director for Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. NUREG-1342 - A Status Report Regarding Industry Implementation of Safety Parameter Display System
2. Licensee Checklist for Safety Parameter Display System Status
3. Listing of Recently Issued Generic Letters

Distribution:
Central Files
HFAB RF
TEMurley, NRR (NUREG-1342 will be sent out by Publications)
CERossi, NRR Enclosure 1
JHSniezek
CHBerlinger, NRR
FMiraglia, NRR
JRoe, NRR
FGillespie, NRR
JZwolinski, NRR
JConran, AEOD
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WMinners, RES
GBurdick, RES
FKoffman, RES

ENCLOSURE 2

LICENSEE CHECKLIST
FOR
SAFETY PARAMETER DISPLAY SYSTEM
STATUS

PURPOSE

The purpose of this checklist is to provide all licensees with a guide that will facilitate a comprehensive and consistent means for determining status of their safety parameter display system (SPDS) implementation.

ORGANIZATION AND FORMAT INSTRUCTIONS

Each licensee should maintain supporting documentation including the completed checklist and any photographs used to determine safety parameter display system implementation status. Recommended photography instructions are on the next page. With regard to format, each licensee should use the enclosed checklist to document the SPDS implementation information. If more space is needed, simply add pages to the applicable checklist section. For multi-unit plants, if the SPDS' are <u>not</u> identical in design, implementation and/or location across units, all differences should then be reflected appropriately in the checklist. If you have any questions about this checklist contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-1105.

PHOTOGRAPHY INSTRUCTIONS

Photographs, should be taken in the actual control room include the following:

a. Control room overview depicting the SPDS workspaces.

b. All parts of the SPDS and their workspace locations.

c. All individual SPDS display pages taken during power operations.

d. The SPDS keyboard.

e. Any hard-wired displays that are part of the SPDS.

Simulator photographs are not recommended. A record of plant conditions at the time the photograph is taken should be maintained. At least one of the photographs should be taken from the location where the primary user of SPDS would most likely be stationed during a transient. For a multi-unit plant with differences in SPDS design, implementation and/or location, photographs should reflect the differences. If modifications or changes to the SPDS are planned, current photographs are acceptable but should be noted to indicate that changes are planned. It is not necessary to provide details of the planned changes on the photographs.

The photographs should be in color, 8"x10" in size, and labeled to include a description of the display. Photographs should have sufficient resolution to ensure that CRT and hard-wired displays are readable. In addition, the photographs of the CRT display pages should be sufficiently detailed to allow identification of all of the selected parameters.

SPDS CHECKLIST

This checklist is intended to aid licensees in determining the status of their SPDS. Bracketed, [ ], information refers to the section in NUREG-1342 where discussions on the specific question(s) may be found.

1.0 GENERAL DESCRIPTION

1.1 Plant Name:_____

1.2 Who/What organization developed the original version of the SPDS software implemented at your site?

___ Utility (in-house)

___ Utility Owner's Group; which? _____

___ Contractor; which? _____

___ Other; who? _____

1.3 If the SPDS software has undergone significant modification (i.e., more than 25 percent of software replaced or modified) since original implementation, list the organization performing the modification:

___ Utility (in-house)

___ Utility Owner's Group _____

___ Contractor _____

___ Other _____

1.4 What is the hardware host on which the current SPDS software is implemented?

___ Westinghouse P250

___ Westinghouse P250U

___ Gould/SEL, Model Number _____

___ Digital (DEC), Model Number _____

___ IBM, Model Number _____

___ MODCOMP, Model Number _____

___ Babcock & Wilcox (Recall)

___ Honeywell, Model Number _____

___ Burroughs, Model Number _____

___ Other: Manufacturer, Model _____

_____

1.5 How many total CPUs are accessible by SPDS software on the computer system described in the previous question? _____

1.6 What is the approximate MIPS rating of all the CPUs counted above?

_____ MIPS NOTE: Use a decimal fraction if less than 1.0

If SPDS does not run on a single computer system, provide the following information for the minority parameter set provided by a second computer system. For example, a frequent occurrence of this case is where a separate but adjacent computer terminal provides radiological parameters.

1.7 Manufacturer _____

1.8 Model Number _____

1.9 List parameters provided: _____
(on the second system) _____
_____
_____
_____
_____

1.10 Are significant changes in hardware or software planned in the next two years? ___YES ___NO.

If YES, briefly describe planned changes
and list a schedule of major milestones.

_____
_____
_____
_____
_____
_____

2.0 PARAMETER SELECTION

This section is divided into two parts: the safety functions, and the parameters used to depict each safety function.

2.1 Plant-Specific Safety Functions [III.F.]

List the title of the plant-specific safety function(s) displayed on your SPDS that is (are) equivalent to the safety function in Supplement 1 to NUREG-0737.

Supplement 1 To NUREG-0737 Safety Functions		Plant-Specific Safety Functions
2.1.1.	Reactivity Control	
2.1.2	Core Cooling and Heat Removal	
2.1.3.	RCS Integrity	
2.1.4.	Radioactivity Control	
2.1.5.	Containment Conditions	

2.2 Parameters Selected to Display Each Safety Function

The purpose of this section is to specify a list of parameters used to depict each of the five safety functions identifed in Supplement 1 to NUREG-0737. Lists of parameters that have been found acceptable to NRC through previous SPDS post-implementation reviews have been provided. One list of parameters applies to pressurized water reactors in general, and the other list applies to boiling water reactors.

NOTE: Check any parameters that have been selected as an SPDS parameter. List any additional parameters under the relevant "Others" category. Include additional safety functions and parameters that are a part of your SPDS.

PRESSURIZED WATER REACTOR SPDS PARAMETER SELECTION CHECKLIST [III.F.1]

Supplement 1 To NUREG-0737 Safety Functions	Parameters
2.2.1 Reactivity Control	Neutron Flux ___ Source Range ___ Intermediate Range ___ Power Range ___ Other: (List) _____ _____
2.2.2 Reactor Core Cooling and Heat Removal from the Primary System	___ RCS Level ___ Subcooling Margin ___ Hot Leg Temperature ___ Cold Leg Temperature ___ Core Exit Thermocouples ___ Steam Generator Level ___ Steam Generator Pressure ___ RHR Flow ___ Other: (List) _____ _____

2.2.3 RCS Integrity

___ RCS Pressure
___ Cold Leg Temperature
___ Containment Sump Level
___ Steam Generator (Pressure, Level, Radiation)
___ Other: (List) _____
_____

2.2.4 Radioactivity Control

___ Stack Monitor
___ Steamline Radiation
___ Containment Radiation
___ Other: (List) _____
_____

2.2.5 Containment Conditions

___ Containment Pressure
___ Containment Isolation
___ Containment Hydrogen Concentration
___ Other: (List) _____
_____

2.2.6 Other Safety Functions

___ Yes ___No
If yes, list functions and parameters.

_____
_____
_____
_____
_____
_____

BOILING WATER REACTOR SPDS PARAMETER SELECTION CHECKLIST [III.F.2]

Supplement 1 To NUREG-0737 Safety Functions	Parameters
2.2.6 Reactivity Control	___ APRM ___ SRM ___ Other: (List) _____
2.2.7 Reactor Core Cooling and Removal	___ RPV Water Level ___ Drywell Temperature ___ Other: (List) _____
2.2.8 Pressure Vessel Integrity	___ RPV Pressure ___ Other: (List) _____
2.2.9 Radioactivity Control	___ Main Stack or Offgas (Pretreatment) Monitor ___ Containment Radiation Monitor ___ Other: (List) _____
2.2.10 Containment Integrity	___ Drywell Pressure ___ Drywell Temperature ___ Suppression Pool Temperature ___ Suppression Pool Level ___ Containment Isolation Valve Status ___ Drywell Hydrogen Concentration ___ Drywell Oxygen Concentration ___ Other: (List) _____

2.2.11 Other Safety Functions ___ Yes ___ No

If yes, list functions and parameters.

_____

_____

_____

_____

_____

2.3 Detailed Parameter Questions [III.F.1.e and III.F.2.e]

2.3.1 Are containment isolation demand signals input to SPDS (e.g., PWR - Phase A/B Isolation Demand Signal or BWR - Group Isolation Demand Signals)?

___ YES ___ NO

2.3.2 Does the SPDS use actual containment isolation valve position as an input to monitor successful isolation? ___ YES ___ NO

3.0 DISPLAY OF SAFETY FUNCTIONS [III.F.]

3.1 Does the SPDS provide the status of all five safety functions on one display page? ___ YES ___ NO

3.2 Are the individual parameters that support the safety functions grouped by safety function? ___ YES ___ NO

3.3 Is the status of all five safety functions <u>always</u> displayed on the SPDS? [III.B.2] ___ YES ___ NO

4.0 RELIABLE DISPLAY [III.A.3 except as noted]

4.1 Is the SPDS hosted on the same computer system as the plant process computer? ___ YES ___ NO

If NO, does the SPDS computer receive some of the computer point inputs from the process computer? ___ YES ___ NO

4.2 List location of accessible (e.g., keyboards) devices capable of changing SPDS data. [III.A.3.a]

_____

_____

_____

_____

_____

4.3 Are SPDS hardware availability data documented? ___ YES ___ NO

IF YES, what is the documented percent availability of the SPDS hardware over the past 12 months? NOTE: Availability should be based on power operation, startup, hot standby, and hot shutdown only and not include other plant modes. _____% Available

4.4 Are the SPDS computer points included in routine instrument loop surveillances? [III.A.3.a] ___ YES ___ NO.

4.5 What percentage of software verification and validation has been completed?

___ 100%
___ Approximately half
___ Planned in the future
___ Other, describe _____

4.6 Have changes to the SPDS host computer and software been maintained under a formal Software/Hardware Change Request (or equivalent) system? Check all that apply below:

___ Yes; For how long? _____ years
___ No
___ Have plans to in the future

4.7 How frequently does the SPDS display invalid or erroneous information? [III.A.3.a]

___ frequent (above 5 percent)
___ infrequent (1-5 percent)
___ rare (less than 1 percent of the time)

4.8 How frequently have any of the critical safety functions been in a false alarm condition? [III.A.3.a]

___ frequent (above 5 percent)
___ infrequent (1-5 percent)
___ rare (less than 1 percent of the time)

4.9 Does the SPDS display valid parameter information during adverse containment conditions? ____ YES ____ NO

5.0 HUMAN FACTORS [III.E except as noted]

Human factors in the context of SPDS design includes the usefulness of the technical information displayed on the screen to users and their performance during emergency operations. Human factors also includes display design techniques, such as labeling, display layout, and control/display integration.

This section provides a sample of the kinds of questions to be asked to help determine the degree to which the SPDS design incorporates accepted human factors principles.

5.1 Who is the prime user of the SPDS? [III.B.1]

___ Shift Supervisor
___ Shift Technical Advisor
___ Board Operators
___ Other (specify)_____

5.2 Are all SPDS controls located at the SPDS workstation? ___ YES ___ NO [III.B.1]

If NO, where are the controls located? _____

_____

5.3 Is all SPDS-related information physically displayed such that the information can clearly be read from the SPDS user's typical position? [III.A.1 and III.B.1]

___ YES ___ NO

If NO, what specific information is available at other locations?

_____

_____

5.4 How are SPDS displays accessed? [III.A.2]

_____ Continuous display, no interaction possible.
_____ Keyboard, one or two keystroke function key.
_____ Keyboard, greater than 2 keystrokes.
_____ Touchscreen.
_____ Cursor/menu (mouse, joystick, up/down key).

5.5 Does the SPDS consistently respond to user commands in less than 10 seconds? [III.A.2]

___ YES ___ NO

If NO, is feedback provided to the user regarding delays in response?

___ YES ___ NO

5.6 Does the SPDS sampling rate for parameters match the display update rate for those parameters? [III.A.2]

____ YES ____ NO

If NO, what specific parameters do not match?

_____

_____

_____

5.7 Are all parameter units of measure displayed on the SPDS consistent with the units of measure included in the emergency operating procedures?

____ YES ___ NO

5.8 Are all parameter labels and abbreviations consistent with the labels and abbreviations included in the emergency operating procedures?

___ YES ___ NO

5.9 Is any of the displayed information in a form that requires transformation or calculation?

___ YES ___ NO

IF YES, what types of transformations or calculations are necessary?

_____

_____

_____

5.10 Are the high-and low-level setpoints consistent with hard-wired parameter instrumentation and reactor protection system setpoints?

___ YES ___ NO

5.11 Does SPDS display high-and low-level setpoints?

___ YES ___ NO

5.12 Are the SPDS calculated values such as subcooling margin, consistent with calculated values on the plant process computer?

___ YES ___ NO

5.13 Are all parameter units of measure displayed on SPDS consistent with the hard wired instrumentation?

___ YES ___ NO

5.14 Are all parameter labels and abbreviations consistent with hard-wired instrument labels and abbreviations?

___ YES ___ NO

5.15 Were the technical basis for software specifications verified with plant-specific data (for example, heat-up and cool-down limits, variable steam generator setpoints and high and low level alarm setpoints)?

___ YES ___NO

5.16 List LERs written as a result of SPDS software problems.

_____

_____

6.0 TRAINING [III.C.2 all questions]

6.1 Does simulator training include training in the use of the SPDS?

___ YES ___ NO

6.2 How long is formal classroom training for SPDS users?

___ No formal classroom training
___ Less than 2 hours
___ 2-4 hours
___ More than 4 hours

6.3 Is there periodic requalification training for SPDS? ___ YES ___ NO

If YES, how often? _____

6.4 When are SPDS users given training regarding the relationship of the parameters to the plant safety functions? Check all that apply below:

_____ Not trained
_____ On the job or required reading
_____ During requalification training
_____ During an initial SPDS training program

7.0 ELECTRICAL ISOLATION [III.C.1 all questions]

7.1 What isolation devices are currently used?

_____
_____
_____

7.2 Are these devices the same ones that were originally installed and approved by NRC? ___ YES ___ NO

ENCLOSURE 3

LIST OF RECENTLY ISSUED GENERIC LETTERS

Generic Letter No.	Subject	Date of Issuance	Issued To
89-06	TASK ACTION PLAN ITEM I.D.2 - SAFETY PARAMETER DISPLAY SYSTEM - 10 CFR §50.54(f)	4/12/89	LICENSEES OF ALL POWER REACTORS, BWRS, PWRS, HTGR, AND NSSS VENDORS IN ADDITION TO GENERAL CODES APPLICABLE TO GENERIC LETTERS
89-05	PILOT TESTING OF THE FUNDAMENTALS EXAMINATION	4/4/89	LICENSSES OF ALL POWER REACTORS AND APPLICANTS FOR A REACTOR OPERATOR'S LICENSE UNDER 10 CFR PART 55
89-04	GUIDANCE ON DEVELOPING ACCEPTABLE INSERVICE TESTING PROGRAMS	4/3/89	ALL HOLDERS OF LIGHT WATER REACTOR OPERATING LICENSES AND CONSTRUCTION PERMITS
89-03	OPERATOR LICENSING NATIONAL EXAMINATION SCHEDULE	3/24/89	ALL POWER REACTOR LICENSEES AND APPLICANTS FOR AN OPERATING LICENSE
89-02	ACTIONS TO IMPROVE THE DETECTION OF COUNTERFEIT AND FRAUDULENTLY MARKETED PRODUCTS	3/21/89	ALL HOLDERS OF OPERATING LICENSES AND CONSTRUCTION PERMITS FOR NUCLEAR POWER REACTORS
89-01	IMPLEMENTATION OF PROGRAMMATIC CONTROLS FOR RADIOLOGICAL EFFLUENT TECHNICAL SPECIFICATIONS IN THE ADMINISTRATIVE CONTROLS SECTION OF THE TECHNICAL SPECIFICATIONS AND THE RELOCATION OF PROCEDURAL DETAILS OF RETS TO THE OFFSITE DOSE CALCULATION MANUAL OR TO THE PROCESS CONTROL PROGRAM.	1/31/89	ALL LICENSEES HOLDING OPERATING LICENSES AND CONSTRUCTION PERMITS FOR NUCLEAR POWER REACTOR FACILITIES.
88-20	INDIVIDUAL PLANT EXAMINATION FOR SEVERE ACCIDENT VULNERABILITIES - 10 CFR 50.54(f)	11/23/88	ALL LICENSEES HOLDING OPERATING LICENSES AND CONSTRUCTION PERMITS FOR NUCLEAR POWER REACTOR FACILITIES

If you have any questions about this matter, please contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-1105.

Sincerely,

/s/James G. Partlow

James G. Partlow
Associate Director for Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. NUREG-1342 - A Status Report Regarding Industry Implementation of Safety Parameter Display System
2. Licensee Checklist for Safety Parameter Display System Status
3. Listing of Recently Issued Generic Letters

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JHSniezek	RCorreia, NRR
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JRoe, NRR	DCrutchfield, NRR
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JZwolinski, NRR	BSheron, RES
JConran, AEOD	WMinners, RES
STreby, OGC	GBurdick, RES
KCyr, OGC	FCoffman, RES
JGPartlow, NRR	JRHall, NRR

LETTER - NUREG/1
*See previous concurrence

OFC	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*D:DLPQ	:*NRR:DOEA
NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
DATE	:01/09/89	:01/09/89	:01/09/89	:01/10/89	: 03/31/89	:01/27/89

OFC	:*OGC	:*MPA-PM:NRR	:ADT:NRR	:DD:NRR	:ADP:NRR	
NAME	:STreby	:JRHall	:FMiraglia	:JHSniezek	:JGPartlow	
DATE	:03/23/89	:03/26/89	:4/6 /89	: / /89	:4/11 /89	

4/3 #2

4-12 3

If you have any questions about this matter, please contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-1105.

Sincerely,

James G. Partlow, Associate Director
for Projects
Office of Nuclear Reactor Regulation

Enclosures:
As stated

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LETTER - NUREG/1

*See previous concurrence

HB 3/31

OFC	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:D:DLPQ	:*NRR:DOEA
NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
DATE	:01/09/89	:01/09/89	:01/09/89	:01/10/89	:3/31/89	:01/27/89

OFC	:*OGC	:*MPA-PM:NRR	:ADT:NRR	:DD:NRR	:ADP:NRR	
NAME	:STreby	:JRHall	:FMiraglia	:JHSniezek	:JGPartlow	
DATE	:03/23/89	:03/26/89	: / /89	: / /89	: / /89	

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Sincerely,

Steven A. Varga, Acting Associate Director
for Projects
Office of Nuclear Reactor Regulation

Enclosures:
As stated

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J Partlow NRR

LETTER - NUREG/1

*See previous concurrence

OFC	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:D:DLPQ	:*NRR:DOEA
NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
DATE	:01/09/89	:01/09/89	:01/09/89	:01/10/89	: / /	:01/27/89

OFC	:*OGC	::*MPA-PM:NRR	:ADT:NRR	:DD:NRR	:ADP:NRR	
NAME	:STreby	::JRHall	:FMiraglia	:JHSniezek	:SAVarga J. Partlow	
DATE	:03/23/89	: :03/26/89	: / /	: / /	: / /89	

2. If the SPDS incorporates features other than those described in NUREG-1342 to meet one or more requirements outlined in NUREG-0737, Supplement 1, a detailed description of the alternative features along with justification as to how these features satisfy the requirements. A copy of the completed questionnaire, including photographs should be included with the submittal.

3. If the SPDS does not fully satisfy the requirements of NUREG-0737, Supplement 1, a description of proposed actions which the licensee intends to take to attain compliance, including a schedule for these actions. Include with the submittal a copy of the completed questionnaire, including photographs.

Staff review has verified that the following nuclear units have a fully satisfactory SPDS: Catawba 1 and 2, Clinton, Hatch 1 and 2, McGuire 1 and 2, Millstone 3, River Bend, Susquehanna 1 and 2, and Yankee Rowe. No response is required for these units.

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If you have any questions about this matter, please contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-1105.

Sincerely,

Dennis Crutchfield, Acting Associate Director
for Projects
Office of Nuclear Reactor Regulation

Distribution: See next page

LETTER - NUREG
*See previous concurrence

C/B

OFC	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:D:DLPQ	:NRR:DOEA
NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
DATE	:01/09/89	:01/09/89	:01/09/89	:01/10/89	: / /	: 1/27/89

OFC	:*OGC	:CRGR	:*NRR:MPA-PM	:NRR:ADT	:DD:NRR	:NRR:ADP
NAME	:STreby	:JConran	:JRHall	:FMiraglia	:JHSniezek	:SAVarga
DATE	:01/23/89	: / /	:01/26/89	: / /	: / /	: / /89

2. If the SPDS incorporates features other than those described in NUREG-1342 to meet one or more requirements outlined in NUREG-0737, Supplement 1, a detailed description of the alternative features along with justification as to how these features satisfy the requirements. A copy of the completed questionnaire, including photographs should be included with the submittal.

3. If the SPDS does not fully satisfy the requirements of NUREG-0737, Supplement 1, a description of proposed actions which the licensee intends to take to attain compliance, including a schedule for these actions. Include with the submittal a copy of the completed questionnaire, including photographs.

Staff review has verified that the following nuclear units have a fully satisfactory SPDS: Catawba 1 and 2, Clinton, Hatch 1 and 2, McGuire 1 and 2, Millstone 3, River Bend, Susquehanna 1 and 2, and Yankee Rowe. No response is required for these units.

This request is covered by Office Management and Budget Clearance Number 3150-0011 which expires December 31, 1989. The estimated average burden hours is 25 person hours per owner response, including searching data sources, gathering and analyzing the data, and preparing the required letters. These estimated average burden hours pertain only to these identified response-related matters. Comments on the accuracy of this estimate and suggestions to reduce the burden may be directed to the Office of Management and Budget, Room 3208, New Executive Office Building, Washington, D.C. 20503, and to the U.S. Nuclear Regulatory Commission, Records and Reports Management Branch, Office of Administration and Resource Management, Washington, D.C. 20555.

If you have any questions about this matter, please contact Richard J. Eckenrode, Section Chief of the Human Factors Engineering Section, Human Factors Assessment Branch, at (301) 492-~~1014~~ 1105

Sincerely,

Dennis Crutchfield, Acting Associate Director
for Projects
Office of Nuclear Reactor Regulation

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LETTER - NUREG
*See previous concurrence

OFC	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:*HFAB:DLPQ	:D:DLPQ	:NRR:DOEA
NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
DATE	:01/09/89	:01/09/89	:01/09/89	:01/10/89	: / /	: / /89

OFC	:*OGC	:CRGR	:NRR:MPA-PM	:NRR:ADT	:DD:NRR	:NRR:ADP
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LETTER - NUREG
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NAME	:RCorreia:jn	:GLapinsky	:REckenrode	:WRegan	:JWRoe	:CHBerlinger
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OFC	::OGC - Notified/	:CRGR	:NRR:MPA-PM	:NRR:ADT	:DD:NRR	:NRR:ADP
NAME	::STreby/ Objection	:JConran	:JRHall	:FMiraglia	:JHSniezek	:DCrutchfield
DATE	:1/23/89	: / /	: / /	: / /	: / /	: / /89

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