

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester, G 05000244
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 RECIP. NAME: CRUTCHFIELD, D. RECIPIENT AFFILIATION: Operating Reactors Branch 5

SUBJECT: Forwards responses to SEP Topic Evaluations III-1, "Classification," VII-2, "ESF Sys Control Logic & Design" & VII-3, "Safe Shutdown Sys." Addl comments will be transmitted when available.

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JOHN E. MAIER
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January 23, 1981

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: SEP Topics III-1, VII-2, VII-3
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

Enclosed are the Rochester Gas and Electric responses to SEP Topic Evaluations III-1, "Classification", VII-2, "ESF System Control Logic and Design", and VII-3, "Safe Shutdown Systems", transmitted by NRC letter dated December 12, 1980. Because of the large number (10) of SEP topic evaluations received by RG&E on December 18, 1980, a very detailed review of these topics could not be accomplished. It is expected that additional comments may result from further review of these assessments. These comments will be transmitted as soon as they are available.

Very truly yours,


J. E. Maier

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Attachments

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Enclosure 2: RG&E Comments Concerning
SEP Topic VII-2, "Safe Shutdown Systems (Electrical)"

1. In Section 4.1.2, it is stated that one independent auxiliary feedwater "train" consists of the turbine-driven auxiliary feedwater system; the other "train" consists of the two motor driven auxiliary feedwater pumps. This is not correct. The turbine-driven system is a 200% capacity system feeding both steam generators. Each motor-driven system feeds one steam generator. In addition, the standby AFW system consists of two separate trains. Thus, in the Ginna design, there are three 100% capacity auxiliary feedwater trains available to each of the two steam generators.
2. In Section 4.1.2, it is noted that the Standby Auxiliary Feedwater System (SAFS) provides flow in case suction from the CST to the AFW pumps causes AFW pump burnout. The purpose of the SAFS is to provide flow to the steam generators whenever the AFW pumps cannot perform their function, no matter what the cause.
3. In Section 4.1.3, it is stated that the MSIV's fail close upon loss of control air. Although this is true, closure would possibly not occur for several minutes, since the air system would only slowly depressurize to effect closure. However, parallel vent solenoid valves for each MSIV, each powered from a separate battery, would ensure rapid closure in the event of an MSIV closure signal, even in the event of a single failure.



4. Table 4.2 should be revised as noted in the marked-up attachment to more accurately reflect the instrumentation considered by RG&E to be necessary to effect and maintain safe shutdown.
5. As stated in Section 4.1.8, RG&E offsite power system is in compliance with GDC 17, which is considered to take precedence over BTP RSB 5-1 (which has since been superseded by Regulatory Guide 1.139). NRC Safety Evaluations of June 19, 1969, Section 3.7.1 and January 20, 1972, Section 7.1, attested to this compliance. Further, a redundant transformer has been purchased and is available for use. This transformer can be connected to provide the necessary loads within 7 days.
6. In Section 5.2, it is stated that the Component Cooling Water system does not meet the single failure criterion because of the single discharge line from the CCW pumps through MOV-817. This would result in a loss of cooling water to RCP-1A, RCP-1B, Reactor Support Cooling, and Excess Letdown HX. The same would be true for a failure of check valve 816 to remain open.

The check valve is normally open at all times. There does not appear to be any credible reason for this check valve to suddenly fail closed. Since this is not a reasonable failure mode postulation, it should not be considered. However, even if the check valve 816, or MOV 817 were to close, it is important to note that no equipment required for safe shutdown would be affected. The only potential problem would be a loss of cooling water to the reactor coolant pump motors.

11



This issue was addressed in SEP Topic IX-3, "Cooling Water." The information presented during that review will be repeated here.

"NRC Question 5:

How much time is available for operator action between loss of CCW flow to a RCP and pump seizure? What alarms inform the operator of a loss of CCW to a RCP?

"RGE Response 5:

The present RG&E procedure (E-6.1, "Loss of Component Cooling During Power Operation"), specifies that the reactor, and then the reactor coolant pumps, be tripped following a loss of CCW to the reactor coolant pump motors within 2 minutes or before the reactor coolant pump motor bearing temperature reaches 200°F. This is a precaution to prevent any possible pump motor damage due to high temperature. It is not expected that pump motor seizure is of concern until many (greater than 10) minutes following loss of CCW. Even at that time, the RC pump breakers may trip due to high current drain (due to overheating) prior to the pump motor seizure. Westinghouse has performed generic tests to demonstrate that the manufacturer's recommended maximum operating bearing temperature is not exceeded for ten minutes. We have been told that these generic tests do apply to the Ginna reactor coolant pump. Westinghouse also has initiated a generic RCP requalification program, the purpose of which is to demonstrate that an RCP can operate without CCW for 30 minutes without loss of function (i.e. without seizure).

11

1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order.

2. The second part of the document is a list of the topics that were discussed at the meeting. The topics are listed in alphabetical order.

3. The third part of the document is a list of the actions that were taken at the meeting. The actions are listed in alphabetical order.

4. The fourth part of the document is a list of the decisions that were made at the meeting. The decisions are listed in alphabetical order.

5. The fifth part of the document is a list of the recommendations that were made at the meeting. The recommendations are listed in alphabetical order.

6. The sixth part of the document is a list of the conclusions that were reached at the meeting. The conclusions are listed in alphabetical order.

7. The seventh part of the document is a list of the suggestions that were made at the meeting. The suggestions are listed in alphabetical order.

8. The eighth part of the document is a list of the proposals that were made at the meeting. The proposals are listed in alphabetical order.

9. The ninth part of the document is a list of the resolutions that were passed at the meeting. The resolutions are listed in alphabetical order.

10. The tenth part of the document is a list of the motions that were made at the meeting. The motions are listed in alphabetical order.

11. The eleventh part of the document is a list of the amendments that were made at the meeting. The amendments are listed in alphabetical order.

12. The twelfth part of the document is a list of the resolutions that were passed at the meeting. The resolutions are listed in alphabetical order.

There are a number of alarms and indications which directly measure loss of CCW to the reactor coolant pumps. These include:

- " - Alarm A-7, RCP 1A CCW Return High Temperature 125 F or low flow 165 gpm.
- Alarm A-15, RCP 1B CCW Return High Temperature 125 F or low flow 165 gpm.
- High water temperature alarm of 185 F from reactor coolant pump radial bearings.
- Abnormal flow rate indications of F1609 or F1613, in the cooling water return line from either pump.

"Also, additional alarms and indications provide notice of a possible malfunction in the CCW System. These include:

- Indication of pump "off" lights
- Alarm A-13, CCW Surge Tank Low Level 41.2% (LA-618)
- Alarm A-22, CCW Pump Discharge Low Pressure, 20 below normal (PA-617)
- Alarm A-18, volume control tank high temperature 145 F
- Auxiliary A-17, Motor Off, reactor coolant pump or component cooling pump
- Alarm A-23, CCW from reactor support high temperature 150 F

"NRC Question 6:

What are the required operator actions on loss of CCW, SWS, or chilled water system? Are these actions covered in a procedure?

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1. The first part of the document is a list of the names of the persons who were present at the meeting.

2. The second part of the document is a list of the names of the persons who were absent from the meeting.

3. The third part of the document is a list of the names of the persons who were present at the meeting.

4. The fourth part of the document is a list of the names of the persons who were absent from the meeting.

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7. The seventh part of the document is a list of the names of the persons who were present at the meeting.

8. The eighth part of the document is a list of the names of the persons who were absent from the meeting.

9. The ninth part of the document is a list of the names of the persons who were present at the meeting.

10. The tenth part of the document is a list of the names of the persons who were absent from the meeting.

11. The eleventh part of the document is a list of the names of the persons who were present at the meeting.

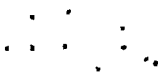
"RGE Response 6:

The most immediate operator actions in response to a loss of CCW (possible alarms and indications given in response 5 above) are to correct the malfunction and restore CCW flow. If this cannot readily be done, the operator is to trip the reactor, and the reactor coolant pumps, as discussed in 5 above. The detailed actions are listed in Emergency Procedures E-6.1 and E-6.2, "Loss of Component Cooling While the Plant is Shut Down." Loss of the Service Water System would also affect CCW to the RCP motors, since the CCW temperature would increase. Emergency Procedures E-38 and E-38.1 prescribe proper operator actions for this condition. Loss of Service Water resulting in heatup of the CCW System would eventually result in some of the above-noted CCW alarms and indications, such as Alarm A-7, RCP 1A CCW Return High Temperature 125 F. Ensuing operator actions will then follow the listing in E-6.1, referenced above."

Based on the available indications and procedures, and the fact that no required safe shutdown equipment is affected by loss of component cooling water, the NRC evaluation should be modified to state that the CCW system meets the intent of all required regulatory criteria, and is therefore acceptable.

7. In Section 5.7, it is noted that MOV-704A provides a path to RHR pump 2. The Ginna arrangement is such that MOV's 704A and B provide parallel suction to RHR pumps A and B, respectively.

8. In Section 5.7, at the top and middle of page 26, it is stated MOV 856 is normally closed, and that MOV's 851A and 851B are normally closed. This is not true. All three of these valves are locked in their safeguards position (open) with power removed.
9. In Section 5.7, page 29, the conclusions are drawn that (1) single failure criterion is not met for MOV's 700 and 701 for RHR inlet and (2) single failure criterion is not met for MOV's 720 and 721 in the RHR discharge. This evaluation is inconsistent with the NRC's safe shutdown evaluation for Ginna, transmitted to RG&E by letter of November 14, 1980. In Section 3.2 of that assessment, the finding is made that, although the RHR system itself is not single failure proof, the alternative methods for attaining cold shutdown are acceptable. The resolution of "RHR System Reliability" in Section 5.1 of that report concluded that the Ginna systems fulfill the requirements for safe shutdown, except for some procedural changes suggested by the NRC. No need for modifications to address the single failure criterion were discussed, or are considered to be necessary.
10. In Section 5.7, conclusion (3) states that the single failure criterion is not met when the RHR system is functioning in the injection phase because of the single inlet line from the RWST to the RHR pumps through MOV 856. This issue has already been addressed and resolved for the Ginna plant. Amendment 7 to Provisional Operating License No. DPR-18 for



Ginna, which includes Change No. 16 to the Technical Specifications, was issued May 14, 1975. Technical Specification 3.3.1.1g states, in part, that A.C. power shall be removed from valve MOV 856 with the valve in the open position.

Since this valve is locked in position, no credible single failure will impede the delivery of flow to the RHR pumps from the RWST in the event of a Safety Injection Signal.

The assessment should be modified to incorporate this information, noting that the single failure criterion is appropriately met, and that no modifications are required.

11. It is not clear which provision of Regulatory Guide 1.22 is not met by the periodic actuation testing of the Ginna RHR system. In addition to the Safety Injection System test referenced in Section 4.5.1.1.a of the Ginna Technical Specifications, a Diesel Generator Loading Sequence Test is conducted each refueling shutdown. This is described in Section 4.6.1.b of the Ginna Technical Specifications. This test includes actuation of the pumps:

"4.6.1.b Automatic start of each diesel generator and automatic restoration of particular vital equipment, initiated by an actual loss of all normal AC station service power supplies together with a simulated safety injection signal. This test shall be conducted during each refueling shutdown to assure that the diesel-generator will start and following maximum breaker closure times after the initial starting signal for trains A and B will not be exceeded.

1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that proper record-keeping is essential for the integrity of the financial system and for the ability to detect and prevent fraud.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in the accounting cycle, from identifying the transaction to posting it to the appropriate ledger account.

3. The third part of the document discusses the role of the auditor in verifying the accuracy of the records. It describes the various techniques used by auditors to test the reliability of the accounting system and to ensure that the financial statements are true and fair.

4. The fourth part of the document addresses the issue of internal controls. It explains how a well-designed system of internal controls can help to minimize the risk of error and to prevent the misuse of assets.

5. The fifth part of the document discusses the importance of transparency and accountability in financial reporting. It argues that organizations should be open and honest about their financial performance and should provide clear and concise information to their stakeholders.

6. The sixth part of the document discusses the role of the government in regulating the financial system. It describes the various laws and regulations that govern financial reporting and the role of regulatory agencies in enforcing these rules.

7. The seventh part of the document discusses the importance of ethical behavior in the financial industry. It argues that financial professionals should always act in the best interests of their clients and should avoid any conflicts of interest.

8. The eighth part of the document discusses the importance of ongoing education and training for financial professionals. It argues that the financial industry is constantly evolving, and that professionals must stay up-to-date on the latest developments in their field.

9. The ninth part of the document discusses the importance of collaboration and communication in the financial industry. It argues that organizations should work together to share information and best practices, and that clear communication is essential for the success of any financial transaction.

10. The tenth part of the document discusses the importance of innovation and technology in the financial industry. It argues that the use of new technologies can help to improve the efficiency and accuracy of financial reporting and to reduce the risk of error.

	A	B
Diesel plus Safety Injection Pump	20 sec.	22 sec.
plus RHR Pump		
All breakers closed	40 sec.	42 sec.

If additional testing is considered necessary, it should be explicitly detailed, and the basis given. Otherwise, the assessment should be modified to note that the Ginna testing meets the guidelines provided in Regulatory Guide 1.22.

12. In Section 5.7, conclusion (5) appears to be in error. It is stated that the RHR system fails to satisfy BTP RSB 5-1 and Regulatory Guide 1.22 because the RHR isolation valves and their associated interlocks are not tested. Yet this same section of the assessment also quotes the NRC's SEP Safe Shutdown System Review, which concluded that "...this test requirement is not applicable to the Ginna facility, since the interlocks function only when the RHR isolation valves are shut."

Since this test requirement is not applicable, it is apparent that it need not be met. The assessment should be revised to state that, as noted in the Safe Shutdown Review, the testing requirement for the RHR valves and interlocks is not applicable to the Ginna facility.

13. In the "Summary", it is noted that the "offsite emergency power fails to satisfy the single failure criterion." This is an incorrect summary, in conflict with the conclusions

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$$v^2 = \frac{1}{2} \left(\frac{1}{\rho} \frac{d\rho}{dt} \right)^2 + \left(\frac{1}{\rho} \frac{d\theta}{dt} \right)^2 + \left(\frac{1}{\rho} \frac{d\phi}{dt} \right)^2$$

Figure 1. The effect of the initial concentration of the monomer on the polymerization of α -methylstyrene initiated by TiCl_4 in CH_2Cl_2 at -78°C . The polymerization was carried out in the presence of 0.01 mole of TiCl_4 and 0.01 mole of CH_2Cl_2 in 10 ml of CH_2Cl_2 solution. The initial concentration of the monomer was varied from 0.01 to 0.1 mole/l. The polymerization was carried out for 10 min. The polymerization was carried out in the presence of 0.01 mole of TiCl_4 and 0.01 mole of CH_2Cl_2 in 10 ml of CH_2Cl_2 solution. The initial concentration of the monomer was varied from 0.01 to 0.1 mole/l. The polymerization was carried out for 10 min.

1. *Journal of the American Medical Association*, 1997; 277: 1033-1038.

1. *Phragmites australis* (Cav.) Trin. ex Steud.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040

$\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{4}$

$\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{4}$

Figure 1. The effect of the concentration of the H_2O_2 solution on the amount of the released H_2O from the H_2O_2 -loaded hydrogel. The amount of the released H_2O was measured by the weight difference of the hydrogel before and after the release. The concentration of the H_2O_2 solution was 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, and 1.0 wt. %.

$\frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx = \frac{1}{\sqrt{\pi}} \int_{-\infty}^{\infty} f(x) e^{-x^2} dx$

[illegible]

U.S. DEPARTMENT OF COMMERCE

Figure 1. The effect of the concentration of the *Agrobacterium* strain on the transformation efficiency of *Agrobacterium* strain on *Agrobacterium* strain.

1. *Chlorophyll a* (Chl *a*)

11. *Chrysomelidae* (10 spp.)

drawn in Section 5.8. In 5.8, it is stated that "...this design meets the current NRC requirements for offsite power supplied (GDC-17), providing that disconnection of the flexible connections at the main generator terminals can be accomplished within the time constraints imposed by coolant water inventory and battery life, even though this deviates from the guidelines of BTP RSB 5-1." Also, as noted in comment 5 above, a redundant transformer has also been purchased.

The summary section should be modified to note that the Ginna offsite power system meets the current NRC requirements, as stated in GDC-17.

1. The first part of the report is a summary of the work done during the year.

2. The second part is a detailed account of the work done during the year, and is divided into three sections: (a) the work done during the first half of the year, (b) the work done during the second half of the year, and (c) the work done during the year as a whole.

3. The third part is a summary of the work done during the year, and is divided into three sections: (a) the work done during the first half of the year, (b) the work done during the second half of the year, and (c) the work done during the year as a whole.

Table 4.2 List of safe shutdown instruments.

Component/ System	Instrument	Instrument Location	Reference
Main Steam	Steam generator level LT & LI 460, 461 and 470, 471	LT Inside Containment LI Control Room*	Dwg. 33013-519 ⁵⁴⁴
Reactor Coolant	<i>Main Steam Pressure PT and PI 468, 469, 478, 479</i>	<i>PT Intermediate Bldg PI Control Room</i>	<i>Dwg. 33013-534</i>
	Pressurizer level LT & LI, 426, 427, 428, 433	LT Inside Containment Control Room*	Dwg. 33013-424
	Pressurizer pressure PT & PT 449, 429, 430, 431	PT Inside Containment PI Control Room*	Dwg. 33013-424
	RCS temperature TE & TI 409 A & B and 410 A & B	TE Inside Containment TI Control Room	Dwg. 33013-424
Auxiliary Feed	AFWS flow FT 2001, 2022, 2023, 2024	FT Intermed. Build. FI Control Room*	Dwg. 33013-519 ⁵⁴⁴
	FI 2021, 2022, 2023, 2024		
	SAFS flow FT & FI 4084, 4085	FT Aux. Build. Addition FI Control Room*	Dwg. D-302-071-E
Service Water	Pump discharge press. PT 2160 & 2161 PI 2160 & 2161	PT Screen House PI Control Room	Dwg. 33013-529
Chemical and Volume Control	Charging flow FIT 128, FI 128	FIT Auxiliary Build. FI Control Room	Dwg. 33013-433
	RWST level LT 920, LI 920	LT Auxiliary Build. LI Control Room	Dwg. 33013-425

*Indicators are also available at local shutdown panels.

Attachment to Enclosure 1

Table 4.2 List of safe shutdown instruments. (Continued)

<u>Component/ System</u>	<u>Instrument</u>	<u>Instrument Location</u>	<u>Reference</u>
Component Cooling Water	System flow	FIT Auxiliary Build.	Dwg. 33013-436
	FIT 619	Low flow alarm in control room	
	Surge tank level	LIT Auxiliary Build.	Dwg. 33013-435
	LIT 618	LI Control Room	
Residual Heat Removal	System flow	FT Auxiliary Build.	Dwg. 33013-436
	FT 626, FI 626	FI Control Room	
Diesel Generator	Generator output voltage and current	Control Room	
Emergency AC Power	480 V Busses 14, 16, 17, 18, voltage indication	Control Room	
Emergency DC Power	125 VDC Busses 1 and 2 voltage indication	Control Room	

NOT REQUIRED. PROPER OPERATION IS EVIDENT BY PROPER OPERATION OF POWERED EQUIPMENT

Enclosure 2: Comments on SEP Topic VII-2,
"ESF System Control Logic and Design"

Although circuits have been identified which do not contain qualified isolation devices, it has not been determined that "...effects of natural phenomena and of normal operating, maintenance, testing, and postulated accident conditions..." (from GDC-22) will result in loss of the protection function. ESF system design is of sufficient complexity that a detailed design review is required by RG&E in order to properly address the NRC concerns. At this time, we are unable to perform this detailed review. This topic assessment is only one of ten received by RG&E on December 18, all of which required responses on or before January 30, 1981. Although we do intend to respond to the NRC in detail concerning this evaluation, manpower and priority limitations require that this submittal be delayed until after June, 1981.

THE
FEDERAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE
WASHINGTON, D. C. 20535

TO : DIRECTOR, FBI
FROM : SAC, NEW YORK
SUBJECT: [Illegible]

RE: NEW YORK TELETYPE TO BUREAU, JANUARY 15, 1964

Enclosed for the Bureau are two copies of a letterhead memorandum (LHM) dated and captioned as above. The LHM contains information regarding the activities of the [Illegible] in New York City. The information was obtained from a confidential source who has provided reliable information in the past.

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Enclosure 3: RG&E Comments on SEP Topic III-1, "Classification"

Comments are provided on the attached marked-up copy of the NRC assessment.

3. COMPILATION OF IDENTIFIED SYSTEMS

3.1 ENGINEERED SAFETY FEATURE SYSTEMS

The following engineered safety feature systems are required for DBE and safe shutdown:

1. Safety injection system (Emergency Core Cooling System)
 - a. High-pressure safety injection pumps
 - b. Low-pressure safety injection (RHR) pumps
 - c. Passive accumulators
 - d. Refueling water storage tank
 - e. Boric acid tanks — *available but not required*
2. Containment air recirculation and filtration system
 - a. Fan-cooler units
 - b. Charcoal filter units
 - c. Iodine removal units } *same thing*
 - d. Hydrogen recombiner
3. Containment spray system
 - a. Containment spray pumps
 - b. Refueling water storage tank
 - c. Spray additive tank
4. Containment isolation system
5. Containment ventilating system
 - a. Recirculation ventilation — *same as 2a above*
 - b. Purge system — *alternate to 2d above*

3.2 REACTOR PROTECTION SYSTEMS

The following reactor protection systems (reactor trip channels) are required for DBE and safe shutdown:

1. High nuclear flux (power range)
2. High nuclear flux (intermediate range)
3. High nuclear flux (source range)
4. Overtemperature ΔT
5. Overpower ΔT
6. Low RCS pressure *
7. High pressurizer pressure
8. High pressurizer water level
9. Low reactor coolant flow
10. Turbine trip
11. High containment pressure * (results in SI \rightarrow Rx trip)
12. Low steam generator pressure (results in SI \rightarrow Rx trip)
13. ~~Low~~ ^{LOW-LOW} steam generator level *
14. Manual trip
15. Reactor Coolant Pump Breaker Trip

* Only these instruments could be exposed to an adverse environment when required to perform their safety function

3.3 ADDITIONAL SYSTEMS

In addition to the ESF and RPS, the following systems are required for DBE and safe shutdown:

1. Auxiliary feedwater system (Standby)
 2. Service water system
 3. Component cooling water system
 4. Residual heat removal system
 5. Chemical and volume control system (only small portion)
 6. Offsite power system — NO CREDIT FOR OFFSITE POWER
 7. Control room systems — CHARCOAL FILTER CIRCUIT ONLY
 8. Emergency power (a-c and d-c) and control power for the above systems and components
- Main steam isolation and relief/safeties
- Pressurizer relief and safeties