

JUN 19 1970

Docket No. 50-220

Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Attention: Mr. Minot H. Pratt
Vice President and
Executive Engineer

Gentlemen:

This letter authorizes the return to operation of the Nine Mile Point Nuclear Station (NMP) in accordance with your documented program for restoration to service and subject to other conditions which are defined herein.

My letter dated March 13, 1970, requested appropriate reporting of your repair plans and the significant results of your investigation and evaluation of the furnace-sensitized stainless steel safe ends prior to the resumption of NMP reactor operations. You have submitted this information along with your plans for future surveillance and the resumption of operations in the following documents:

1. "Reactor Primary System Investigation at Nine Mile Point Nuclear Station" dated May 1, 1970.
2. "Reactor Primary System Investigation at Nine Mile Point Nuclear Station - Report No. 2" dated May 11, 1970.
3. "Program for Restoration to Service Based on Reports of Primary System Investigation - Nine Mile Point Nuclear Station" dated May 11, 1970.

We have reviewed these reports, including the results of the investigative program and the evaluation of the metallurgical problem, and have concluded that your plans for repair of the safe ends and for resumption of operations are acceptable as set forth in your report (Item 3 above). In this regard, we note that a reinspection of furnace-

DISTRIBUTION

W. Dooly, DR
R. Engelken, CO (2)
H. Shapar, OGC (2)
N. Dube, DRL (5)
J. R. Buchanan, ORNL
T. W. Laughlin, DTIE
W. D. Gilbert, GE
Document Room
Docket File
DR Reading
DRL Reading
Branch Rading
D. Thompson, DRL
D. J. Skovholt, DRL
R. H. Vollmer, DRL
D. L. Ziemann, DRL
C. J. DeBevec, DRL
R. M. Diggs, DRL
ACRS (3)
F. Schroeder, DRL
R. Boyd R. DeYoung

100

1990

1. The first part of the document discusses the importance of maintaining accurate records of all transactions, both incoming and outgoing. It emphasizes that this practice is essential for ensuring transparency and accountability in financial management.

2. The second part outlines the various methods used to collect and analyze data from different sources. This includes interviews with key stakeholders, surveys distributed across the organization, and the use of advanced analytics tools to identify trends and patterns.

3. The third section details the findings of the research, highlighting several key areas where improvements can be made. These include streamlining processes, enhancing communication channels, and implementing more robust security measures to protect sensitive information.

4. Finally, the document concludes with a series of recommendations designed to address the identified issues. These suggestions are based on best practices from industry leaders and aim to provide actionable steps for improving overall performance and efficiency.

[The page contains faint, illegible markings and noise.]

JUN 19 1970

sensitized safe ends will be made within one year. We further understand that efforts will be made to perform some of this surveillance during the year, whenever unscheduled shutdowns provide the opportunity for such inspection. We request that you provide a report of the results of this surveillance program, including evaluation of their significance promptly after completion,

The Advisory Committee on Reactor Safeguards (ACRS) reviewed this matter at its 122nd meeting held June 11-13, 1970. A copy of the report of the ACRS, dated June 16, 1970, is enclosed. In its report, the ACRS made recommendations concerning resumption and future operation of the facility. These items include:

1. At least one leak-detection system in addition to the proposed sump accumulation rate and dew point systems should be installed within a few months.
2. Assurance should be provided that the biological shield surrounding the reactor vessel can withstand the pressure that could be developed by loss of integrity of a safe end or nozzle, or that failure of the shield would have no intolerable consequences.

Please inform us expeditiously of your plans regarding implementation of item 1. With regard to item 2, we request that you submit an analysis of shield integrity and consequences of failure under the prescribed conditions. Please advise us of your planned schedule for submittal.

In addition, a program for surveillance of the sensitized material over the long term should be developed. Since determination of the appropriate extent of such a program will depend upon the results of the surveillance performed during the forthcoming year, we request that, in your report of this surveillance effort, you include your plans for further surveillance of this material.

Subject to the above considerations, we have concluded that resumption of operations of the Nine Mile Point reactor will not endanger the health and safety of the public.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

Enclosure:

OFFICE	ACRS Report - 6/16/70	DRL	DRL	DRL	DRL
cc:	Arvin E. Upton, Esquire	CDeBeyde, pdl	EFleury	DSkovholt	
SURNAME	LeBoeuf, Lamb, Leiby & MacDade	RDiggs	DZiemann	FSchroeder	PAMorris
DATE	6/19/70	6/19/70	6/19/70	6/19/70	6/19/70

The first part of the report deals with the general situation of the country and the progress of the work. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The second part of the report deals with the financial aspects of the work. It gives a detailed account of the income and expenditure of the organization and shows how the funds have been used. It also includes a statement of the assets and liabilities of the organization.

The third part of the report deals with the personnel of the organization. It gives a list of the staff and their duties and also a list of the volunteers who have helped in the work. It also includes a statement of the training given to the staff and volunteers.

The fourth part of the report deals with the public relations of the organization. It gives a list of the public relations activities carried out and also a list of the media organizations with which the organization has been in contact. It also includes a statement of the results of the public relations work.

The fifth part of the report deals with the future plans of the organization. It gives a list of the projects which are planned for the future and also a list of the resources which will be required for their completion. It also includes a statement of the objectives of the organization for the future.

The sixth part of the report deals with the conclusions of the work. It gives a list of the main findings of the work and also a list of the recommendations which are made. It also includes a statement of the conclusions drawn from the work.

The seventh part of the report deals with the appendixes. It gives a list of the documents and other material which are referred to in the report and also a list of the references. It also includes a list of the names of the people who have helped in the work.

The eighth part of the report deals with the index. It gives a list of the subjects which are covered in the report and also a list of the pages on which they are discussed. It also includes a list of the names of the people who have helped in the work.

The ninth part of the report deals with the acknowledgments. It gives a list of the people and organizations to whom the report is dedicated and also a list of the people and organizations who have helped in the work.

The tenth part of the report deals with the concluding remarks. It gives a list of the main findings of the work and also a list of the recommendations which are made. It also includes a statement of the conclusions drawn from the work.

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
UNITED STATES ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

June 16, 1970

Honorable Glenn T. Seaborg
Chairman
U. S. Atomic Energy Commission
Washington, D. C. 20545

Subject: REPORT ON NINE MILE POINT NUCLEAR STATION

Dear Dr. Seaborg:

At its 122nd meeting, June 11-13, 1970, the Advisory Committee on Reactor Safeguards reviewed the program proposed by the Niagara Mohawk Power Corporation for restoration to service of the Nine Mile Point Station following the discovery during March, 1970, of cracks and leakage in a "safe end" (stainless steel extension of the reactor vessel nozzle). The program was also considered at Subcommittee meetings on May 5, 1970, and June 1 and 2, 1970. During its review, the Committee had the benefit of discussions with representatives of the applicant, the General Electric Company, the AEC Regulatory Staff, and their consultants, and of the documents listed. The Committee previously reported to you on this project on April 17, 1969.

Normal procedures for most reactor pressure vessels have been to join the austenitic stainless steel safe ends to the nozzles prior to the stress relieving heat treatment. This heat treatment sensitizes the safe ends, which makes the steel less resistant to certain types of corrosion. Sensitized austenitic stainless steels in this condition have given reasonably satisfactory service over many reactor years of operation.

The applicant and the General Electric Company have conducted an extensive investigation of the cracking and its causes. An independent stress analysis of the as-built piping has revealed that stresses in the cracked safe end, and one other safe end, were excessive. It is believed that this excessive stress, possibly in combination with a high concentration of

Hon. Glenn T. Seaborg

-2-

oxygen in the non-flowing fluid in the pipe concerned, caused the intergranular cracking of the furnace-sensitized stainless steel safe end. Both of the overstressed safe ends have been removed and replaced with new ones made of unsensitized material. The thermal sleeves have been slotted to avoid the possibility of gas bubbles at the high points. The piping supports have been rearranged, and the entire primary system re-analyzed, for both hot and cold conditions, to give assurance that stresses will remain within allowable limits.

One other safe end made of sensitized material has been removed and examined, found not to contain cracks, and has been replaced with a new one of unsensitized material. All other safe ends made of sensitized material have been non-destructively tested. The minor defects found will be ground out before the reactor is operated again.

The applicant stated that expansions of primary piping will be measured during a hot functional test to be conducted prior to restarting the reactor, to check the pipe supports and the seismic restraints.

The applicant has proposed an augmented surveillance program for the sensitized safe ends remaining in the primary system, including non-destructive testing at least once a year and re-checking piping expansions for several full thermal cycles. The Regulatory Staff should assure itself that the details of the proposed program are appropriate.

The applicant is studying improved leak-detection methods. The Committee believes that detection and location of small leaks is an essential part of the surveillance program. The applicant should expeditiously install such leak-detection devices as seem likely to give improved sensitivity or speed of leak detection. The Committee recommends that at least one leak-detection system in addition to the proposed sump accumulation rate and dew point systems be installed within a few months and wishes to be kept informed of progress in this regard.

June 24, 1970

The Committee believes that the Regulatory Staff should assure itself that the biological shield surrounding the reactor vessel can withstand the pressure that could be developed by loss of integrity of a safe end or nozzle, or that failure of the shield would have no intolerable consequences.

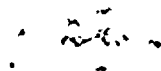
The ACRS believes that, if due regard is given to the recommendations above and in its previous report to you of April 17, 1969, there is reasonable assurance that the Nine Mile Point Nuclear Station can be operated at power levels up to 1538 MW(t) without undue risk to the health and safety of the public.

Sincerely yours,

Joseph M. Hendrie
Chairman

References

1. Niagara Mohawk Power Corporation report, "Reactor Primary System Investigation at Nine Mile Point Nuclear Station," dated May 1, 1970.
2. Niagara Mohawk Power Corporation report, "Reactor Primary System Investigation at Nine Mile Point Nuclear Station, Report No. 2," dated May 11, 1970.
3. Niagara Mohawk Power Corporation report, "Program for Restoration to Service Based on Reports of Primary System Investigation Nine Mile Point Nuclear Station," dated May 11, 1970.



4206 1 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

*Superseded page per
Ch 6-26-70*

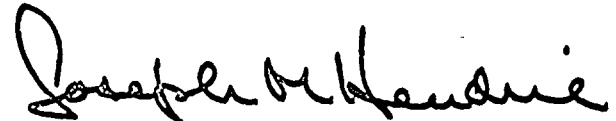
Hon. Glenn T. Seaborg

-3- :

The Committee believes that the Regulatory Staff should assure itself that the biological shield surrounding the reactor vessel can withstand the pressure that could be developed by loss of integrity of a safe end or nozzle, or that failure of the shield would have no intolerable consequences.

The ACRS believes that, if due regard is given to the recommendations above and in its previous report to you of April 17, 1969, there is reasonable assurance that the Nine Mile Point Nuclear Station can be operated at power levels up to 1538 MW(t) without undue risk to the health and safety of the public.

Sincerely yours,



Joseph M. Hendrie
Chairman

References

1. Niagara Mohawk Power Corporation report, NEDM-10159, "Preliminary Report, Core Spray Nozzle Safe End, Nine Mile Point Power Station", dated March 27, 1970.
2. Niagara Mohawk Power Corporation report, "Reactor Primary System Investigation at Nine Mile Point Nuclear Station, Report No. 2", dated May 11, 1970.
3. Niagara Mohawk Power Corporation report, "Program for Restoration to Service Based on Reports of Primary System Investigation 'Nine Mile Point Nuclear Station", dated May 11, 1970.

