



Nebraska Public Power District

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NSD930526
April 29, 1993

Director, Office of Enforcement
U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Subject: ANSWER TO A NOTICE OF VIOLATION

Reference: J. L. Milhoan (Regional Administrator, Nuclear Regulatory Commission) to G. R. Horn (Nuclear Group Manager, NPPD), Subject: "Notice of Violation and Proposed Imposition of Civil Penalties - \$200,000 (NRC Inspection Report No. 50-298/93-06)," dated March 30, 1993

Gentlemen:

This letter is written in response to the referenced letter and constitutes Nebraska Public Power District's (NPPD) response to the Notice of Violation and proposed imposition of Civil Penalties. Attachment 1 provides the District's specific responses to the violations in accordance with 10 CFR 2.201. Attachment 2 provides information for NRC consideration in mitigation of the proposed Civil Penalties in accordance with 10 CFR 2.205.

The purpose of this letter, along with our Violation Responses, is to provide additional information and clarification in regard to the specific violations noted by the reference and based on this information, to request NRC reconsideration of the Notice of Violation and imposition of Civil Penalties. This letter also provides insight into the actions completed or in progress to further enhance implementation of the Cooper Nuclear Station Corrective Action Program and to ensure completeness and accuracy in future NRC submittals.

After further considering the root causes of the events that led to the referenced violations, several related issues were identified which NPPD is working to expeditiously correct. These issues were discussed with the Region IV Administrator and members of his staff during meetings on April 13, 1993. We believe it is beneficial to address these issues in this letter to provide a complete picture of the seriousness with which we view this matter and the extensive corrective actions we are taking as a result.

Upon critically examining the causes for the Notices of Violation and related issues, in addition to the actions addressed in the March 4, 1993, Enforcement Conference, we have determined that we need to enhance our effectiveness, personnel accountability, culture, and mind set with regard to corrective action matters. Realizing that such a fundamental change cannot be made to happen quickly, senior management has developed the framework for accomplishing it within approximately the next six months. To compensate for this time period, an Overview Group has been established and is comprised of three senior level management personnel. Additional detail about this group is provided in the

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following. We have developed an outline for an "Improvement Plan for an Integrated Corrective Action Program" and we are presently working towards its implementation. This plan is segmented into four areas, as follows:

1. Management Oversight
2. Personnel Issues
3. Programs and Processes, and
4. Six Month Effectiveness Review

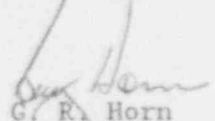
Each area identifies immediate, short term, and/or longer term (within six months) actions to be taken to resolve perceived weaknesses. As previously noted, a key action taken to date has been the creation of a Corrective Action Program Overview Group. This group has been established, and is presently functioning to ensure that problems related to nuclear safety are promptly identified, properly evaluated regarding their significance, correctly communicated to the appropriate personnel and aggressively resolved with a rigor commensurate with their safety significance. This group also provides an overview function for correspondence developed for submittal to the Nuclear Regulatory Commission. The three senior level management personnel previously mentioned have been assigned full time to this group. This group will function for a minimum of six months, at which time the need for its continued existence will be reviewed.

Actions currently underway include a review of documentation generated during the past two years related to the corrective action program to ensure that safety concerns have been adequately addressed; interviews with station operations, maintenance, engineering, and radiological personnel to ensure that known weaknesses have been addressed; and discussion sessions with station management personnel to ensure that they are cognizant of the current expectations for effectiveness, culture, accountability, and mind set. Similar discussion sessions will be held in the near future with the remaining station personnel. In addition, we are continuing to develop the details for implementing the Improvement Plan.

Upcoming key features of the Corrective Action Program Improvement Plan include an assessment of the management oversight capability, an assessment of the effectiveness (regarding culture, accountability, organizational structure, and effectiveness of communications of the Corrective Action Program), an effectiveness review of program compliance, and, finally, an effectiveness review (after six months) of all of the actions we are taking.

NPPD believes that the violations for which escalated enforcement is being taken are isolated occurrences, are not indicative of a broad programmatic breakdown, and have been aggressively and completely addressed by the actions discussed above and in the attachments. It is believed that these actions will prevent recurrence of similar situations and will establish a comprehensive, timely corrective action program at CNS. NPPD also wishes to re-emphasize its commitment toward ensuring the accuracy and completeness of information contained in its submittals to the NRC and in its materials available for NRC review.

Should you have any questions concerning this matter, please contact my office.


G. R. Horn
Nuclear Power
Group Manager

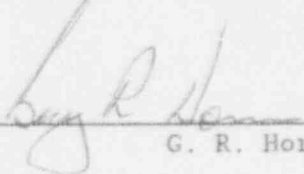
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Attachments

cc: Regional Administrator
NRC Region IV

NRC Resident Inspector
Cooper Nuclear Station

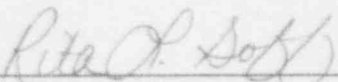
STATE OF NEBRASKA)
)
PLATTE COUNTY)

G. R. Horn, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this response on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

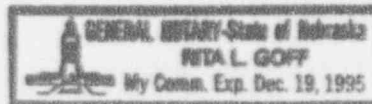


G. R. Horn

Subscribed in my presence and sworn to before me this 29th day of
April, 1993.



NOTARY PUBLIC



RESPONSE TO VIOLATIONS ASSESSED A CIVIL PENALTY
IDENTIFIED BY MARCH 30, 1993 NOTICE OF VIOLATION AND
PROPOSED IMPOSITION OF CIVIL PENALTIES (EA 93-030)

STATEMENT OF VIOLATION A

10 CFR 50.9 requires, in part, that information provided to the Commission by a licensee shall be complete and accurate in all material respects.

Contrary to the above, in a letter dated December 1, 1992, the licensee provided written information to the Commission that was inaccurate and incomplete in material respects. The information provided by the licensee was in response to a Notice of Violation issued by the NRC on November 3, 1992, involving the failure of the licensee to identify and remove temporary strainers in the Core Spray system. This information was inaccurate because the licensee's response stated, with respect to the Reactor Core Isolation Cooling System, that "A specific completed sign-off in the preoperational test procedure (unlike the CS System preoperational test) indicates that the strainer had been removed prior to start up testing." In fact, no such document existed indicating that the Reactor Core Isolation Cooling pump strainer had been removed. The only document which would have indicated that the strainers had been removed was Startup Test Instruction (STI) 14. On the only available copy of this document, there was no signature in the block adjacent to Step 6.2.9, which said "Remove suction strainers at a convenient time after completion of all RCIC related tests." This information was material because the NRC relied upon it as evidence that no temporary strainers existed in this system. On January 29, 1993, the Reactor Core Isolation Cooling system temporary strainer was found to have been left in the system.

This is a Severity Level III violation (Supplement VII). Civil Penalty - \$100,000.

ADMISSION OF VIOLATION

NPPD admits the alleged violation.

REASON FOR VIOLATION

In the preparation of Nebraska Public Power District's (NPPD) response to the Notice of Violation dated November 3, 1992, a review was conducted of the evaluation performed in 1986 for NRC Information Notice 85-96. The 1986 evaluation for the Reactor Core Isolation Cooling (RCIC) system stipulated: "temporary pump suction strainers installed for startup have been removed via Startup Procedure sign-offs." Concurrently, a microfilm document search was conducted to provide physical evidence that the temporary startup pump suction strainers had been removed from the respective systems. The document search revealed an incomplete startup test instruction for the RCIC system, STI 14. The instruction required the temporary strainer to be removed, but Step 6.2.9 of the microfilmed copy was not signed. The system engineer who had performed the original RCIC evaluation in 1986 was questioned with regard to the discrepancy between the 1986 evaluation and STI 14 and he assured the evaluator that a signed document existed. The system engineer's recollection was accepted because documents are often microfilmed several times and at different stages of

completion during the plant construction, preoperation, and operation. The documentation search therefore failed to progress to positive confirmation of the removal of the RCIC pump suction temporary strainer which was a significant error by the personnel involved. NPPD believes it is important to review, in detail, the circumstances involved in providing the inaccurate and incomplete information in its December 1, 1992, Notice of Violation response. This response included a commitment to radiograph the RCIC pump suction piping to confirm temporary strainers did not exist in this piping during the 1993 Refueling Outage. The commitment was made because the engineering staff was apparently not fully satisfied with the results of the evaluation, due to the conflicting data presented in previous and current evaluations and wanted to confirm that an accurate evaluation had been made and that complete information had been provided.

While it is agreed that specific information existed which indicated further review of the existence of temporary strainers in safety related piping was necessary, the approach and mindset of the engineering staff at the time of the strainer evaluation, in view of the information available at the time, may have been misdirected. The strainers found in the alternate suction path to Core Spray (this path is only allowed by plant Technical Specifications during shutdown with the torus empty) were unique due to their location outside the normal suction boundary. In addition, these strainers were purchased from a vendor and contained an external tab which delineated specific information on the strainer characteristics. Strainers subsequently found in the RCIC and Reactor Equipment Cooling (REC) suction paths did not have this identification tab. The tab had either been ground off (indicating either a permanent strainer or pipe spacer plate) or never existed. What was thought to be a spacer plate, and was later determined to be a strainer, was not overlooked. Rather, in spite of the warning contained within IN 85-96, it was thought to be a spacer plate inserted at the time of the strainer removal. A mixture of strainers with and without tabs is not normal construction practice and can present an inappropriate mindset for someone performing or reviewing this evaluation. Although obvious in hindsight, this problem presented a more complex situation for the engineering group than is apparent when combined with the multifaceted review that was performed.

Although NPPD has indicated that sensitivity to 10 CFR 50.9 requirements needed enhancement, and several commitments have been made to correct this condition, these statements were made with regard to the importance of providing all pertinent or relevant information to the NRC and of insuring complete evaluations. This statement was certainly not meant to imply that accurate and complete information was purposely being withheld or that a culture existed to the contrary. We believe this is substantiated by previous inspection results and NRC followup on similar NPPD correspondence.

NPPD believes it is also important to note that when the REC strainer was found by NPPD personnel, it was immediately reported to the NRC. It is also important to note that we immediately asked if a revision to the December 1, 1992, Violation Response should be submitted. We would hope that you would agree based on these events and past experience that we were fully aware of and acted promptly on the 10 CFR 50.9 requirement to keep the NRC informed of pertinent safety issues.

Notwithstanding the information provided above, Nebraska Public Power District admits to the alleged violation of 10 CFR 50.9. The violation was the result of an inadequate review of preoperational documentation, Startup Test Instruction (STI) 14, IN 85-96 and reliance on personnel recollection. There was no intent by NPPD to mislead the Commission and, in this particular instance, an individual failed to recognize the lack of accuracy and completeness in the violation response. The inaccuracy of the information provided to the Commission was the result of inadequate job performance which is clearly contrary to the established or expected practice at Cooper Nuclear Station.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

NPPD is acutely aware of the derogatory effects such incidents can have on its credibility and has historically strived to be complete and accurate regarding the information provided both in written documents and orally to the NRC. Immediate corrective measures have been initiated to reinforce this philosophy and culture of achieving accuracy and completeness in the disposition of problems. The action was partially completed through the District's Industry Events Training Program. Training was given to the appropriate District personnel who are assigned responsibility for responding to and reviewing operating experience information. The requirement for complete and accurate information on all pertinent documentation which is maintained by the District or provided to the Commission was emphasized. Additionally, the Nuclear Power Group Manager has issued a policy memorandum on job performance to each of his direct reports, and has directed wide dissemination to ensure every employee is aware of Management's expectation in regard to standards of performance.

The lapse in job performance resulting in the Notice of Violation and proposed imposition of Civil Penalties associated with the violation of 10 CFR 50.9 requirements is considered to be a serious breach in NPPD expectations of its employees. It is not, however, by itself indicative of a greater programmatic problem with the corrective action program or previous NRC correspondence. NPPD has continually strived to improve its commitment to quality performance and has continually made initiatives to further improve personnel performance.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATION

To prevent further violations, 10 CFR 50.9 training will be integrated into NPPD's Management and Technical Staff continuing training programs. In addition, to further ensure the accuracy of future NRC submittals, the Nuclear Power Group Manager has directed that an Overview Committee be put in place at the General Office and at CNS to review in detail future NRC submittals for technical accuracy and completeness. This review process will also provide an excellent training device for implementing management expectations to NPPD personnel. The noted review process will include Licensee Event Reports and responses to Notices of Violation, Bulletins, and Generic Letters. Rigorous accountability, following clearly defined guidelines for performing reviews of potential plant safety issues, has also been directed by the Nuclear Power Group Manager. The standardized guidelines are to be established and verified through visits to other nuclear plants who appear to perform well in this area.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

NPPD is currently in full compliance and will complete all corrective action initiatives for this violation by October 1993.

STATEMENT OF VIOLATION B

10 CFR 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality, such as deviations and nonconformances, are promptly identified and corrected.

Contrary to the above, between August 1992 and December 1992, measures established by the licensee to promptly identify and correct nonconformances did not assure the identification and correction of a potentially significant condition adverse to quality -- the presence of temporary strainers in the Reactor Equipment Cooling and the Reactor Core Isolation Cooling systems. In response to the identification of temporary strainers in the Core Spray system in August 1992, the licensee became aware of an incomplete evaluation for temporary strainers on the Reactor Equipment Cooling system and observed unmarked spacer rings in the Reactor Equipment Cooling system, and did not identify and correct the nonconforming condition until January 1993 when a strainer was observed during corrective maintenance. In addition, the licensee became aware that there was a lack of documentation to substantiate its belief that temporary strainers in the Reactor Core Isolation Cooling system had been removed. In spite of the fact that documentation did not exist, as described in Violation A, the presence of temporary strainers, a nonconforming condition, was not identified until January 1993, following the identification of temporary strainers in the Reactor Equipment Cooling system.

This is a Severity Level III violation (Supplement I). Civil Penalty - \$100,000.

ADMISSION OF VIOLATION

NPPD admits the alleged violation.

REASON FOR VIOLATION

As a result of identifying temporary strainers in the Core Spray System in August 1992, Nonconformance Report 92-104 was generated to evaluate the root cause of the occurrence. As part of the immediate corrective action, piping walkdowns were conducted to ensure similar strainers were not located in the main and alternate pump suction lines for other safety systems including Reactor Core Isolation Cooling (RCIC), High Pressure Coolant Injection (HPCI), Residual Heat Removal (RHR), Service Water (SW), and Reactor Equipment Cooling (REC) systems. At the conclusion of the walkdowns and a concurrent document search, supplemented by personnel interviews, NPPD incorrectly concluded that adequate evidence had been collected to assure that no temporary pump suction strainers remained in the aforementioned safety systems.

The determination that the unlabeled spacer plates known to exist in the REC and RCIC systems were, in fact, spacer plates and were not strainers was based, inappropriately, on (1) interviews conducted with maintenance personnel who had

performed REC pump maintenance, (2) the recollections of a former RCIC system engineer, and (3) the fact that there was no identification tab present on them.

On January 26, 1993, while performing maintenance on Reactor Equipment Cooling Pump C, a temporary pump suction strainer was found. Radiographs of Reactor Equipment Cooling pumps A, B, D, and the Reactor Core Isolation Cooling pump also showed that temporary startup strainers were installed.

CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED

After discovery of the RCIC and REC strainers, an Operability Determination was immediately performed for both the systems which concluded that the safety functions of the systems were not affected by the installed temporary strainers. Concurrently, a Nonconformance Report was generated to evaluate the occurrence and to determine why previous actions had been ineffective in identifying and removing these strainers. The REC and RCIC strainers were subsequently removed during the 1993 Refueling Outage.

Radiographs of HPCI pump and RHR pump suction spool pieces were also taken. The radiographs verified that the temporary strainers had indeed been removed. Additionally, independent piping walkdowns and drawing reviews were conducted by Cooper Nuclear Station's Quality Assurance and Engineering Departments for safety related systems, support systems, and systems important to power production. Walkdowns were conducted regardless of whether the system had previously been subjected to a walkdown since the presence or absence of tabs had created questionable results for past walkdowns. The independent walkdowns were performed with the understanding that for any spool piece which could have a strainer installed, it must be assumed that it did have one installed, unless concrete evidence could be found to the contrary. Documented evidence of strainer removal has been collected for all temporary strainers known to have been installed during construction.

NPPD has also conducted an extensive evaluation on suction strainers installed in safety and non-safety related systems. As a result, it is concluded that the suction strainers found in both the RCIC and REC pump suctions did not present a potential for a safety concern and could, if desired, have been considered permanent strainers due to their design and construction and left in place. The REC pump strainer had large diamond openings (5/16" x 1") in the screen and the RCIC pump strainer had 1/8" openings (the same size as permanent torus suction strainer). Please reference Attachment 3, for relevant data concerning the construction of these strainers. The strainer configuration, combined with the pump performance data taken during required In Service Testing, would have provided assurance of continued pump operability. This information is being presented to show that the strainer's design, construction, and as found condition did not present a safety concern. However, it is not intended to excuse the fact that they were not aggressively identified by NPPD and, upon identification, either removed or the appropriate drawings revised and any necessary preventive maintenance established.

An engineering evaluation is nearly completed for those strainers in non-essential systems, which will remain installed after the 1993 Refueling Outage (Condensate Booster Pump, Reactor Feedwater Pump, and Turbine Equipment Cooling Pump suction strainers). It should be noted that of all the non-essential

system strainers mentioned only the Turbine Equipment Cooling Pump strainers were determined to be temporary. Furthermore, inlet piping walkdowns and drawing reviews were conducted by engineering personnel for selected heat exchangers and fan coil units which are important to safety, in an effort to identify any strainers installed that were not in accordance with design. Two strainers were identified, but both were found to be in accordance with plant design.

CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATION

NPPD has determined that a root cause of the occurrence was a lack of coordination and accountability for an issue which involved multiple systems and which was assigned to different system engineers that reported to different supervisors. As a result, an Engineering Department Instruction has been developed for the disposition of broad multi-system issues. The instruction requires that such issues be assigned to a coordinator who will be held accountable for the satisfactory resolution of the issue and who will report directly to the Assistant Engineering Manager for all work associated with the resolution of the issue.

The inadequate approach to this issue is not indicative of Cooper Nuclear Station's expected standard of performance. The breakdown in quality performance at the individual level was precipitated by lack of defined accountability for this type of issue and a lack of communication. The condition resulted directly from an issue which crossed normal lines of individual responsibility, accountability, and supervision. NPPD Senior Management has issued a memorandum on job performance to Nuclear Power Group Site and Division Managers and has directed each manager to ensure every employee is aware of management's expectation in regard to standards of performance. The details of this violation will also be incorporated into industry events training for all system engineers.

The specific supervisor involved in this event has been counselled with respect to the particulars of this violation and his part in it. Based on his recent performance related to resolving potential safety problems, this counselling was effective and well received by him.

As previously mentioned, NPPD has also initiated, as a defense in depth measure, a Corrective Action Program Overview Group of senior level management personnel to review and evaluate selected Nonconformance Reports, Deficiency Reports, Operability Determinations, Operability Evaluations, Radiological Safety Incident Reports, Maintenance Work Items, Engineering Work Requests, and NRC Correspondence (responses to Inspection Reports, Bulletins, and Generic Letters) for the past two years to ensure that the corrective action taken has been adequate (or i.e. being aggressively pursued) and to ensure that other issues such as those described in the Notice of Violation do not exist. The review will also address future documentation as described above, and will continue for at least six months. The need to continue the overview function beyond that time frame will then be evaluated. This overview group will provide an excellent training device for implementing management's expectations for future evaluation of the aforementioned documents.

Although the violation does not appear to be the result of an existing programmatic problem, NPPD will perform an effectiveness review of compliance with its Corrective Action Program and will initiate any enhancements determined

to be appropriate. In addition, self assessments will be conducted using, at a minimum, one consultant with vast industry experience in these areas, for the personnel-related issues associated with the program (culture, accountability, organization structure, and communications) and for the existing management oversight capability. Any deficiencies noted, including personnel concerns will be promptly addressed.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The District is currently in full compliance and the Corrective Action Program improvements described above will be implemented by October 1993.

INFORMATION FOR NRC CONSIDERATION IN MITIGATION
OF THE PROPOSED CIVIL PENALTIES

Nebraska Public Power District (NPPD) admits the alleged violations and has stated such in the responses to Violations A and B contained in Attachment 1. We also acknowledge that these circumstances and our actions could have and should have been handled more professionally. However, we also conclude based on the information provided, that the magnitude of the proposed enforcement action is not warranted and request that mitigation of the proposed Civil Penalties be considered. NPPD makes this request based upon the following points:

1. The magnitude and extent of the corrective actions taken and planned by NPPD, are such that the NRC has already achieved its objectives in the matter without imposing the proposed Civil Penalties.

In the Reference, it is stated that individual performance and commitment to quality performance may be a contributing root cause to the 10 CFR 50.9 violation and that NPPD was recommended to examine these factors and supplement its corrective action as appropriate. As discussed below, NPPD has taken or plans to take corrective action to address the factors of individual performance and commitment to quality in ensuring complete and accurate information is submitted or made available to the NRC.

First, training has been given on the circumstances surrounding this violation to appropriate NPPD personnel who are assigned responsibility for responding to and reviewing operating experience information. This training emphasized the 10 CFR 50.9 requirement to provide complete and accurate information on all pertinent documentation that is maintained by NPPD for possible NRC review or is submitted to the Commission.

In addition, a policy memorandum has been issued to Senior Nuclear Power Group Management giving the acceptable standards of individual job performance expected of employees in the Nuclear Power Group along with direction to disseminate these expectations to their people.

As a means of further implementing the management expectations of job performance and to ensure the continued accuracy of future NRC submittals, an Overview Committee has been put in place both at the plant and the Corporate Office to review and challenge the technical accuracy and completeness of proposed submittals to the NRC. This Overview Committee review process will include Licensee Event Reports, and responses to Notices of Violation, Bulletins, and Generic Letters. The critical examination of proposed submittals by these Overview Committees will provide continuous examples to pertinent personnel of how management expectations are to be applied in practice and will assist in raising standards of personnel performance.

The Reference also recommended that NPPD focus more attention on its corrective action program to determine whether a more fundamental weakness exists with regard to the identification and resolution of potential problems. NPPD has further considered the root causes of the events which led to the violations and we have determined that we need to enhance our effectiveness, accountability, culture, and mindset with regard to corrective action matters. To accomplish this fundamental change, NPPD has initiated work in several areas. These particular actions and programs are discussed in detail in the fourth through seventh paragraphs on the cover letter to this attachment and in the last two paragraphs of page 6 of 7 of Attachment 1.

NPPD believes the actions discussed above will address the root causes of the violations contained in the Reference and will mitigate the occurrence of similar events in the future at NPPD. NPPD recognizes that some of these actions will be arduous and lengthy to accomplish before the full results are realized. We believe this effort is needed to assure a satisfactory corrective action program and completeness and accuracy in all future NRC submittals. We also believe these corrective actions are of such a significance and extent to warrant mitigation of the proposed Civil Penalties.

2. The fact that NPPD has not had an "accuracy and completeness" related violation for many years.

NPPD wishes to convey the fact that we have never been cited or fined for a violation of 10 CFR 50.9 since the inception of the regulation and did not find, through review of our records, a similar "accuracy and completeness" related violation since 1982. The submission of incomplete or inaccurate information to the NRC is clearly contrary to the management and organizational expectations of NPPD. NPPD's regulatory history provides compelling evidence in this regard. The violation of 10 CFR 50.9 was neither willful nor the result of a culture permissive of such actions. NPPD believes the paucity of related violations, as well as the fact that this is a first time violation of 10 CFR 50.9, warrants mitigation of the proposed Civil Penalty for this violation.

3. The fact that NPPD's previous enforcement history should not reasonably lead to Civil Penalties of the magnitude proposed.

NPPD's overall enforcement record has been clear of Civil Penalties since 1987, and the last Level III violation occurred in 1989 (Civil Penalty not imposed). We believe this enforcement record is indicative of an organizational culture that places an extremely high value on reactor safety and regulatory compliance. The violations are the result of inadequate response to a complex and unique problem and are not programmatic. They are clearly uncharacteristic of NPPD's past regulatory performance. Based on NPPD's previous enforcement record, and good safety performance

record, we believe mitigation of the proposed Civil Penalties is reasonable, justifiable and appropriate.

Although certain of the positions contained herein may be contrary to those of the NRC, NPPD believes these positions are responsible. We further wish to stress that these positions are not intended, nor should they be viewed, as entrenchment on NPPD's part; rather they are expressions of what we believe to be responsible positions. We respectfully request that this information offered in mitigation be given full and reasonable consideration and that the Civil Penalties proposed be reduced accordingly.

STRAINER DATA SHEET

DATA	REFERENCE
1. <u>Strainer Description</u> : RCIC Pump Suction	N/A
2. <u>Strainer Location</u> : Pump Suction Inlet appr. 10½" from pump inlet. (Strainer # S-209)	Isometric: Jelco Dwg 2621-1, Rev. N03 Flow: Burns & Roe Dwg 2043, Rev. N20
3. <u>Strainer CIC</u> : None (Strainers removed)	N/A
4. <u>Strainer Flow</u> : Normal (100% Power): 416 gpm ^a (Design) Maximum: 416 gpm ^b	^a USAR Pg. IV-7-2 ^b USAR Pg. IV-7-2
5. <u>Strainer Pressure Drop</u> : <div style="display: flex; justify-content: space-around;"> <u>Clean</u> <u>50% Clogged</u> </div> Normal Flow: 0.65 psid ^a 1.6 psid ^b (1.5 ft) (3.8 ft) Maximum Flow: 0.65 psid ^a 1.6 psid ^b (1.5 ft) (3.8 ft)	^a Est. based on Mack Iron general relationship for similar type strainer. ^b Clean ΔP x 2.4 based on similarity with REC Pump Suction Strainers.
6. <u>Strainer Buckling Pressure Drop</u> : Not a concern due to low suction static head from either ESCT or Suppression Pool. Also, the RCIC pump suction strainer had the same size openings (1/8") as the Torus strainers which minimizes clogging potential.	1/8" strainer openings per contract E69-4 p G411. Verified during inspection of removed strainer.
7. <u>Normal Pump Suction Pressure</u> : 6-7 psig (48-50 ft _{abs})	Procedure 6.3.6.1.1 and Pre-Op Test GE-6
8. <u>Pump NPSH Requirement</u> : Normal Flow: 20 ft Maximum Flow: 20 ft	Bingham Pump Curve No. 27130
9. <u>Seismic Evaluation</u> : Seismic loads on the cone strainer are negligible compared to the operating loads and, therefore, are not a concern.	Per Civil Engineering

DATA	REFERENCE
<p>10. <u>Strainer Condition at Inspection:</u></p> <p>The strainer was installed backwards. It was cone-shaped and had a stainless steel 1/8" wire mesh. Strainer could not be traced to a specific manufacturer or model. The strainer was covered with a light reddish oxide coating, but the metal screen was still structurally sound. No debris was found in the strainer.</p>	<p>Visual inspection</p>
<p>11. <u>Conclusion/Recommendation:</u></p> <p>The backward orientation of the temporary strainer would not have affected the RCIC pump, since the flow through this type of strainer can be in either direction. The high quality water in the emergency condensate storage tank precluded the possibility of clogging this strainer. In addition, alternate suction from the Torus (Suppression Pool) would not have resulted in plugging the temporary strainer, since the permanent Torus strainers have the same size openings (1/8" perforations). Thus, plugging and backwashing are not a concern. Pump NPSH and flow would not have been impacted and the strainer could have withstood Seismic IS loads. Therefore, the operability of the RCIC Pump would not have been jeopardized.</p> <p>If significant plugging of the strainer was to occur, this would have been indicated in the pump surveillance procedure since suction pressure is recorded both before and after the pump is started.</p> <p>The strainer is not required and has been removed in accordance with the District's commitment to the NRC. Reference to this strainer will be removed from applicable drawings.</p>	

STRAINER DATA SHEET

DATA			REFERENCE									
1.	<u>Strainer Description:</u> REC Pump Suction		N/A									
2.	<u>Strainer Location:</u> Pump Suction Inlet (1 for each of 4 pumps) appr. 1'-4" from pump inlet. (Strainer # S-206)		Isometric: Jelco dwg 2848-2, Rev. N02 Flow: Burns & Roe dwg 2031, Sh. 2 Rev. N26									
3.	<u>Strainer CIC:</u> None (Strainers removed)		N/A									
4.	<u>Strainer Flow:</u> Normal (100% Power): 1520 gpm ^a Maximum: 1800 gpm ^b		*Pump Curve for Pump No. K2P1-055835 and based on normal TDH of 128 ft (55 psi) per Procedure 2.1.11. ^b Pump Runout.									
5.	<u>Strainer Pressure Drop:</u> <table><tr><td></td><td><u>Clean</u></td><td><u>50% Clogged</u></td></tr><tr><td>Normal Flow:</td><td>1.7 psid^a (3.9 ft)</td><td>4.1 psid^b (9.5 ft)</td></tr><tr><td>Maximum Flow:</td><td>2.3 psid^a (5.3 ft)</td><td>5.5 psid^b (12.7 ft)</td></tr></table>			<u>Clean</u>	<u>50% Clogged</u>	Normal Flow:	1.7 psid ^a (3.9 ft)	4.1 psid ^b (9.5 ft)	Maximum Flow:	2.3 psid ^a (5.3 ft)	5.5 psid ^b (12.7 ft)	*Est. based on similar cone strainer from Mack Iron (see telecon with J. Huber of Mack Iron, 4/7/93). A review of Pre-Op and surveillance testing indicate pressure drops are conservative. ^b Clean ΔP x 2.4 per telecon with J. Huber of Mack Iron, 4/7/93.
	<u>Clean</u>	<u>50% Clogged</u>										
Normal Flow:	1.7 psid ^a (3.9 ft)	4.1 psid ^b (9.5 ft)										
Maximum Flow:	2.3 psid ^a (5.3 ft)	5.5 psid ^b (12.7 ft)										
6.	<u>Strainer Buckling Pressure Drop:</u> Not a concern due to low suction static head from REC water surge tank and large diamond openings (5/16" x 1") in screen. Also, this is a closed loop system with high quality water which minimizes clogging potential.		Strainer openings size per telecon with A. Gray of NPPD (Operations Engineer), 4/7/93.									
7.	<u>Normal Pump Suction Pressure:</u> 21 psig (82 ft _{abs})		Pre-Op Test BR-65 and Procedure 6.3.16.3.									
8.	<u>Pump NPSH Requirement:</u> Normal Flow: 19 ft Maximum Flow: 30 ft		Typical Pump Curve for 6" Colt Model 5823RB.									

DATA	REFERENCE
9. <u>Seismic Evaluation</u> : Seismic loading on the cone strainers are negligible compared to the operating loads and, therefore, are not a concern.	Per Civil Engineering
10. <u>Strainer Condition at Inspection</u> : Strainer was cone-shaped and contained 5/16" x 1" diamond shaped openings. Strainer could not be traced to a specific manufacturer or model. In good condition with no visible sign of degradation or blockage. Material was stainless steel.	OD 93-006 and visual inspection.
11. <u>Conclusion/Recommendation</u> : The high quality water in the closed REC System and the large strainer openings precluded the possibility of clogging these strainers. Pump NPSH and flow would not have been impacted and the strainers could have withstood Seismic IS loads. Therefore, the operability of the REC Pumps would not have been jeopardized with strainers installed. If significant plugging of the strainer were to occur, this would have been indicated in the pump surveillance procedure since suction pressure is recorded both before and after the pump is started. Strainers are not required and have been removed in accordance with the District's commitment to the NRC. Reference to these strainers will be removed from applicable drawings.	