VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 14, 2002

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 02-306
SPS-LIC/CGL R0
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
PROPOSED TECHNICAL SPECIFICATION CHANGE
CONTAINMENT SPRAY AND RECIRCULATION SPRAY NOZZLES
SURVEILLANCE FREQUENCY

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests amendments, in the form of changes to the Technical Specifications to Facility Operating Licenses Numbers DPR-32 and DPR-37 for Surry Power Station Units 1 and 2, respectively. The proposed changes will revise the surveillance frequency of the containment spray and recirculation spray system spray header nozzles from a periodic surveillance to a performance-based surveillance. A discussion of the proposed Technical Specifications changes is provided in Attachment 1. The mark-up and proposed pages are provided in Attachments 2 and 3, respectively.

We have evaluated the proposed Technical Specifications changes and have determined that they do not involve a significant hazards consideration as defined in 10 CFR 50.92. The basis for our determination that the changes do not involve a significant hazards consideration is provided in Attachment 4. We have also determined that operation with the proposed changes will not result in any significant increase in the amount of effluents that may be released offsite and no significant increase in individual or cumulative occupational radiation exposure. Therefore, the proposed amendment is eligible for categorical exclusion as set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed changes.

A periodic surveillance test of the spray nozzles is currently scheduled for the Unit 1 Spring 2003 refueling outage. To permit effective outage planning, it is requested that the NRC approve the proposed Technical Specification changes by the end of 2002.

A001

A similar license amendment was approved by the NRC for Perry Nuclear Power Station on June 29, 2000 (TAC No. MA1736). In addition, a similar license amendment request for North Anna Power Station was submitted to the NRC on February 26, 2002 by letter Serial No. 02-124.

If you have any further questions or require additional information, please contact us.

Very truly yours,

Leslie N. Hartz
Vice President – Nuclear Engineering

Attachments

Commitment made in this letter:

The Post Maintenance Testing Program will address the need for a specific evaluation to determine if a spray nozzle inspection or test is necessary to ensure the nozzles remain unobstructed after maintenance on the spray ring headers and other appropriate portions of the systems.

cc: U.S. Nuclear Regulatory Commission
Region II
Sam Nunn Atlanta Federal Center
Suite 23T85
61 Forsyth Street, SW
Atlanta, Georgia 30303

Mr. R. A. Musser
NRC Senior Resident Inspector
Surry Power Station

Commissioner
Bureau of Radiological Health
1500 East Main Street
Suite 240
Richmond, VA 23218

SN: 02-306
Docket Nos.: 50-280/281
Subject: Proposed TS – Cont. Spray & Recirc. Spray Nozzles
Surveillance Frequency

COMMONWEALTH OF VIRGINIA)
)
COUNTY OF HENRICO)

The foregoing document was acknowledged before me, in and for the County and Commonwealth aforesaid, today by Leslie N. Hartz, who is Vice President - Nuclear Engineering, of Virginia Electric and Power Company. She has affirmed before me that she is duly authorized to execute and file the foregoing document in behalf of that Company, and that the statements in the document are true to the best of her knowledge and belief.

Acknowledged before me this 14th day of May, 2002.

My Commission Expires: March 31, 2004.

Notary Public

(SEAL)

Attachment 1

Discussion of Change

Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

Discussion of Change

Introduction

Pursuant to 10 CFR 50.90, Virginia Electric and Power Company (Dominion) requests a change to Technical Specifications Surveillance Requirements 4.5.A.3 and 4.5.B.3 for Surry Units 1 and 2. The proposed change will revise the testing frequencies of the Containment Spray (CS) and Recirculation Spray (RS) subsystems spray ring header nozzles. The proposed change will require the surveillances to be performed after system maintenance which could result in nozzle blockage, to ensure that foreign material is not left in the system.

The proposed change has been reviewed and it has been determined that the change qualifies for categorical exclusion from an environmental assessment as set forth in 10 CFR 51.22(c)(9). Therefore, no environmental impact statement or environmental assessment is needed in connection with the approval of the proposed change.

Background

Surveillance Requirements 4.5.A.3 and 4.5.B.3 currently require that each CS and RS subsystems' nozzles be verified to be unobstructed on a 10-year frequency, coincident with the closest refueling outage, using an air or smoke test. The Technical Specification Bases further clarify that each test is performed using an air or smoke test to verify that the spray nozzles are not obstructed and that flow will be provided when required. The requested revision would change the frequencies to require this surveillance only "following maintenance which could result in nozzle blockage." Nozzle blockage is considered unlikely during periods without maintenance, since the nozzles are of a passive design and that portion of the system is maintained dry. The proposed frequency has been shown to be acceptable through operating experience. In addition, the method of performing the test (air or smoke) will be moved to the Bases Section and "inspection" will be included as an option to verify that the nozzles are not obstructed.

The cost associated with performance of these tests is not considered to be commensurate with the safety benefit unless there has been an activity, which has likely resulted in the introduction of material into the piping that may lead to nozzle blockage. The air or smoke flow tests impact fuel movement in containment, presents a personnel safety risk for the individual(s) required to access the top of containment to check the nozzle flow, and is expensive to implement. Since the CS and RS safety function can be better ensured with the proposed frequency (performing this test if maintenance is performed that could block the nozzles), approval of the proposed frequency changes is being requested prior to the next Unit 1 refueling outage currently scheduled for Spring 2003 when the test is scheduled to be performed.

Description of Change

The frequency of Surveillance Requirements 4.5.A.3 and 4.5.B.3 is being revised to read: "By verifying each spray nozzle is unobstructed following maintenance which could result in nozzle blockage."

The method of performing the tests (smoke or air) will be moved to the Bases Section and "inspection" will also be included as an option to verify that the nozzles are not obstructed.

Safety Implications of the Proposed Change

The containment depressurization system is used to return the containment atmosphere to subatmospheric pressure after a LOCA by removing heat from the containment structure. The containment depressurization system consists of two subsystems: (1) the CS subsystem and (2) the RS subsystem. The CS subsystem transfers heat from the containment atmosphere to the containment spray, which is collected in the containment sump. The RS subsystem transfers heat via the recirculation spray heat exchangers from the water collected on the containment structure floor and from the containment atmosphere to the Service Water System.

The CS subsystem consists of two completely separate trains of spray ring headers located in the containment dome and one common spray ring header located outside the crane wall. Each train is rated at 100% capacity. The two separate circular containment spray ring headers are located approximately 96 feet above the operating floor in the dome of the containment structure. An additional ring header common to both containment spray trains is installed at the 96-foot elevation outside the crane wall. The three CS spray headers contain a total of 234 brass spray nozzles. The brass spray nozzles are sized to properly atomize the spray water to maximize the total surface area while minimizing the potential for becoming clogged by foreign matter. The CS system piping and equipment are fabricated of ASTM A358, Type 304 stainless steel, or equivalent.

The CS pump discharge MOVs and weighted check valves are maintained closed during normal operation to provide containment isolation. Each CS supply line to the containment contains a weight-loaded check valve to prevent air inleakage to the containment when it is at a subatmospheric pressure. Drain lines located downstream of the check valves inside the containment will drain the CS manifolds should any water enter the manifolds during periodic testing. In addition, each train of CS has a four-inch line downstream of the isolation valves that supplies water to the suction of the RS pumps for increased NPSH. This four-inch line would also serve to prevent any water collection in the supply headers. Containment sump inleakage is monitored and recorded in the control room during plant operations, which provides another method to identify any leak-by of the CS and RS MOVs.

The RS subsystem is composed of two trains; each train includes an inside RS subsystem and an outside RS subsystem. Each subsystem is considered 50% capacity, and consists of one recirculation spray pump, one recirculation spray heat exchanger (RSHX), and one 180° coverage spray header with nozzles. The spray ring headers are located approximately 47 feet above the operating floor of the containment structure. Each spray ring header is a semicircular eight-inch pipe that contains 195 equally spaced sites with 1 or 2 nozzles at each site for a total of 293 brass spray nozzles per spray header. The RS system piping and equipment are also fabricated of Type 304 or Type 316L stainless steel, or equivalent, except for the Recirculation Spray Heat Exchanger (RSHX) tubing, which is titanium. Because of the corrosion-resistant material chosen for the piping and nozzles, degradation of the spray nozzles is not probable. Two of the RS pumps and motors are located inside the containment structure, and two RS pumps and motors are located outside the containment.

Strainers are provided in the inlet of the CS pumps. Three layers of screening are provided in the suction of RS pumps. The strainers and the screen mesh are small enough to prevent any material that could plug the spray nozzles from passing through. Test spray nozzles are installed inside the Refueling Water Storage Tank for routine surveillance testing of the containment spray pumps, which will provide indication of any particulate in the water that could cause blockage.

A smoke or air test has been performed at least four times since construction of each unit for the CS and RS systems nozzles.

TEST RESULTS

	Unit 1	Unit 2
	Pre-operational tests	
CS:	10/19/71	02/04/72
RS:	08/16/71	02/04/72
	TS surveillance tests	
CS and RS:	06/16/78	##
	04/25/83*	06/07/85
	02/07/94	05/18/91

* Three nozzles in the RS system were found covered with "dried-out" tape during the performance of the 1983 test. After removing the tape, the nozzles exhibited unobstructed flow. The origin of the tape was unknown. The total number of spray nozzles installed in the RS system represents a 25% margin and therefore, the RS system was operable and its performance remained consistent with the accident analysis assumptions.

A record of the completed surveillance test for this time frame (1977-1980) could not be located during preparation of this Technical Specification change. However, a review of correspondence during that period did not identify any LER or report that documented a missed surveillance.

With the exception of the three nozzles identified in the April 1983 test, the results of each test demonstrated unobstructed flow through each nozzle. These tests confirmed that the system was free from construction debris, as well as free from obstructions following startup of the plant and during plant operations.

A review of the maintenance and modification history since the last smoke or air test indicates a limited number of work orders and modifications have been performed on CS and RS MOV isolation valves or the system piping. The modifications associated with the valves were for operator adjustments and would not have affected system cleanliness. The maintenance activities included: repositioning the spectacle flange and elbows for RS testing activities, repair and adjustment of weighted discharge check valves, installing blanks on CS piping to support MOV leak testing, and RS heat exchanger inspections. Cleanliness control practices, including post work inspections, were utilized and documented in the work orders to ensure system cleanliness requirements were maintained.

Routine maintenance activities with foreign material exclusion (FME) controls should not normally require performance of this surveillance. Only unanticipated circumstances should require performance of this surveillance (such as inadvertent spray actuation or loss of foreign material control when working within the spray ring header(s). Such unanticipated actions would initiate a Plant Issue/Deviation in the Corrective Action System which would require an evaluation of the circumstances and appropriate corrective actions to ensure the spray nozzles are operable and prevent recurrence.

Spray system maintenance procedures establish FME controls and post-maintenance inspection when the spray system maintenance requires opening the system. In addition, the Post-Maintenance Testing Program will address the need for a specific evaluation to determine if a spray nozzle inspection or test is necessary to ensure the nozzles remain unobstructed after maintenance on the spray ring headers.

Review of industry experience indicates that containment spray systems of similar design are highly reliable (i.e., not susceptible to plugging). Our review of the industry experience did identify two plants that had identified an actual blockage. One event occurred at a plant that allowed water to enter their spray system during standby operation, which led to corrosion. At the other plant degradation of coating material led to the blockage. The operation and design of the Surry CS and RS subsystems would preclude these conditions.

Due to the plant design, the spray ring headers are maintained dry. Formation of significant corrosion products is unlikely. Due to its location at the top of the containment, introduction of foreign material from the exterior to the header is unlikely. These reasons make the potential for nozzle obstruction very low. The requirement to verify the nozzles are not obstructed by flow testing every ten years is unnecessary. Verifying that the nozzles are not obstructed following maintenance, which could introduce foreign material internal to the spray ring headers, is the appropriate frequency. This verification would consist of an inspection of the nozzles, or an air or smoke test. At least one utility has received approval of this change in surveillance frequency for their spray system.

Environmental Assessment

This amendment request meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) as follows:

(i) The amendment involves no significant hazards consideration.

As described above, the proposed change in surveillance frequencies does not involve a significant hazards consideration.

(ii) There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

The proposed change in surveillance frequencies does not involve the installation of any new equipment or the modification of any equipment that may affect the types or amounts of effluents that may be released offsite. Therefore, there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

(iii) There is no significant increase in individual or cumulative occupation radiation exposure.

The proposed change in surveillance frequencies does not involve plant physical changes or introduce any new mode of plant operation. Therefore, there is no significant increase in individual or cumulative occupational radiation exposure.

Based on the above, Dominion concludes that the proposed changes meet the criteria specified in 10 CFR 51.22 for a categorical exclusion from the requirements of 10 CFR 51.22 relative to requiring a specific environmental assessment by the Commission.

Conclusion

The proposed change in the surveillance frequencies for the CS and RS subsystems' spray nozzles will not alter assumptions relative to the mitigation of an accident or transient event and will not adversely affect normal plant operation and testing. Therefore, the proposed change is consistent with the current safety analysis assumptions.

The Station Nuclear Safety and Operating Committee (SNSOC) and the Management Safety Review Committee (MSRC) have reviewed the proposed change in surveillance frequencies and have concluded that this change does not involve a significant hazards consideration and will not endanger the health and safety of the public.

References

UFSAR Section 6.3, Consequence Limiting Safeguards

Attachment 2

Mark-up of Technical Specifications Changes

Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

4.5 SPRAY SYSTEMS TESTS

Applicability

Applies to the testing of the Spray Systems.

Objective

To verity that the Spray Systems will respond promptly and perform their design function, if required.

Specification

A. Each containment spray subsystem shall be demonstrated OPERABLE:

1. By verifying, that on recirculation flow, each containment spray pump performs satisfactorily when tested in accordance with Specification 4.0.5.

2. By verifying that each motor-operated valve in the containment spray flow path performs satisfactorily when tested in accordance with Specification 4.0.5.

3. ~~At least once per 10 years, coincident with the closest refueling outage, by performing an air or smoke flow test and~~ verifying each spray nozzle is unobstructed following maintenance which could cause nozzle blockage.

4. Coincident with the containment spray pump test described in Specification 4.5.A.1, by verifying that no particulate material clogs the test spray nozzles in the refueling water storage tank.

B. Each recirculation spray subsystem shall be demonstrated OPERABLE:

1. By verifying each recirculation spray pump performs satisfactorily when tested in accordance with Specification 4.0.5.

2. By verifying that each motor-operated valve in the recirculation spray flow paths performs satisfactorily when tested in accordance with Specification 4.0.5.

3. ~~At least once per 10 years, coincident with the closest refueling outage,~~ by ~~performing an air or smoke flow test and~~ verifying each spray nozzle is unobstructed following maintenance which could cause nozzle blockage.

C. Each weight-loaded check valve in the containment spray and outside containment recirculation spray subsystems shall be demonstrated OPERABLE once per 18 months by cycling the valve one complete cycle of full travel and verifying that each valve opens when the discharge line of the pump is pressurized with air and seats when a vacuum is applied.

D. A visual inspection of the containment sump and the inside containment recirculation spray pump wells and the engineered safeguards suction inlets shall be performed once per 18 months and/or after major maintenance activities in the containment. The inspection should verify that the containment sump and pump wells are free of debris that could degrade system operation and that the sump components (i.e., trash racks, screens) are properly installed and show no sign of structural distress or excessive corrosion.

The recirculation spray pumps outside the containment have the capability of being dry-run and flow tested. The test of an outside recirculation spray pump is performed by closing the containment sump suction line valve and the isolation valve between the pump discharge and the containment penetration. This allows the pump casing to be filled with water and the pump to recirculate water through a test line from the pump discharge to the pump casing.

With a system flush conducted to remove particulate matter prior to the installation of spray nozzles and with corrosion resistant nozzles and piping, it is not considered credible that a significant number of nozzles would plug during the life of the unit to reduce the effectiveness of the subsystems. Therefore, ~~the provisions to air-test the nozzles every ten years, coinciding with the closest refueling outage~~ is sufficient to indicate that plugging of the nozzles has not occurred. an inspection or air or smoke test of the nozzles following maintenance which could cause nozzle blockage

The spray nozzles in the refueling water storage tank provide means to ensure that there is no particulate matter in the refueling water storage tank and the containment spray subsystems which could plug or cause deterioration of the spray nozzles. The nozzles in the tank are identical to those used on the containment spray headers. The flow test of the containment spray pumps and recirculation to the refueling water storage will indicate any plugging of the nozzles by a reduction of flow through the nozzles.

Performing the containment sump and pump well inspections will reduce the potential for system degradation due to sump debris associated with refueling activities or major maintenance activities as well as reduce wear on the inside containment recirculation spray pumps during dry testing. Ensuring proper installation and structural integrity of the trash racks and sump screens will prevent ingress of debris generated during the DBA and will allow long term containment cooling and recirculation mode cooling of the core.

References

FSAR Section 6.3.1, Containment Spray Pumps
FSAR Section 6.3.1, Recirculation Spray Pumps

Attachment 3

Proposed Technical Specifications Changes

Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

TABULATION OF CHANGES

License No. DPR 32 / Docket No. 50-280
License No. DPR 37 / Docket No. 50-281

Summary of Changes:

The proposed changes to the Surry Power Station Technical Specifications are being made to revise the surveillance frequency of the containment spray and recirculation spray system spray header nozzles from a periodic surveillance to a performance-based surveillance.

DELETE	DATED	SUBSTITUTE
TS 4.5-1	05-20-94	TS 4.5-1
TS 4.5-2	06-11-98	TS 4.5-2
TS 4.5-4	05-20-94	TS 4.5-4

4.5 SPRAY SYSTEMS TESTS

Applicability

Applies to the testing of the Spray Systems.

Objective

To verify that the Spray Systems will respond promptly and perform their design function, if required.

Specification

A. Each containment spray subsystem shall be demonstrated OPERABLE:

1. By verifying, that on recirculation flow, each containment spray pump performs satisfactorily when tested in accordance with Specification 4.0.5.

2. By verifying that each motor-operated valve in the containment spray flow path performs satisfactorily when tested in accordance with Specification 4.0.5.

3. By verifying each spray nozzle is unobstructed following maintenance which could cause nozzle blockage.

4. Coincident with the containment spray pump test described in Specification 4.5.A.1, by verifying that no particulate material clogs the test spray nozzles in the refueling water storage tank.

B. Each recirculation spray subsystem shall be demonstrated OPERABLE:

1. By verifying each recirculation spray pump performs satisfactorily when tested in accordance with Specification 4.0.5.

2. By verifying that each motor-operated valve in the recirculation spray flow paths performs satisfactorily when tested in accordance with Specification 4.0.5.

3. By verifying each spray nozzle is unobstructed following maintenance which could cause nozzle blockage.

C. Each weight-loaded check valve in the containment spray and outside containment recirculation spray subsystems shall be demonstrated OPERABLE once per 18 months by cycling the valve one complete cycle of full travel and verifying that each valve opens when the discharge line of the pump is pressurized with air and seats when a vacuum is applied.

D. A visual inspection of the containment sump and the inside containment recirculation spray pump wells and the engineered safeguards suction inlets shall be performed once per 18 months and/or after major maintenance activities in the containment. The inspection should verify that the containment sump and pump wells are free of debris that could degrade system operation and that the sump components (i.e., trash racks, screens) are properly installed and show no sign of structural distress or excessive corrosion.

The recirculation spray pumps outside the containment have the capability of being dry-run and flow tested. The test of an outside recirculation spray pump is performed by closing the containment sump suction line valve and the isolation valve between the pump discharge and the containment penetration. This allows the pump casing to be filled with water and the pump to recirculate water through a test line from the pump discharge to the pump casing.

With a system flush conducted to remove particulate matter prior to the installation of spray nozzles and with corrosion resistant nozzles and piping, it is not considered credible that a significant number of nozzles would plug during the life of the unit to reduce the effectiveness of the subsystems. Therefore, an inspection or air or smoke test of the nozzles following maintenance which could cause nozzle blockage is sufficient to indicate that plugging of the nozzles has not occurred.

The spray nozzles in the refueling water storage tank provide means to ensure that there is no particulate matter in the refueling water storage tank and the containment spray subsystems which could plug or cause deterioration of the spray nozzles. The nozzles in the tank are identical to those used on the containment spray headers. The flow test of the containment spray pumps and recirculation to the refueling water storage will indicate any plugging of the nozzles by a reduction of flow through the nozzles.

Performing the containment sump and pump well inspections will reduce the potential for system degradation due to sump debris associated with refueling activities or major maintenance activities as well as reduce wear on the inside containment recirculation spray pumps during dry testing. Ensuring proper installation and structural integrity of the trash racks and sump screens will prevent ingress of debris generated during the DBA and will allow long term containment cooling and recirculation mode cooling of the core.

References

FSAR Section 6.3.1, Containment Spray Pumps

FSAR Section 6.3.1, Recirculation Spray Pumps

Attachment 4

Evaluation of Significant Hazards Consideration

Surry Power Station
Units 1 and 2
Virginia Electric and Power Company
(Dominion)

Evaluation of Significant Hazards Consideration

The proposed revision to Technical Specifications changes the frequencies of the surveillance requirements for the Containment Spray and Recirculation Spray nozzles. The frequency is being changed from every 10-years to "following maintenance which could result in nozzle blockage." In accordance with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based upon the following information:

1. Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

   The proposed change revises the surveillance frequencies from every 10 years to "following maintenance which could result in nozzle blockage." Analyzed events are initiated by the failure of plant structures, systems, or components. The Containment Spray and Recirculation Spray Systems are not considered to be initiators of any analyzed event. The proposed change does not have a detrimental impact on the integrity of any plant structure, system, or component that initiates an analyzed event. The proposed change will not alter the operation of or otherwise increase the failure probability of any plant equipment that initiates an analyzed accident. As a result, the probability of any accident previously evaluated is not significantly increased.

   The proposed change revises the surveillance frequencies. Reduced testing is justified where operating experience has shown that routinely passing a surveillance test performed at a specified interval has no apparent connection to overall component reliability. In this case, routine surveillance testing at the specified frequency is not connected to any activity, which may initiate reduced component reliability, and therefore has been of limited value in ensuring component reliability. Thus, the proposed frequency change is not significant from a reliability standpoint. The proposed containment spray and recirculation spray nozzle surveillance frequencies have been established based on achieving acceptable levels of equipment reliability.

   This change does not affect the plant design. Due to the plant design, the spray ring headers are maintained dry. Formation of significant corrosion products is unlikely. Due to their location at the top of the containment, introduction of foreign material from exterior to the headers is unlikely. Since maintenance that could introduce foreign material is the most likely cause for obstruction, testing or inspection following such maintenance would verify the nozzle(s) remain unobstructed and the systems' continued capability to perform their safety function(s). As a result, the consequences of any accident previously evaluated are not significantly affected by the proposed change in surveillance frequencies.

2. Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

   The proposed change does not involve a physical alteration of the plant (no new or different type of equipment will be installed) or a change in the methods governing normal plant operation. Thus, this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

   The margin of safety for this system is based on the capacity of the spray headers. The system is not susceptible to corrosion induced obstruction or obstruction from external sources to the system. Performance of maintenance on a spray ring header would now require evaluation of the potential for nozzle blockage and the need for a test or inspection. Consequently, the spray header nozzles should remain unblocked and available in the event that the safety function is required. Hence, the change in surveillance frequencies does not involve a significant reduction in the margin of safety.