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May 18, 1994

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

Subject: McGuire Nuclear Station, Unit 1
Docket Nos. 50-369
Reactor Vessel Integrated Surveillance Program
With Diablo Canyon
10 CFR 50, Appendix H, Section II.C

Dear Sir:

Pursuant to the regulatory requirements of Chapter 10 Code of Federal Regulations, part 50 (10 CFR 50), Appendix H, Section II.C, NRC approval of the McGuire Nuclear Station Reactor Vessel Integrated Surveillance Program with Diablo Canyon is hereby requested. In accordance with Section II.C of 10 CFR 50, Appendix H, an integrated surveillance program must be approved by the Director, Office of Nuclear Reactor Regulation, on a case-by-case basis, and that the criteria for approval include the following considerations:

1. The design and operating features of the reactors in the set must be sufficiently similar to permit accurate comparisons of the predicted amount of radiation damage as a function of total power output.

2. There must be adequate arrangement for data sharing between plants.

3. There must be a contingency plan to assure that the surveillance program for each reactor will not be jeopardized by operation at reduced power level or by an extended outage of another reactor from which data are expected.

4. There must be substantial advantages to be gained, such as reduced power outages or reduced exposure to radiation, as a direct result of not requiring surveillance capsules in all reactors in the set.

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Further, 10 CFR 50, Appendix H, Section II.C states that an integrated surveillance program may be considered for a set of reactors that; A) have similar design and operating features; B) the representative materials chosen for surveillance from each reactor in the set may be irradiated in one or more of the reactors, but there must be an adequate dosimetry program for each reactor; and c) there is no reduction in the requirements for number of materials to be irradiated, specimen types, or number of specimens per reactor is permitted, but the amount of testing may be reduced if the initial results agree with predictions.

By letter dated March 24, 1994, information which discussed the feasibility of utilizing the Diablo Canyon Unit 2 surveillance weld metal as a credible data source was provided (WCAP13949, Appendix D). The March 24, 1994 letter, also, advised that additional information to address, in full, all of the criteria necessary for approving an integrated surveillance program would be submitted May 10, 1994. To this end, Attachment 1 provides the additional information necessary to support the NRC staff's review and approval of the proposed integrated surveillance program for McGuire Unit 1. Attachment 2 provides the previously submitted information that was included in the March 24, 1994 letter.

As a final note, please be advised that the integrated reactor vessel surveillance program described herein is essentially a supplemental program to enhance the data utilized in assessing the embittlement behavior of the McGuire Unit 1 reactor vessel. The data obtained from the Diablo Canyon Unit 2 reactor vessel surveillance program will supplement the data from the radiation surveillance program currently in effect at McGuire Unit 1. No changes to the McGuire surveillance capsule test program are proposed. The integrated surveillance program provides an enhancement to the McGuire Unit 1 program by improving the reliability of the data utilized in predicting the amount of radiation damage.

Please contact Robert Sharpe at (704) 875-4447 if there are any questions regarding this submittal

Very truly yours,

T. C. McMeekin

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ATTACHMENT 1

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NRC CRITERIA

The design and operating features of the reactors in the set must be sufficiently similar to permit accurate comparisons of the predicted amount of radiation damage as a function of total power output.

RESPONSE

Both McGuire Unit 1 and Diablo Canyon Unit 2 are Westinghouse designed pressurized water reactors operating at about 550°F and 2250 psi nominal inlet temperature and pressure with low enrichment fuel (approximately 2-5% enrichment). Attachment 2 discusses the evaluation of the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 reactor vessel lower shell longitudinal weld seam metal that was performed to determine the feasibility of using the Diablo Canyon Unit 2 surveillance weld metal as a credible data source for the calculation of the adjusted RT_{NDT} of the limiting McGuire Unit 1 lower shell longitudinal weld seam. This evaluation assessed the relevance of the following factors:

1. The geometry of both plants.
2. The type of fuel in both plants
3. The fuel loading patterns in both plants
4. The projected 32 effective full power year surface fluence of each plant
5. The vessel inlet temperatures at each plant

The results indicate that the differences in the design and operating features of both units will not result in a significant change in the predicted amount of radiation damage.

NRC CRITERIA

There must be adequate arrangement for data sharing between plants.

RESPONSE

The data necessary to evaluate the irradiation response of the limiting material (lower shell longitudinal weld seam metal) for McGuire Unit 1 is identified in the Diablo Canyon Unit 2 reactor vessel surveillance program. The test reports which document the analysis of the Diablo Canyon Unit 2 capsule specimens of interest are required to be submitted to the NRC within one year after capsule withdrawal. The appropriate Diablo Canyon Unit 2 tests reports are available in the Public Document Room.

For both McGuire Unit 1 and Diablo Canyon Unit 2, the analysis of capsule specimens are performed by Westinghouse. The appropriate test reports of the Diablo Canyon Unit 2 capsule specimens are available through Westinghouse.

Discussions with Pacific Gas & Electric Company personnel have been initiated. Arrangements with Pacific Gas & Electric are being made to periodically review appropriate information and to obtain necessary data regarding the operation of Diablo Canyon Unit 2 and the reactor vessel surveillance capsule test reports.

NRC CRITERIA

There must be a contingency plan to assure that the surveillance program for each reactor will not be jeopardized by operation at reduced power level or by an extended outage of another reactor from which data are expected.

RESPONSE

In the event that the Diablo Canyon Unit 2 surveillance program was disrupted by an extended outage or a period of low power operation, this would not likely present a problem with respect to McGuire Unit 1 reactor vessel. In the event that there is some disruption to the Diablo Canyon Unit 2 surveillance program that impacts the utilization of that data, the alternative plan would be to rely exclusively on the data and test results from the capsule specimens within McGuire Unit 1 and those already obtained from Diablo Canyon Unit 2. In any case, sufficient data is currently available to characterize the embrittlement behavior of the McGuire Unit 1 limiting materials.

NRC CRITERIA

There must be substantial advantages to be gained, such as reduced power outages or reduced exposure to radiation, as a direct result of not requiring surveillance capsules in all reactors in the set.

RESPONSE

Based on the results of the analysis of the McGuire Unit 1 capsule V, the limiting material for the generation of the heatup/cooldown curves had changed from the intermediate shell longitudinal weld seam to the lower shell longitudinal weld seam. The benefit obtained for McGuire Unit 1 in utilizing the Diablo Canyon Unit surveillance weld data to predict RT_{NDT} would be more operating margin when heating up and cooling down McGuire Unit 1. This additional operating margin will provide greater flexibility in starting the reactor coolant pumps during heatup of the unit. The generation of heatup/cooldown curves based on just the capsule specimens from the McGuire Unit 1 surveillance program would result in further restrictions on the startup and use of Unit 1 reactor coolant pumps.

Further, there will be no reduction in the radiation surveillance program or surveillance capsules tested at McGuire Unit 1. The integrated program is developed to provide supplemental data for McGuire Unit 1 such that the limiting materials are evaluated using actual irradiated materials data. The advantage of using Diablo Canyon Unit 2 radiation surveillance program data is to provide more reliable information regarding the behavior of a limiting material in the McGuire Unit 1 reactor vessel. This information will be utilized to provide increased operating margin for heating up and cooling down the reactor coolant system. The anticipated result would be to improve the operators flexibility in starting up and securing reactor coolant pumps and coordinating other shutdown activities.

The lower shell longitudinal weld was not included in the McGuire Unit 1 radiation surveillance capsule program due to selection of materials in accordance with ASTM E-185 (1970) which based selection on Nil-Ductility temperature. The effects of metal chemistry and changes in irradiation damage estimation methods have resulted in a different limiting material (by a very slight difference in RT_{NDT}). As such, it would not be prudent, if not impossible, to incorporate this material into a surveillance program at McGuire Unit 1, since representative weld material was not archived for McGuire.

NRC CRITERIA

Have similar design and operating features

RESPONSE

The similar design and operating features of McGuire Unit 1 and Diablo Canyon Unit 2 are discussed in Attachment 2.

NRC CRITERIA

There must be an adequate dosimetry program for each reactor

RESPONSE

The surveillance programs of McGuire Unit 1 and Diablo Canyon Unit 2 will continue as currently approved by the NRC in accordance with 10 CFR 50, Appendix H. These programs meet the NRC requirements for adequate dosimetry.

NRC CRITERIA

There is no reduction in the requirements for number of materials to be irradiated, specimen types, or number of specimens per reactor is permitted, but the amount of testing may be reduced if the initial results agree with predictions

RESPONSE

The Approval of this request for an integrated reactor vessel surveillance program for McGuire Unit 1 as outlined herein, will not impact either vessel in terms of the number of materials to be irradiated, specimen types, or number of specimens per reactor. Both McGuire Unit 1 and Diablo Canyon Unit 2 reactor vessel surveillance programs will continue as currently approved in accordance with 10 CFR 50, Appendix H.

ATTACHMENT 2

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APPENDIX D

Justification for Using Diablo Canyon Unit 2 Surveillance Weld
Data for the Prediction of the McGuire Unit 1 Lower Shell Longitudinal
Weld Seam Metal Mechanical Properties

Purpose:

The purpose of this appendix is to document an evaluation of the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 reactor vessel lower shell longitudinal weld seam metal to determine the feasibility of using the Diablo Canyon Unit 2 surveillance weld metal as a credible data source for the calculation of the adjusted RT_{NDT} of the limiting McGuire Unit 1 lower shell longitudinal weld seam.

Background:

Based on the calculational methods of Regulatory Guide 1.99, Revision 2, the limiting beltline material (in terms of RT_{NDT}) in the McGuire Unit 1 reactor vessel is the intermediate shell longitudinal weld seam. Thus, this material was chosen for the surveillance program weld metal. However, when surveillance data from the McGuire Unit 1 program is used to predict the adjusted RT_{NDT} of the intermediate shell longitudinal weld seams, it is no longer limiting. Applying the results of the McGuire Unit 1 surveillance program to calculate the adjusted RT_{NDT} of the intermediate shell longitudinal weld seams changes the limiting material to the lower shell longitudinal weld seam metal.

During the review of the draft report on the surveillance capsule V analysis, the Duke Power Company noticed that the limiting material for the generation of the heatup/cooldown curves had changed from the intermediate shell longitudinal weld seam to the lower shell longitudinal weld seam. This prompted a request to use Diablo Canyon Unit 2 surveillance weld data in the calculation of the RT_{NDT} for the limiting lower shell longitudinal weld seam and the subsequent request for the development of this appendix and the generation of new heatup/cooldown curves for McGuire Unit 1.

Later Westinghouse received a call from the Duke Power Company asking about the feasibility of using the Diablo Canyon Unit 2 surveillance weld data to predict the RT_{NDT} of the lower shell longitudinal weld seams of McGuire Unit 1. Since the lower shell longitudinal weld seam is the limiting material for the generation of the McGuire Unit 1 heatup and cooldown curves, a benefit in RT_{NDT} would give McGuire Unit 1 more operating margin when heating up and cooling down the plant.

Methodology:

The evaluation described in this appendix was performed utilizing the following methodology:

The evaluation of the Diablo Canyon Unit 2 surveillance weld metal and McGuire Unit 1 lower shell longitudinal weld seam data was based on the following:

- What weld wire heat number was used to fabricate the welds,
- What flux and flux lot number were used to fabricate the welds,
- What vender fabricated the welds and in what time frame,
- What heat treatment did each weld receive,
- Is the chemistry of both welds similar,
- Is the initial RT_{NDT} of both welds the same or relatively close,
- Is the initial upper shelf energy of both welds the same or relatively close,
- Is the geometry of both plants similar,
- Is the type of fuel in both plants the same,
- Are the fuel loading patterns in both plants similar (ie. low leakage, etc.),
- What is the projected 32 effective full power year surface fluence of each plant,
- What vessel inlet temperatures do the plants operate at,
- What are the differences in the capsule lead factors of both plants, and
- Can the criteria for credibility in Regulatory Guide 1.99, Revision 2, be met for McGuire Unit 1 when applied to the Diablo Canyon Unit 2 weld data ?

Development and documentation of the justification to use the Diablo Canyon Unit 2 surveillance weld data for the McGuire Unit 1 lower shell longitudinal weld seam metal mechanical property predictions was based on the answers to the above questions.

Evaluation:

The comparison of the Diablo Canyon Unit 2 surveillance weld metal relative to the McGuire Unit 1 lower shell longitudinal weld seam metal is summarized as follows:

What weld wire heat numbers, flux, and flux lot numbers were used to fabricate the welds ?

> The Diablo Canyon Unit 2 surveillance weld is a Tandem weld fabricated with weld wire heat numbers 12008 and 21935 using Linde 1092 Flux Lot No. 3869.

The McGuire Unit 1 lower shell longitudinal weld seams are Tandem weld fabricated with weld wire heat numbers 12008 and 21935 using Linde 1092 Flux Lot No. 3889.

What vender fabricated the welds and in what time frame ?

The Diablo Canyon Unit 2 surveillance weld was fabricated by Combustion Engineering, Inc. in the late 1960's and early 1970's.

The McGuire Unit 1 welds were also fabricated by Combustion Engineering, Inc. in the late 1960's and early 1970's.

What heat treatment did each weld receive ?

The Diablo Canyon Unit 2 surveillance weld metal post weld heat treatment was at 1150°F ± 25°F for 40 hours and furnace cooled.

The McGuire Unit 1 lower shell longitudinal weld seams also received a post weld heat treatment of 1150°F ± 25°F for 40 hours and furnace cooled.

Is the chemistry of both welds similar ?

The unirradiated chemistry of the Diablo Canyon Unit 2 surveillance weld and the McGuire Unit 1 Lower Shell Longitudinal Weld Seam metal is provided in Table D-1.

A review of the data presented in Table D-1 reveals that the chemistry of the Diablo Canyon Unit 2 surveillance weld metal is very similar to the chemistry of the McGuire Unit 1 lower shell longitudinal weld metal.

Is the initial RT_{NDT} of both welds the same or relatively close ?

The initial RT_{NDT} of the Diablo Canyon Unit 2 surveillance weld metal is -50°F.

The initial RT_{NDT} of the McGuire Unit 1 lower shell longitudinal weld seams is not known so a generic value of -56°F is used.

TABLE D-1			
Unirradiated Chemistry of the Diablo Canyon Unit 2 Surveillance Weld and the Mcguire Unit 1 Lower Shell Longitudinal Weld Seams			
Element	Diablo Canyon Unit 2		McGuire Unit 1[6]
	CE[7] Analysis	Westinghouse[8] Analysis	
C	0.16	0.13	0.11
S	0.010	0.010	0.011
N	-	0.008	-
Co	-	0.012	-
Cu	0.22	0.22	0.20
Si	-	0.22	0.15
Mo	-	0.47	0.55
Ni	-	0.83	-
Mn	-	1.32	1.38
Cr	-	0.031	-
V	-	0.001	-
P	0.015	0.017	0.015
Sn	-	0.010	-
Al	-	0.009	-

Is the initial upper shelf energy of both welds the same or relatively close ?

The unirradiated Diablo Canyon Unit 2 surveillance weld metal initial upper shelf energy is 124 ft-lb.

No documentation could be located to determine the unirradiated upper shelf energy of the McGuire Unit 1 lower shell longitudinal weld seams.

Is the geometry of both plants similar ?

Both Diablo Canyon Unit 2 and McGuire Unit 1 have a reactor vessel inner radius of 173 inches, a reactor vessel beltline thickness of 8.625 inches and a power rating of 3565 MWT, both are Westinghouse 4 loop NSSS plants, have neutron pads and the surveillance capsules are located at the same azimuthal angles.

Is the type of fuel in both plants the same ?

Both Diablo Canyon Unit 2 and McGuire Unit 1 use 17X17 rod array fuel assemblies.

Are the fuel loading patterns in both plants similar (ie. low leakage) ?

Diablo Canyon Unit 2 utilizes a low leakage fuel management scheme.

McGuire Unit 1 currently utilizes a low leakage fuel management scheme.

Is the projected surface fluence at 32 effective full power year (EFPY) relatively close ?

The Diablo Canyon Unit 2 projected clad/base metal interface fluence (n/cm^2, $E > 1.0$ MeV) at 32 EFPY and various azimuthal angles is:

0°	15°	30°	45°
9.83×10^{18}	1.46×10^{19}	1.19×10^{19}	1.70×10^{19}

The McGuire Unit 1 projected clad/base metal interface fluence (n/cm^2, E > 1.0 MeV) at 32 EFPY and various azimuthal angles is:

0°	15°	30°	45°
1.332 x 10^{19}	1.969 x 10^{19}	1.459 x 10^{19}	2.016 x 10^{19}

The difference in these fluence values is believed to be due to Diablo Canyon Unit 2 utilizing a low leakage loading pattern from the start of operation while a low leakage loading pattern was not initiated in McGuire Unit 1 until after several operating cycles.

What vessel inlet temperature do the plants operate at ?

Diablo Canyon Unit 2 operates with at vessel inlet temperature of approximately 545.1°F.

McGuire Unit 1 operates with at vessel inlet temperature of approximately 557.9°F.

What are the capsule lead factors for both plants ?

The surveillance capsule lead factors for Diablo Canyon Unit 2 and McGuire Unit 1 surveillance capsules is presented in Table D-2.

Based on the information provided in Table D-2, the lead factors of the surveillance capsules in both plants are essentially equivalent. However, when the lower average flux rate on the Diablo Canyon Unit 2 capsules is used with the higher average flux rate on the McGuire Unit 1 reactor vessel, the result is that the Diablo Canyon Unit 2 capsules actually have a slightly lower lead factor than the McGuire Unit 1 capsules.

TABLE D-2					
Surveillance Capsule Lead Factors for Diablo Canyon Unit 2 and McGuire Unit 1					
Diablo Canyon Unit 2[11]			McGuire Unit 1[13]		
Capsule	Location	Lead Factor	Capsule	Location	Lead Factor
U	56°	5.28	U	56°	5.25
V	58.5°	4.62	V	58.5°	4.72
W	124°	5.28	W	124°	5.32
X	236°	5.28	X	236°	5.31
Y	238.5°	4.62	Y	238.5°	4.72
Z	304°	5.28	Z	304°	5.32

Can the credibility criteria of Regulatory Guide 1.99, Revision 2, be met for McGuire Unit 1 when applied to the Diablo Canyon Unit 2 surveillance weld metal ?

1) "Materials in the capsules should be those judged most likely to be controlling with regard to radiation embrittlement according to the recommendations of this guide."

   When the results of the tested surveillance capsules from McGuire Unit 1 are applied in the calculation of the 32 EFPY adjusted RT_{NDT}'s of the McGuire Unit 1 beltline materials, the lower shell longitudinal weld metal becomes limiting. Hence, the weld metal in the Diablo Canyon Unit 2 surveillance program is the limiting material in the McGuire Unit 1 reactor vessel. Thus, this criteria is met.

2) "Scatter in the plots of Charpy energy versus temperature for the irradiated and unirradiated conditions should be small enough to permit the determination of the 30-foot-pound temperature and the upper-shelf energy unambiguously."

A review of the Charpy plots presented in the analyses of the two Diablo Canyon Unit 2 surveillance capsule tested to date was performed. The scatter in the plots of Charpy energy versus temperature for the irradiated and unirradiated conditions was judged to be small enough to permit the determination of the 30-foot-pound temperature and the upper-shelf energy unambiguously. Thus, this criteria is met.

3) "When there are two or more sets of surveillance data from one reactor, the scatter of ΔRT_{NDT} values about a best-fit line drawn as described in Regulatory Position 2.1 normally should be less than 28°F for welds and 17°F for base metal. Even if the fluence range is large (two or more orders of magnitude), the scatter should not exceed twice those values. Even if the data fail this criterion for use in shift calculations, they may be credible for determining decrease in upper-shelf energy if the upper shelf can be clearly determined, following the definition given in ASTM 185-82".

There are two sets of test data from the Diablo Canyon Unit 2 surveillance program. A review of the measured and predicted ΔRT_{NDT}'s in these analyses for the weld metal showed that the scatter in the ΔRT_{NDT}'s of the weld metal is less than 28°F. Thus, this criteria is met.

4) "The irradiation temperature of the Charpy specimens in the capsule should match vessel wall temperature at the clad/base metal interface within $\pm$ 25°F."

Both the Diablo Canyon Unit 2 surveillance program and the McGuire Unit 1 surveillance program are based on ASTM E185-73. Per ASTM E185-73, "Specimens shall be irradiated at a location in the reactor that duplicates as closely as possible the neutron-flux spectrum, temperature history, and maximum accumulated neutron fluence experienced by the reactor vessel." The Diablo Canyon Unit 2 and McGuire Unit 1 surveillance capsules were installed between the neutron pad and the reactor vessel wall in order to fulfill the requirements of ASTM E185-73. Based on the location of the capsules in the vessel, the temperature should be the same as the vessel inlet water temperature and the temperature of the reactor vessel wall in the beltline region will also be the same as the vessel inlet water. The irradiation temperatures of the surveillance capsules is judged to be within ± 25°F of the vessel wall temperature at the clad/base metal interface. Diablo Canyon Unit 2 operates at vessel inlet temperature of 545.1°F and McGuire Unit 1 operates at a vessel inlet temperature of 557.9°F. However, NRC currently believes that the irradiation damage of the material increases as the irradiation temperature of the material decreases. Therefore, the Diablo Canyon Unit 2 test data should be slightly more conservative than if the material were irradiated in the McGuire Unit 1 reactor vessel. Thus, based on this rational, this criteria is also met.

5) "The surveillance data for the correlation monitor material in the capsule should fall within the scatter band of the data base for this material."

Neither the McGuire Unit 1 or the Diablo Canyon Unit 2 surveillance programs contain correlation monitor material. Therefore, this criteria is not applicable.

Results:

The evaluation of the Diablo Canyon Unit 2 surveillance weld metal and McGuire Unit 1 lower shell longitudinal weld seam metal results in the following:

Both the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 lower shell longitudinal weld seams are Tandem welds fabricated with weld wire heat numbers 21935 and 12008 using Linde 1092 Flux.

Both the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 lower shell welds were fabricated by Combustion Engineering, Inc. in the late 1960's / early 1970's.

Both the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 lower shell longitudinal weld seams had a post weld heat treatment of 1150°F±25°F for 40 hours and were furnace cooled.

A review of the available data for both the Diablo Canyon Unit 2 surveillance weld metal and the McGuire Unit 1 lower shell welds indicates that the weld metal chemistry is similar.

The initial RT_{NDT} of the Diablo Canyon Unit 2 surveillance weld metal is measured and is -50°F. The initial RT_{NDT} of the McGuire Unit 1 lower shell weld seams is a generic value of -56°F. A higher initial RT_{NDT} value is conservative, thus, the use of -50°F for the initial RT_{NDT} of the McGuire Unit 1 lower shell longitudinal weld seams is conservative and acceptable.

The initial upper shelf energy of the Diablo Canyon Unit 2 surveillance material was measured to be 124 ft-lb. No data for initial upper shelf energy of the McGuire Unit 1 lower shell longitudinal weld seams could be located. Therefore, this criterion was not used for this evaluation.

Both plants have vessels with a beltline thickness of 8.625 inches and an inner radius of 173 inches, both have four loops, both have 17X17 rod array fuel assemblies, both plants have neutron pads and the surveillance capsules in both plants are located at the same azimuthal angles and at the same distance from the center of the core. Thus, Diablo Canyon Unit 2 and McGuire Unit 1 have similar geometry.

Both Diablo Canyon Unit 2 and McGuire Unit 1 have a power rating of 3565 MWt and both plants are currently using a low leakage core loading pattern.

The projected 32 full effective power year (EFPY) fluence (n/cm^2, $E > 1.0$ MeV) of the McGuire Unit 1 reactor vessel beltline material is higher than that for Diablo Canyon Unit 2. However, since the neutron flux rate of the Diablo Canyon Unit 2 surveillance capsules is less than the neutron flux rate of the McGuire Unit 1 surveillance capsules, the data obtained from the Diablo Canyon Unit 2 surveillance program should give a better prediction of the McGuire Unit 1 vessel beltline materials than the McGuire Unit 1 surveillance program because the integrated average lead factors are slightly lower.

The vessel coolant inlet temperature of the Diablo Canyon Unit 2 reactor vessel is 545.1°F and the vessel coolant inlet temperature of the McGuire Unit 1 reactor vessel is 557.9°F. The current belief is that a lower irradiation temperature causes greater damage to the material. Thus, the lower operating temperature of Diablo Canyon Unit 2 makes its surveillance results slightly conservative when applied to the McGuire Unit 1 reactor vessel beltline materials.

The applicable credibility criteria of Regulatory Guide 1.99, Revision 2, for judging the credibility of surveillance data are met for McGuire Unit 1 when applied to the Diablo Canyon Unit 2 surveillance weld metal.

Conclusions:

Based on the above evaluation, using the Diablo Canyon Unit 2 surveillance weld data to predict the mechanical properties of the McGuire Unit 1 lower shell longitudinal weld seam metal is justified and is recommended for calculations of the irradiated mechanical properties of the McGuire Unit 1 lower shell longitudinal weld seam material.