APPENDIX L

CALCULATION NO. 0602301.01-S-009, *ANCHORAGE EVALUATION FOR GROUP O-3*

APPENDIX M

CALCULATION NO. 0602301.01-S-101, *ANCHORAGE EVALUATION FOR GROUP F-4*

APPENDIX N

CALCULATION NO. 0602301.01-S-102, *ANCHORAGE EVALUATION FOR GROUP F-3*

APPENDIX O

CALCULATION NO. 0602301.01-S-103, *ANCHORAGE EVALUATION FOR GROUPS W-4 AND W-5*

APPENDIX P

CALCULATION NO. 0602301.01-S-104, *ANCHORAGE EVALUATION FOR GROUP W-1*

APPENDIX Q

CALCULATION NO. 0602301.01-S-105, *ANCHORAGE EVALUATION FOR GROUP F-10*

APPENDIX R

CALCULATION NO. 0602301.01-S-106, *ANCHORAGE EVALUATION FOR GROUP F-15*

APPENDIX S

CALCULATION NO. 0602301.01-S-107, *ANCHORAGE EVALUATION FOR GROUP F-6*

APPENDIX T

CALCULATION NO. 0602301.01-S-108, *ANCHORAGE EVALUATION FOR GROUP F-1*

APPENDIX U

CALCULATION NO. 0602301.01-S-109, *ANCHORAGE EVALUATION FOR GROUP F-19*

APPENDIX V

CALCULATION NO. 0602301.01-S-110, *ANCHORAGE EVALUATION FOR GROUP F-2*

APPENDIX W

CALCULATION NO. 0602301.01-S-111, *ANCHORAGE EVALUATION FOR GROUP F-7*

APPENDIX X

CALCULATION NO. 0602301.01-S-112, *ANCHORAGE EVALUATION FOR GROUP F-5*

APPENDIX Y

CALCULATION NO. 0602301.01-S-113, *ANCHORAGE EVALUATION FOR GROUP F-12*

APPENDIX Z

CALCULATION NO. 0602301.01-S-114, *ANCHORAGE EVALUATION FOR GROUP F-23*

APPENDIX AA

CALCULATION NO. 0602301.01-S-115, *ANCHORAGE EVALUATION FOR GROUP F-20*

APPENDIX BB

CALCULATION NO. 0602301.01-S-116, *ANCHORAGE EVALUATION FOR GROUP F-9*

APPENDIX CC

CALCULATION NO. 0602301.01-S-117, *ANCHORAGE EVALUATION FOR GROUP F-14*

APPENDIX DD

CALCULATION NO. 0602301.01-S-118, *ANCHORAGE EVALUATION FOR GROUP F-16*

APPENDIX EE

CALCULATION NO. 0602301.01-S-119, *ANCHORAGE EVALUATION FOR GROUP F-26*

APPENDIX FF

CALCULATION NO. 0602301.01-S-120, *ANCHORAGE EVALUATION FOR GROUP F-27*

APPENDIX GG

CALCULATION NO. 0602301.01-S-121, *ANCHORAGE EVALUATION FOR GROUP F-22*

APPENDIX HH

CALCULATION NO. 0602301.01-S-122, *ANCHORAGE EVALUATION FOR GROUP F-24*

APPENDIX II

INDEPENDENT PEER REVIEW REPORT BY DR. ROBERT P. KENNEDY

RPK-80916

Independent Peer Review of
Experience-Based Seismic Qualification of Advanced Test Reactor Seismic Qualification of Advanced Test Reactor Seismic Category 1 Equipment

Robert P. Kennedy
September 16, 2008

1. Introduction

I have performed an independent peer review of the experience-based seismic qualification of the Advanced Test Reactor (ATR) Seismic Category 1 Equipment reported upon in Ref. 1. The following sections of this peer review report summarize the extent of my review and my findings.

2. Peer Review of Seismic Walkdowns

I participated with the seismic walkdown team consisting of Philip Hashimoto and Ron Cushing on two walkdowns of the equipment. The first walkdown (September 27, 2006) was early in the project and was aimed at my obtaining an overview of the equipment to be evaluated and to discuss the level of walkdown documentation which I considered necessary. The second walkdown (April 1, 2008) was near the end of the walkdown portion of the project. The purpose to this second walkdown was to enable me to assess the appropriateness of the screening being performed and to review the adequacy of the walkdown documentation. Specifically, I reviewed items where significant judgement was required, items with significant uncertainty, and items that require strengthening. In each case, I concurred with the decisions made by Philip Hashimoto and Ron Cushing. Both Philip Hashimoto and Ron Cushing are highly experienced in performing seismic walkdowns. Therefore, it was my judgement that the level of walkdown review which I performed was adequate to assess the quality of the seismic walkdown work being performed.

I found the seismic walkdowns to be thorough and documentation to be excellent. There was no case in which I disagreed with the judgements made by the walkdown team.

3. Review of Calculations

I performed a spot check review of all of the seismic evaluations performed in Calculation Packages S-001 through S-008 (Appendices D through K of Ref. 1). I had a limited number of recommendations for improvement and I have subsequently determined that these changes have been made.

In addition, I performed spot check reviews on about 80% of the anchorage evaluations performed in Calculation Packages S-101 through S-122. Again, I had a

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limited number of recommendations for improvement. I have not subsequently determined whether all of these recommended changes have been made. However, I do concur with the conclusions reached on the adequacy or lack of adequacy of all of the reviewed anchorage.

I found all of the evaluations to be either reasonable or conservatively biased. Because of this tendency for a conservative bias in some of the anchorage evaluations, I don't necessarily concur with all of the reported Demand/Capacity (D/C) ratios. However, in no case would I change the conclusions concerning the adequacy of the anchorage.

4. Review of Evaluation Report

The evaluation report (Ref. 1) is excellent. I concur with the outlier decisions documented in Table 5-7. I also concur with the resolution of some of these outliers as presented in Section 6. Therefore, I concur with the list of remaining outliers presented in Tables 7-1 and 7-2, and the recommendations for resolving these remaining outliers.

Reference

1. *Experience-Based Seismic Qualification of Advanced Test Reactor Seismic Qualification of Advanced Test Reactor Seismic Category 1 Equipment,* Report No. 060230101-002, Rev. A, ARES Corp, August 2008