

December 20, 2017

AEP-NRC-2017-59

Docket Nos.: 50-315
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U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
Renewed Facility Operating License No. DPR-58 and DPR-74
ANCHOR DARLING DOUBLE DISC GATE VALVE INFORMATION AND STATUS

- References: 1) Letter from G. A. Krueger, Nuclear Energy Institute (NEI), to J. W. Lubinski, U. S. Nuclear Regulatory Commission (NRC), Anchor Darling Double Disc Gate Valve Industry Resolution Plan Update (Project 689), dated August 4, 2017.
- 2) Letter from J. E. Pollock, NEI, to B. E. Holian, NRC, NSIAC Concurrence on Anchor Darling Double Disc Gate Valve Industry Response Actions (Project 689), dated October 26, 2017.
- 3) BWROG Topical Report TP16-1-112, Revision 4, "Recommendations to Resolve Flowserve 10CFR Part 21 Notification Affecting Anchor Darling Double Disc Gate Valve Wedge Pin Failures."

In Reference 1, the Nuclear Energy Institute (NEI) provided the U. S. Nuclear Regulatory Commission a resolution plan for the U. S. Nuclear Industry to address the known Anchor Darling Double Disc Gate Valve (ADDDGV) issues. Reference 2 indicated each utility will provide a listing of their Anchor Darling valve population with active safety functions along with relevant valve information, including the results of susceptibility evaluations, repair status, and a repair schedule for each susceptible valve not yet repaired. This letter serves to provide this information for Indiana Michigan Power Company (I&M), the licensee for Donald C. Cook Nuclear Plant Units 1 and 2.

The Enclosure to this letter contains the following information for each ADDDGV.

- Plant Name, Unit, and Valve ID
- System

A001
NRR

- Valve Functional Description
- Valve Size
- Active Safety Function (open, close, both)
- Are multiple design basis post-accident strokes required? (yes/no)
- Expert Panel Risk Ranking (high, medium, low)
- Result of susceptibility evaluation (susceptible or not susceptible)
- Is the susceptibility evaluation in general conformance with TP16-1-112, Revision 4 (Reference 3)?
- Does the susceptibility evaluation rely on thread friction? If yes, was the coefficient of friction greater than 0.10? For cases where thread-friction was relied upon, information is provided whether the coefficient of friction was above or below 0.10.
- Was an initial stem-rotation check performed? If yes, include rotation criteria (i.e. ≤ 10 degrees or ≤ 5 degrees).
- Was the diagnostic test data reviewed for failure precursors described in TP16-1-112, Revision 4 (Reference 3)?
- The valve's repair status (i.e. repaired or not repaired)
- A repair schedule for each susceptible valve

There are no new regulatory commitments made in this letter. Should you have any questions or require additional information, please contact Mr. Michael K. Scarpello, Regulatory Affairs Manager, at (269) 466-2649.

Respectfully,



Q. S. Lies
Site Vice President

MPH/mlI

Enclosure:

DC Cook Nuclear Power Plant ADDDGV Listing and Long Range Repair/Replacement Plan
for Anchor Darling Double Disc Gate Valves

c: R. J. Ancona, MPSC
MDEQ – RMD/RPS
NRC Resident Inspector
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ENCLOSURE TO AEP-NRC-2017-59

DC Cook Nuclear Power Plant ADDDGV Listing and Long Range Repair/Replacement Plan for
Anchor Darling Double Disc Gate Valves

DC COOK NUCLEAR POWER PLANT LONG RANGE REPAIR/REPLACEMENT PLAN FOR ANCHOR DARLING DOUBLE DISC GATE VALVES

Plant Name	UNIT	VALVE ID	SYSTEM	VALVE FUNCTIONAL DESCRIPTION	VALVE SIZE (inches)	ACTIVE SAFETY FUNCTION (Open, Close, Both)	Are multiple design basis post-accident strokes required? (Yes/No)	Expert Panel Risk Ranking (High, Medium, Low)	Result of susceptibility evaluation (susceptible or not susceptible) _(A)	Is the susceptibility evaluation in general conformance with TP16-1-112R4? _(B) (Yes/No)	Does the susceptibility evaluation rely on thread friction? If yes, was the COF greater than .10? (No), (Yes, >.10), (Yes ≤ .10)	Was an initial stem-rotation check performed? If yes, include rotation criteria. (No), (Yes ≤ 10 Deg.), (Yes ≤ 5 Deg.)	Was the diagnostic test data reviewed for failure precursors described in TP16-1-112R4? (Yes/No)	Valve repair status (repaired or not repaired)
DC COOK	1	ICM-250	ECCS	BORON INJECTION TANK TRAIN 'A' OUTLET CONTAINMENT ISOLATION VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	1	ICM-251	ECCS	BORON INJECTION TANK TRAIN 'B' OUTLET CONTAINMENT ISOLATION VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not Repaired
DC COOK	1	ICM-260	ECCS	NORTH SAFETY INJECTION PUMP PP-26N DISCHARGE CONTAINMENT ISOLATION VALVE	4	Close	No	MEDIUM	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	1	ICM-265	ECCS	SOUTH SAFETY INJECTION PUMP PP-26S DISCHARGE CONTAINMENT ISOLATION VALVE	4	Close	No	MEDIUM	Not Susceptible	Yes	No	Yes, ≤ 10 deg.	Yes	Not repaired
DC COOK	1	ICM-305	ECCS	RECIRCULATION SUMP TO EAST RHR/CTS PUMPS SUCTION CONTAINMENT ISOLATION VALVE	18	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	No	Yes	Not repaired
DC COOK	1	ICM-306	ECCS	RECIRCULATION SUMP TO WEST RHR/CTS PUMPS SUCTION CONTAINMENT ISOLATION VALVE	18	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	Yes, ≤ 5 deg.	Yes	Not repaired
DC COOK	1	IMO-255	ECCS	BORON INJECTION TANK TRAIN 'A' INLET SHUTOFF VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not Repaired

DC COOK NUCLEAR POWER PLANT LONG RANGE REPAIR/REPLACEMENT PLAN FOR ANCHOR DARLING DOUBLE DISC GATE VALVES

Plant Name	UNIT	VALVE ID	SYSTEM	VALVE FUNCTIONAL DESCRIPTION	VALVE SIZE (inches)	ACTIVE SAFETY FUNCTION (Open, Close, Both)	Are multiple design basis post-accident strokes required? (Yes/No)	Expert Panel Risk Ranking (High, Medium, Low)	Result of susceptibility evaluation (susceptible or not susceptible) _(A)	Is the susceptibility evaluation in general conformance with TP16-1-112R4? _(B) (Yes/No)	Does the susceptibility evaluation rely on thread friction? If yes, was the COF greater than .10? (No), (Yes, >.10), (Yes ≤ .10)	Was an initial stem-rotation check performed? If yes, include rotation criteria. (No), (Yes≤10 Deg.), (Yes≤ 5 Deg.)	Was the diagnostic test data reviewed for failure precursors described in TP16-1-112R4? (Yes/No)	Valve repair status (repaired or not repaired)
DC COOK	1	IMO-256	ECCS	BORON INJECTION TANK TRAIN 'B' INLET SHUTOFF VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	1	IMO-310	RHR	EAST RESIDUAL HEAT REMOVAL PUMP PP-35E SUCTION SHUTOFF VALVE	14	Close	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	1	IMO-314	RHR	EAST RHR HX 1-HE-17E DISCHARGE CROSSTIE SHUTOFF VALVE	6	Close	No	LOW	Not Susceptible	Yes	No	Yes, ≤ 10 deg.	Yes	Not repaired
DC COOK	1	IMO-320	RHR	WEST RESIDUAL HEAT REMOVAL PUMP PP-35W SUCTION SHUTOFF VALVE	14	Close	No	HIGH	Not Susceptible	Yes	No	Yes, ≤ 5 deg.	Yes	Not repaired
DC COOK	1	IMO-324	RHR	WEST RHR HX 1-HE-17W DISCHARGE CROSSTIE SHUTOFF VALVE	6	Close	No	LOW	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	1	IMO-340	RHR	EAST RESIDUAL HEAT REMOVAL HEAT EXCHANGER TO CHARGING PUMPS SUCTION SHUTOFF VALVE	8	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	No	Yes	Not repaired
DC COOK	1	IMO-350	RHR	WEST RHR HEAT EXCHANGER OUTLET TO SAFETY INJECTION PUMP SUCTION SHUTOFF VALVE	8	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	Yes, ≤ 5 deg.	Yes	Not repaired

DC COOK NUCLEAR POWER PLANT LONG RANGE REPAIR/REPLACEMENT PLAN FOR ANCHOR DARLING DOUBLE DISC GATE VALVES

Plant Name	UNIT	VALVE ID	SYSTEM	VALVE FUNCTIONAL DESCRIPTION	VALVE SIZE (Inches)	ACTIVE SAFETY FUNCTION (Open, Close, Both)	Are multiple design basis post-accident strokes required? (Yes/No)	Expert Panel Risk Ranking (High, Medium, Low)	Result of susceptibility evaluation (susceptible or not susceptible) ^(A)	Is the susceptibility evaluation in general conformance with TP16-1-112R4? ^(B) (Yes/No)	Does the susceptibility evaluation rely on thread friction? If yes, was the COF greater than .10? (No), (Yes, > .10), (Yes ≤ .10)	Was an initial stem-rotation check performed? If yes, include rotation criteria. (No), (Yes ≤ 10 Deg.), (Yes ≤ 5 Deg.)	Was the diagnostic test data reviewed for failure precursors described in TP16-1-112R4? (Yes/No)	Valve repair status (repaired or not repaired)
DC COOK	1	IMO-390	ECCS	REFUELING WATER STORAGE TANK TK-33 TO RESIDUAL HEAT REMOVAL PUMPS SUCTION SHUTOFF VALVE	10	Close	No	HIGH	Not Susceptible	Yes	No	Yes, ≤ 5 deg.	Yes	Not repaired
DC COOK	2	ICM-250	ECCS	BORON INJECTION TANK TRAIN 'A' OUTLET CONTAINMENT ISOLATION VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	Yes, ≤ 5 deg.	Yes	Not repaired
DC COOK	2	ICM-251	ECCS	BORON INJECTION TANK TRAIN 'B' OUTLET CONTAINMENT ISOLATION VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	ICM-305	ECCS	RECIRCULATION SUMP TO EAST RHR/CTS PUMPS SUCTION CONTAINMENT ISOLATION VALVE	18	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	No	Yes	Not repaired
DC COOK	2	ICM-306	ECCS	RECIRCULATION SUMP TO WEST RHR/CTS PUMPS SUCTION CONTAINMENT ISOLATION VALVE	18	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	No	Yes	Not repaired
DC COOK	2	IMO-255	ECCS	BORON INJECTION TANK TRAIN 'A' INLET SHUTOFF VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	IMO-256	ECCS	BORON INJECTION TANK TRAIN 'B' INLET SHUTOFF VALVE	4	Open	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired

DC COOK NUCLEAR POWER PLANT LONG RANGE REPAIR/REPLACEMENT PLAN FOR ANCHOR DARLING DOUBLE DISC GATE VALVES

Plant Name	UNIT	VALVE ID	SYSTEM	VALVE FUNCTIONAL DESCRIPTION	VALVE SIZE (inches)	ACTIVE SAFETY FUNCTION (Open, Close, Both)	Are multiple design basis post-accident strokes required? (Yes/No)	Expert Panel Risk Ranking (High, Medium, Low)	Result of susceptibility evaluation (susceptible or not susceptible) ^(A)	Is the susceptibility evaluation in general conformance with TP16-1-112R4? ^(B) (Yes/No)	Does the susceptibility evaluation rely on thread friction? If yes, was the COF greater than .10? (No), (Yes, > .10), (Yes ≤ .10)	Was an initial stem-rotation check performed? If yes, include rotation criteria. (No), (Yes ≤ 10 Deg.), (Yes ≤ 5 Deg.)	Was the diagnostic test data reviewed for failure precursors described in TP16-1-112R4? (Yes/No)	Valve repair status (repaired or not repaired)
DC COOK	2	IMO-310	RHR	EAST RESIDUAL HEAT REMOVAL PUMP PP-35E SUCTION SHUTOFF VALVE	14	Close	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	IMO-314	RHR	EAST RHR HX 2-HE-17E DISCHARGE CROSSTIE SHUTOFF VALVE	6	Close	No	LOW	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	IMO-320	RHR	WEST RESIDUAL HEAT REMOVAL PUMP PP-35W SUCTION SHUTOFF VALVE	14	Close	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	IMO-324	RHR	WEST RHR HX 2-HE-17W DISCHARGE CROSSTIE SHUTOFF VALVE	6	Close	No	LOW	Not Susceptible	Yes	No	No	Yes	Not repaired
DC COOK	2	IMO-340	RHR	EAST RESIDUAL HEAT REMOVAL HEAT EXCHANGER TO CHARGING PUMPS SUCTION SHUTOFF VALVE	8	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	No	Yes	Not repaired
DC COOK	2	IMO-350	RHR	WEST RHR HEAT EXCHANGER OUTLET TO SAFETY INJECTION PUMP SUCTION SHUTOFF VALVE	8	Open	No	HIGH	Not Susceptible	Yes	Yes, ≤ .10	Yes, < 10 deg.	Yes	Not repaired
DC COOK	2	IMO-390	ECCS	REFUELING WATER STORAGE TANK TK-33 TO RESIDUAL HEAT REMOVAL PUMPS SUCTION SHUTOFF VALVE	10	Close	No	HIGH	Not Susceptible	Yes	No	No	Yes	Not repaired

(A)

Since no valves were determined to be susceptible, no repair schedule has been provided.

(B)

Applied Wedge Pin Torque bounds anticipated design basis operating torque requirements and current maximum total torque.