

# Anchor/Darling

Valve Company

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August 16, 1988

Director - Office of Inspection & Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Subject: 10 CFR 21 Reportable Incident

Ref: Telecon with R. J. Kiessel/W. G. Knecht of 8/16/88

Gentlemen:

We have encountered a problem related to cracking of slides used in four-way valves which we have furnished on actuators for Main Steam Isolation Valves.

The four-way valves are furnished by Teledyne Republic and have been used for all MSIV actuators. A list of MCIVs we have furnished to various sites is attached.

The problem of cracked slides was reported by the Wolf Creek Site and although all MSIVs furnished by A/DV Co. use the same equipment furnished by the same manufacturer, this is the only site that has reported this problem.

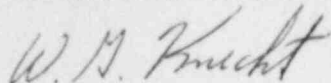
After evaluating the problem in depth, we have concluded that cracking resulted from the brazing/heat treating of the slide material.

We will formally notify all sites of the potential problem although we are quite certain the other sites are aware of the Wolf Creek problem. Letters will be transmitted by August 26, 1988. We will inform the sites how to detect a cracked slide by testing the four-way valves for leakage.

Should you require additional information, please contact Mr. J. J. Chappell, our Engineering Manager, or the writer.

Sincerely,

ANCHOR/DARLING VALVE COMPANY



W. G. Knecht  
Technical Director

WGK/lg

Attachment

8808250135 880816  
PDR ADCK 05000482  
S FDC

cc: A. E. Caron, President - A/DV Co.  
Al Freitag, Manager NPE - Wolf Creek  
J. J. Chappell, Engineering Manager - A/DV Co.

IE:9  
11

# Anchor/Darling EXPERIENCE

## U.S.A. NUCLEAR — MAIN STEAM ISOLATION VALVES

| Utility                                      | Unit                       | Commercial Operation |
|--|----------------------------|----------------------|
| <b>Commonwealth Edison Co.</b>               | <b>Byron 1</b>             |                      |
| 2 .. 30x24x30" 600#DD ..CS                   | 2 .. 32x24x32" 600#DD ..CS |                      |
| <b>Commonwealth Edison Co.</b>               | <b>Byron 2</b>             |                      |
| 2 .. 30x24x30" 600#DD ..CS                   | 2 .. 32x24x32" 600#DD ..CS |                      |
| <b>Commonwealth Edison Co.</b>               | <b>Braidwood 1</b>         |                      |
| 2 .. 30x24x30" 600#DD ..CS                   | 2 .. 32x24x32" 600#DD ..CS |                      |
| <b>Commonwealth Edison Co.</b>               | <b>Braidwood 2</b>         |                      |
| 2 .. 30x24x30" 600#DD ..CS                   | 2 .. 32x24x32" 600#DD ..CS |                      |
| <b>Union Electric Co.</b>                    | <b>Callaway 1</b>          |                      |
| 4 .. 28x24x28" 900#DD ..CS                   |                            |                      |
| <b>Kansas Gas &amp; Electric</b>             | <b>Wolf Creek</b>          |                      |
| 4 .. 28x24x28" 900#DD ..CS                   |                            |                      |
| <b>Washington Public Power Supply System</b> | <b>WPPSS Nuclear 1</b>     |                      |
| 4 .. 30x24x30" 700#DD ..CS                   |                            |                      |
| <b>Washington Public Power Supply System</b> | <b>WPPSS Nuclear 3</b>     |                      |
| 4 .. 30x24x30" 900#DD ..CS                   |                            |                      |
| <b>Arizona Nuclear Power</b>                 | <b>Palo Verde 1</b>        |                      |
| 4 .. 28x24x28" 900#DD ..CS                   |                            |                      |
| <b>Arizona Nuclear Power</b>                 | <b>Palo Verde 2</b>        |                      |
| 4 .. 28x24x28" 900#DD ..CS                   |                            |                      |
| <b>Arizona Nuclear Power</b>                 | <b>Palo Verde 3</b>        |                      |
| 4 .. 28x24x28" 900#DD ..CS                   |                            |                      |



# Anchor/Darling EXPERIENCE

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## INTERNATIONAL CONTRACTS FOR MAIN STEAM ISOLATION VALVES (NUCLEAR)

| INSTALLATION | UTILITY/COUNTRY                              | DESCRIPTION       | MAT'L | QTY. |
|--------------|--|-------------------|-------|------|
| Maanshan 1   | Taiwan Power Co./<br><b>TAIWAN</b>           | 32x24x32"-649# DD | CS    | 3    |
| Maanshan 2   | Taiwan Power Co./<br><b>TAIWAN</b>           | 32x24x32"-649# DD | CS    | 3    |
| Vandellós 2  | Asociación Nuclear<br><b>VANDELLÓS/SPAIN</b> | 32x24x32"-900# DD | CS    | 3    |

# Anchor/Darling EXPERIENCE

## U.S.A. NUCLEAR — FEEDWATER ISOLATION VALVES

| Utility   | Unit                   | Commercial Operation |
|---|------------------------|----------------------|
| <b>Northeast Utilities</b><br>4 .. 18x14x18" 900#DD ..CS                        | <b>Millstone 3</b>     |                      |
| <b>Union Electric Co.</b><br>4 .. 14x10x14" 900#DD ..CS                         | <b>Callaway 1</b>      |                      |
| <b>Kansas Gas &amp; Electric</b><br>4 .. 14x10x14" 900#DD ..CS                  | <b>Wolf Creek</b>      |                      |
| <b>Washington Public Power<br/>Supply System</b><br>4 .. 22x20x22" 1130#DD ..CS | <b>WPPSS Nuclear 1</b> |                      |
| <b>South Carolina Electric<br/>&amp; Gas Co.</b><br>3 .. 18x14x18" 900#DD ..CS  | <b>V.C. Summer</b>     |                      |
| <b>Louisiana Power &amp; Light</b><br>2 .. 20x18x20" 900#DD ..CS                | <b>Waterford 3</b>     |                      |
| <b>Arizona Nuclear Power</b><br>4 .. 24x22x24" 900#DD ..CS                      | <b>Palo Verde 1</b>    |                      |
| <b>Arizona Nuclear Power</b><br>4 .. 24x22x24" 900#DD ..CS                      | <b>Palo Verde 2</b>    |                      |
| <b>Arizona Nuclear Power</b><br>4 .. 24x22x24" 900#DD ..CS                      | <b>Palo Verde 3</b>    |                      |
| <b>Georgia Power Co.</b><br>4 .. 16x12x16" 900#DD ..CS                          | <b>Vogtle 1</b>        |                      |
| <b>Georgia Power Co.</b><br>4 .. 16x12x16" 900#DD ..CS                          | <b>Vogtle 2</b>        |                      |

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## INTERNATIONAL CONTRACTS FOR FEEDWATER ISOLATION VALVES

| INSTALLATION | UTILITY/COUNTRY                              | DESCRIPTION       | MAT'L | QTY. |
|--------------|--|-------------------|-------|------|
| Maanshan 1   | Taiwan Power Co./<br><b>TAIWAN</b>           | 18x12x18"-921# DD | CS    | 3    |
| Maanshan 2   | Taiwan Power Co./<br><b>TAIWAN</b>           | 18x12x18"-921# DD | CS    | 3    |
| Vandellós 2  | Asociación Nuclear<br><b>VANDELLÓS/SPAIN</b> | 18x12x18"-900# DD | CS    | 3    |