

NID#17043  
February 3, 2017

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555-0001

Subject: 10 CFR Part 21 Report  
**Update to Notification of a Defect, Potential for Test Induced Damage**  
**0867F Series Main Steam Safety Relief Valves**

Reference: (1) Target Rock Letter NID#15428 to U.S. NRC Document Control Desk,  
"Notification of a Potential Test Induced Defect", dated June 30, 2015

Dear Sir or Madam:

Target Rock, a business unit of Curtiss-Wright Flow Control Corporation (TR), previously submitted NID# 15428 (Ref. 1) regarding 0867F Series of Main Steam Safety Relief Valves (MS-SRV). The purpose of this letter is to provide a final update on the status of the actions identified in NID# 15428 (Ref. 1).

TR has developed a design change that we have verified, through analysis and qualification testing, ensures testing on the available limited flow test facilities will not impart damage to our product. Qualification included both limited and full flow testing. Target Rock confirms this design change has no effect on either National Board certification or the performance required by the applicable Specification to support the plant safety analysis. TR will offer this design change as our recommended long term solution to all utilities who currently have installed or plan to install the 0867F Series Main Steam Safety Relief Valve model in their respective plants. Should you have any questions regarding this matter, please contact me at (631) 293-3800.

Very Truly Yours,

*A. DiMeo 2/3/2017*

Alex DiMeo  
Director of Quality Assurance  
Target Rock, Business Unit of Curtiss-Wright Flow Control Corporation

cc: Michael Cinque  
Ed Bradshaw  
Steve Pauly  
John DeBonis  
Joseph Simonetti

*IEI9  
NRR*

Part 21 (PAR)

Event # 50900

<b>Rep Org:</b> CURTISS WRIGHT FLOW CONTROL CO.		<b>Notification Date / Time:</b> 03/17/2015 09:59 (EDT)	
<b>Supplier:</b> CURTISS WRIGHT FLOW CONTROL CO.		<b>Event Date / Time:</b> 03/17/2015 (EDT)	
<b>Last Modification:</b> 02/03/2017			
<b>Region:</b> 1	<b>Docket #:</b>		
<b>City:</b> EAST FARMINGDALE	<b>Agreement State:</b> Yes		
<b>County:</b>	<b>License #:</b>		
<b>State:</b> NY			
<b>NRC Notified by:</b> JOHN DeBONIS		<b>Notifications:</b> GLENN DENTEL	R1DO
<b>HQ Ops Officer:</b> STEVE SANDIN		BINOY DESAI	R2DO
<b>Emergency Class:</b> NON EMERGENCY		PART 21/50.55 REACTORS	EMAIL
<b>10 CFR Section:</b>			
21.21(a)(2) INTERIM EVAL OF DEVIATION			

# INTERIM PART 21 REPORT - POTENTIAL TEST INDUCED DEFECT IN A 0867F MAIN STEAM SAFETY RELIEF VALVES

The following report was received from Curtiss - Wright via email:

"This letter provides interim notification of a potential test induced defect in a 0867F Series Main Steam Safety Relief Valves (MS-SRVs) manufactured and supplied by Target Rock (TR). The information required for this notification is provided below:

"(i) Name and address of the individual or individuals informing the Commission.

William Brunet  
 Director of Quality Assurance  
 James White  
 General Manager  
 Target Rock, Business Unit of Curtiss-Wright Flow Control Corporation  
 1966E Broadhollow Road  
 East Farmingdale, NY 11735

"(ii) Identification of the basic component supplied for such facility or such activity within the United States which may fail to comply or contains a potential defect.

Target Rock 0867F Series of Main Steam-Safety Relief Valves Manufactured by Target Rock. This is a 3-stage piloted valve consisting of a main valve (the 'Main') with an actuator mounted to it (the 'Topworks'). The 0867F is the latest generation of the 67F line of MS-SRVs, including the original 3-Stage and 2-Stage designs, and this

product line has over 40 years of plant operational experience. Only the 0867F is under investigation. This is due to the differences between the 0867F design and the other designs.

"(iii) Identification of the firm supplying the basic component which fails to comply or contains a defect.

Target Rock, Business Unit of Curtiss-Wright Flow Control Corporation  
1966E Broadhollow Road  
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"(iv) Nature of the defect or failure to comply and the safety hazard which is created or could be created by such defect or failure to comply.

As we understand it, the Pilgrim Station recently manually opened the Target Rock Main Steam Safety Relief Valves (MS-SRVs) as part of cooling down the reactor following a loss of offsite power. One of the four installed MS-SRVs may not have fully opened. As-found steam testing of the affected MS-SRV did not duplicate this failure; the valve opened on demand. However, the valve did not re-close as expected. Internal inspections found damaged parts in the main stage subassembly that could potentially affect the ability of the MS-SRV to operate as designed.

We are investigating potential root causes for this damage. However, we are still unable to determine if a specific defect exists. GE SIL-196, Supplement 17 determined Main Spring relaxation was caused by 'extreme dynamics encountered during limited flow testing'. Valve dynamics under full flow conditions (i.e. discharge not gagged) are much less severe than those under limited flow conditions. These extreme dynamics, under limited flow test conditions, are the focus of our investigation. Specific areas of investigation include;

- a) Testing of materials to verify they are consistent with our material specifications,
- b) evaluation of differences between the 0867F and earlier designs, and
- c) evaluation of the differences between different limited flow test loop configurations and test procedures

"(v) The date on which the information of such defect or failure to comply was obtained.

The Pilgrim event occurred on January 27, 2015. As-found testing occurred on February 2, 2015.

"(vi) In the case of a basic component which contains a defect or fails to comply, the number and location of these components in use at, supplied for, being supplied for, or may be supplied for, manufactured, or being manufactured for one or more facilities or activities subject to the regulations in this part.

While we have yet to determine if a specific defect exists, the following plants were supplied 0867F MS-SRVs:

- Pilgrim (Model 09J-001) Quantity Shipped = 8
- Fitzpatrick (Model 09H-001) Quantity Shipped = 4, Quantity on order= 8
- Hatch 1 and 2 (Model 09G-001) Quantity Shipped= 24, Quantity on order= 12

The following plants will be supplied 0867F MS-SRVs:

- Hope Creek (Models 14J-001, 14J-002) Quantity on order = 7

"(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

The root cause of the potential test induced defect has not yet been confirmed as of the date of this report. Therefore, no specific corrective actions have been initiated. Target Rock Problem Report 080 will document the corrective actions when they are determined and complete the 10 CFR Part 21 evaluation of the potential test induced defect. This determination will be based on further mechanical and material evaluations. TR anticipates completing these evaluations within 45 days; however, in the event the evaluations are not completed, TR will forward another interim report within 45 days.

"(viii) Any advice related to the defect or failure to comply about the facility, activity, or basic component that has been, is being, or will be given to purchasers or licensees.

We are working with all three (4) sites to identify appropriate precautions.

"(ix) In the case of an early site permit, the entities to whom an early site permit was transferred.

Not applicable.

"Should you have any questions regarding this matter, please contact Michael Cinque, Director of Program Management at (631 ) 293-3800."

\*\*\* UPDATE FROM JOHN DeBONIS (VIA EMAIL) TO HOWIE CROUCH AT 1355 EDT ON 5/1/15 \*\*\*

Curtiss-Wright provided an update to state that their root cause analysis is still in progress and they anticipate completion within 60 days.

Notified NRR Part 21 Group (via email), R1DO (Gray), and R2DO (Ehrhardt).

\*\*\* UPDATE FROM JOHN DeBONIS (VIA EMAIL) TO STEVEN VITTO AT 1256 EDT ON 6/30/15 \*\*\*

Curtiss-Wright provided an update to state their root cause analysis findings and corrective actions. Corrective actions are estimated to be completed within 12 months.

"The following plants were supplied 0867F MS-SRVs:

Pilgrim (Model 09J-001) Quantity Shipped = 8

FitzPatrick (Model 09H-001) Quantity Shipped = 4, Quantity on order= 8

Hatch 1 and 2 (Model 09G-001) Quantity Shipped = 24, Quantity on order= 12

"The following plants will be supplied 0867F MS-SRVs:

Hope Creek (Models 14J-001, 14J-002) Quantity on order = 7

"Valves Currently Installed

"Target Rock recommends valves currently installed be inspected to ensure the main piston shoulder has contact with the main disc stem shoulder. These inspections should be scheduled based on plant-specific indications of the potential for fretting. These inspections can be performed by removing the base assembly from the main body and physically measuring for shoulder-to-shoulder contact.

"Should you have any questions regarding this matter, please contact Michael Cinque, Director of Program Management at (631 ) 293-3800."

Notified NRR Part 21 Group (via email), R1DO (Dimitriadis), and R2DO (Suggs).

\*\*\* UPDATE AT 0803 EST ON 02/03/17 FROM JOHN DEBONIS TO JEFF HERRERA.\*\*\*

"Target Rock, a business unit of Curtiss-Wright Flow Control Corporation (TR), previously submitted NID# 15428 (Ref. 1) regarding 0867F Series of Main Steam Safety Relief Valves (MSSRV). The purpose of this letter is to provide a final update on the status of the actions identified in NID# 15428 (Ref. 1 ).

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to install the 0867F Series Main Steam Safety Relief Valve model in their respective plants. Should you have any questions regarding this matter, please contact me [Alex DiMeo] at (631) 293-3800."

Notified R1DO (Gray), R2DO (Walker) and Part 21 Group.

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