

Date: 9/28/2023

To: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555  
Fax Number (301) 816-5151

Subject: Interim Report of a Deviation Associated With a SMB-1 Geared Limit Switch Assembly

The purpose of this letter is to provide written notification of an evaluation of a deviation in a basic component in accordance with 10 CFR21.21(a)(2). This interim report pertains to actuator geared limit switch assemblies contained in SMB-1 actuators supplied to Bopp & Reuther Valves for use in safety related applications at Bruce Nuclear Generating Station.

Flowserve – Limitorque was contacted by Bruce Power who reported a malfunction of an actuator geared limit switch (GLS) assembly which occurred while attempting to set the valve travel position limits prior to placing the actuator into service. Site inspections of the GLS assembly revealed damage to the GLS drive pinion which engages with the actuator drive train. Site photos and dimensional measurements of the drive pinion requested by Flowserve indicate that the GLS was assembled with an incorrect drive pinion resulting in the malfunction. Use of an incorrect subcomponent in the assembly constitutes the deviation to the design being evaluated. The actuator GLS assembly is a safety related component. A malfunction of the GLS in service has the potential to affect the safety function of the actuator.

The assembly containing the deviation is a 4-train geared limit switch (GLS) assembly part number 10168 supplied in SMB-1 actuators manufactured on Flowserve order 175377.001. Three actuators (serial numbers L1226986, L1226987, & L1226988) were shipped to Bopp & Reuther Valves on 2/4/2020.

Flowserve's evaluation of this issue is ongoing and will not be completed within 60 days. The evaluation is expected to be completed by 11/17/2023 pending return of the affected components to Flowserve for inspection.

Questions concerning this notification can be directed to Chris Shaffer, Quality Manager.

A handwritten signature in black ink that reads "Tyler Thompson". The signature is written in a cursive, flowing style.

Tyler Thompson  
Director, Plant Manager  
Flowserve, Limitorque Actuation Systems  
Lynchburg, VA 24502