

IPRenewal NPEmails

From: Screnci, Diane
Sent: Thursday, March 31, 2016 2:01 PM
To: Dentel, Glenn; Gray, Mel
Subject: FW: MIMS - Metal Impact Monitoring System

See email from Dave Lochbaum below. I acknowledged receiving the email. I think we can respond when we know the answers.

*Diane Screnci
Sr. Public Affairs Officer
USNRC, RI
610-337-5330*

From: Dave Lochbaum [mailto:DLochbaum@ucsusa.org]
Sent: Thursday, March 31, 2016 1:46 PM
To: Screnci, Diane <Diane.Screnci@nrc.gov>
Subject: [External_Sender] MIMS - Metal Impact Monitoring System

Hello Diane:

Section 4.6 of the Updated Final Safety Analysis Report for Indian Point 2 describes the Metal Impact Monitoring System:

4.6 METAL IMPACT MONITORING SYSTEM

4.6.1 General

The metal impact monitoring system is designed to enable early detection of internal structural items, and hardware present in the reactor coolant system.

A metal impact monitoring system for Indian Point Unit 2 was installed during the 1982 refueling outage and was operational when the plant returned to service in September 1982. A component "signature acquisition" of the nuclear steam supply system (NSSS) data) was obtained at selected plant operating conditions for future reference. The metal impact monitoring system was modified during the 1982 refueling outage.

4.6.2 Description

This system involves the use of a metal impact monitoring system capable of detecting reactor coolant system vibrations and converting that input into an electrical signal providing an indication to operating personnel that an undesirable level of vibration may be present in the reactor coolant. While the installed system has no alarm capability, it is nevertheless quite valuable as an advisory system.

Metal impact monitoring is accomplished by the installation of specially designed transducers (accelerometers) mounted on the exterior of the reactor coolant system and its components. When the interior of the reactor coolant system is struck by bouncing debris, the transducers are excited producing local wall accelerations that are detected by the transducers, conditioned, and fed to the metal impact monitoring system. The metal impact monitoring system further conditions the signals for recording and display in the control room.

The transducers are located on the following equipment:

1. Reactor vessel head.
2. Incore instrumentation penetration (below reactor vessel).
3. Steam generators.

Source: ML15334A228

I understand the NRC is looking into the cause and consequences of the degraded bolts within the reactor vessel

at Indian Point Unit 2. I hope that future NRC inspection reports that comment on this matter will include discussion of the role, if any, that this "quite valuable" advisory system played, addressing questions like:

Did it detect any of the pieces from broken bolts?

If so, how did workers evaluate the quite valuable advice it provided?

If not, should it have detected the impacts from the metal pieces?

Thanks,

Dave Lochbaum

UCS

Hearing Identifier: IndianPointUnits2and3NonPublic_EX
Email Number: 6370

Mail Envelope Properties (c9c9a8cabf784693a371083fe207dccb)

Subject: FW: MIMS - Metal Impact Monitoring System
Sent Date: 3/31/2016 2:01:03 PM
Received Date: 3/31/2016 2:01:05 PM
From: Screnci, Diane

Created By: Diane.Screnci@nrc.gov

Recipients:

"Dentel, Glenn" <Glenn.Dentel@nrc.gov>
Tracking Status: None
"Gray, Mel" <Mel.Gray@nrc.gov>
Tracking Status: None

Post Office: R1PWMSMRS02.nrc.gov

Files	Size	Date & Time
MESSAGE	1182	3/31/2016 2:01:05 PM
IP2 UFSAR Metal Impact.JPG	371950	

Options

Priority: Standard
Return Notification: No
Reply Requested: No
Sensitivity: Normal
Expiration Date:
Recipients Received:

4.6 METAL IMPACT MONITORING SYSTEM

4.6.1 General

The metal impact monitoring system is designed to enable early detection of any debris, detached internal structural items, and hardware present in the reactor coolant system.

A metal impact monitoring system for Indian Point Unit 2 was installed during the 1976 refueling outage and was operational when the plant returned to service in September 1976. At that time, component "signature acquisition" of the nuclear steam supply system components (baseline data) was obtained at selected plant operating conditions for future reference. The metal impact monitoring system was modified during the 1982 refueling outage.

4.6.2 Description

This system involves the use of a metal impact monitoring system capable of detecting changes in reactor coolant system vibrations and converting that input into an electronic signal thereby providing an indication to operating personnel that an undesirable level of foreign material may be present in the reactor coolant. While the installed system has no control capability, it is nevertheless quite valuable as an advisory system.

Metal impact monitoring is accomplished by the installation of specially developed transducers (accelerometers) mounted on the exterior of the reactor coolant system and steam generators. When the interior of the reactor coolant system is struck by bouncing debris, the structure is shock excited producing local wall accelerations that are detected by the transducers, amplified, conditioned, and fed to the metal impact monitoring system. The metal impact monitoring system further conditions the signals for recording and display in the control room.

The transducers are located on the following equipment:

1. Reactor vessel head.
2. Incore instrumentation penetration (below reactor vessel).
3. Steam generators.