RE: sPHENIX Detector VESDA System - Flow Rate & Response Time Analysis

Levesque, Joseph W <levesque@bnl.gov>

Tue 6/28/2022 1:10 PM

To: Hamblen, Peter <phamblen@bnl.gov>

Cc: Vasquez, Joel <jvasquez@bnl.gov>;Scheblein, John A <schebs@bnl.gov>;Kretschmann, Michael <kretschmann@bnl.gov>;Freund, Jeremy <jfreund@bnl.gov>;Chan, David <dchan@bnl.gov>;Reeves, James <jreeves@bnl.gov>

HI Peter,

I reviewed the design documentation on the piping system, and it justifies the design objectives for the smoke detection on the sPHENIX detector.

To answer your questions, the goal of the design and response time for fire protection is under two minutes. The submitted documents justify meeting that objective.

For a fire protection system, there is normally a list of items for submission by the vendor. Throughout the review process we have seen most of the require items that would be submitted. The only item that I did not see is a calculation justifying the battery back up in the VESDA controller. I don't expect to see any problems since it is a standard off the shelf unit, but if JCI can supply a sheet addressing the issue, I would appreciate it.

My Teams Calendar and Outlook Calendar are up to date, so please feel free to schedule a meeting if needed.

Sincerely,
joe

From: Hamblen, Peter <phamblen@bnl.gov>
Sent: Tuesday, June 28, 2022 7:50 AM
To: Levesque, Joseph W <levesque@bnl.gov>
Cc: Vasquez, Joel <jvasquez@bnl.gov>; Scheblein, John A <schebs@bnl.gov>
Subject: sPHENIX Detector VESDA System - Flow Rate & Response Time Analysis

Good morning Joe (cc Joel & John),

John has been working closely with our VESDA vendor and they have converged on a design for the sPHENIX on-detector VESDA piping layout. I've attached a drawing of the design for your reference. There will be 2 zones, 1 for the north end of the detector, and 1 for the south end of the detector. Each zone will have (8) 1/8" holes as well as an easy-to-reach test port near floor level for verifying the response time after installation. The vendor has completed a flow rate and response time analysis on the design and I've attached their report to this email. The analysis seems to look good and indicates that the south zone will have the max response time, which will be around 48 seconds.

Is there a good time this week for you and I and John to meet over Teams to talk about the design and review the results of the analysis? Our main questions would be as follows:

1. Are the design and max response time suitable in terms of fire protection requirements?

2. Is there anything else in the design related to fire protection requirements that you would like to see before we give the vendor the go ahead to furnish the components of the system?

Thank you, Joe. Talk to you soon.

Best Regards,

Peter Hamblen
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