



1. Proposed Modeling of two (2) four-module strainers facilitates evaluation of interior strainers as well as perimeter strainers.
 - Total of Two (2) Strainers (Eight (8) modules) to be tested of the 16 Strainers in the arrangement
 - Total pump / flume flow ~ 2.07 ft³ / sec
2. Flow paths between adjacent strainers, and throughout the vertical water column are reproduced.
 - Concerns related to debris bridging between module towers are addressed
 - Concerns related to vertical velocity gradients between sump pit walls and modules are addressed
3. Flow path to the interior strainer is forced to coincide with the flow path to the perimeter strainer
 - This is more conservative than the postulated condition in that debris must pass through a higher velocity region in test flume than does exist in the postulated array. In the postulated array the flow to the interior strainer would be more radial in the array's flow field. This would keep debris moving and reduce the likelihood of settling prior to reaching the inner module.

From: Joe Golla
To: Judith McLellan
Date: 7/30/2007 11:26:30 AM
Subject: Fwd: Wolf Creek / Callaway Test Configuration

Judith- here's the e-mail you requested to send with the properties. Joe

>>> "Jim Bleigh" <Jim.Bleigh@pcg.com> 7/24/2007 5:06 PM >>>
Hello, Dr. Lu:

On behalf of Wolf Creek and Callaway, I am requesting your comments and concurrence on the planned test configuration of the Wolf Creek / Callaway strainer design to be tested in the new large flume at ARL under the new test protocol discussed with the NRC in the past few months.

The specific reason for this preliminary review of our Test Plan is to confirm this test configuration is adequate to address the NRC's concerns regarding the Sure-Flow(r) Strainer (SFS) array flows in a sump pit configuration. I have discussed this issue at length with Stu Cain of ARL and our clients to arrive at a consensus test configuration. PCI proposes to test 2 full scale strainers as identified in the attached image; wherein 2 of the 16 strainers would be tested. We believe this test configuration will address all of the concerns of the NRC; and that this is in fact a more conservative test configuration than the postulated arrangement.

Consider the PowerPoint slide attached; and the following:

1. The flow at the surface area of the screen is 1 to 1.
2. The flow at the circumscribed area of each 4 stack strainer is 1 to 1; since we are using full scale strainers and full flow thru each strainer.
3. The water depth relative to the height of the strainer(s) is 1 to 1.
4. The water velocity between strainers and walls and between "shared" strainers would be scaled 1 to 1
5. The approach velocity at the sump pit perimeter or edge is 1 to 1.
6. The approach velocity on top of the sump pit curb is 1 to 1.

7. The approach velocity 1 foot back from the sump curb is 1 to 1; as would be the approach velocity for each foot further upstream in the flume.

PCI is confident this test configuration models in a representative; but more conservative manner the flow streams to both an "interior / perimeter strainer" in the array as well as to an "interior strainer" in the array.

Given our ability to scale all of the above in a 1 to 1 ratio; this testing protocol is clearly defensible for qualification of these strainer arrangements; as could be other test protocols that may be considered in the future with even larger scaling, etc..

Please confirm this test configuration as acceptable to the NRC for its intended function of qualifying the Sure-Flow Strainers now installed in the Wolf Creek and Callaway plants.

Best regards,

James M. Bleigh

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Created By: Jim.Bleigh@pcg.com

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