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

November 22, 2010
Document ID: PCI-2010.11.03 Rev 0

Subject: **REQUEST FOR WITHHOLDING PROPRIETARY INFORMATION FROM
PUBLIC DISCLOSURE PURSUANT TO 10 CFR 2.390**
Performance Contracting, Inc.
SFS Team Large Flume Test Protocol

Request for Meeting; Reference Proprietary Documents:

1. Narrow Flume Problem Statement R01 (Non Proprietary Version)

Dear Sir:

Attachment 1: PCI Document Narrow Flume Problem Statement R01 (Non Proprietary Version)

At the request of Blake Purnell, find attached a non proprietary version of the document previously issued to you on November 3, 2010. No other prior submittals are attached.

We greatly appreciate the USNRC's effort, specifically as it relates to the Safety Issues Resolution Branch's attention to the review of PCI's documents and reports.

Sincerely,

A handwritten signature in black ink, appearing to read 'James M. Bleigh', is written over the typed name.

James M. Bleigh
PCI / Engineered Systems Group Manager

cc: Blake Purnell; Project Manager, DPR/PGCB, or

Mr. Stewart Bailey, Chief Safety Issues Resolution Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

4601
NRC

Narrow Flume Problem Statement & Response

1 Problem Statement

The following summarizes the PCI SFSUG understanding of the concerns related to testing in narrow flumes:

- 1) The NRC concern is that fiber "small fines" introduced into a narrow flume (such as 4" wide flume widths) will not transport to the test strainer along the floor as easily as small fines are perceived to transport in the plant condition.

Note: The term "small fines" is defined herein to mean the fibrous debris form produced by PCI for large flume testing going forward; which is NUKON base wool; processed through a wood chipper and screened to pass through a 1 x 4 inch opening.

- 2) The NRC assumes that if small fines settle and stop transporting in a narrow flume, the ability for the next batch of small fines debris to transport to the test strainer is non-conservative compared to the plant condition.
 - a) The NRC has indicated that small fines tumbling on the plant floor would go around a pile of stationary fibers on the plant floor.
 - b) The NRC is skeptical that small fines will tumble over the stationary fibers as would be required in the narrow flume to reach the test strainer.
- 3) The NRC is concerned that if there are less small fines transported on the floor to the test strainer, the head loss measured in the test will yield a "non-conservative" measurement.

2 PCI Resolution Approach

The following represents the current approach to resolve the concerns assuming the list above is complete:

- 1) Experiments will be conducted testing small fines transport in three different flume widths [REDACTED]. The tests will employ three different approach velocities of [REDACTED] ft/sec and three different fiber batch sizes. Differences of the fraction of transported debris with flume width and the other input variables will be measured by collecting all fiber that did not transport [REDACTED]. Using these experiments an approach velocity dependent flume width restriction can be derived. [REDACTED]

In the same suite of experiments alluded to above, several successive batches will be added to determine the "incremental" transport that occurs for successive batches and whether the transport fraction of successive batches decreases in a predictable fashion. [REDACTED]

[REDACTED]