LOG OF MEETING

DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: Meeting on Pool and Spa Suction Entrapment

DATE OF MEETING: July 1, 1999 **PLACE:** CPSC Headquarters, Bethesda MD

LOG ENTRY SOURCE: Troy Whitfield, Mechanical Engineer, CPSC

DATE OF ENTRY: July 2, 1999

ATTENDEES: Leif Zars, Gary Pools
Carvin DiGiovanni, NSPI
Nicholas Marchica, CPSC
Troy Whitfield, CPSC

SUMMARY OF MEETING:

The meeting was requested by Mr. Zars of Gary Pools. The purpose of the meeting was to share test data that Mr. Zars had generated related to the prolapse (evisceration) hazard associated with pool and spa drain suction. Mr. Zars began the meeting with a discussion of various options available to address the hazard in existing pools. Concern was expressed by Mr. Zars that many states and/or health departments are looking at retro-fitting existing pools with dual drains and that that need not be the only solution. He explained that the cost of construction can be exorbitant and that the integrity of the pool shell may be compromised. Among other issues of consideration would be the existing piping (the need for hydraulic balance between the two drains) and the possibility that one of the two drains becomes blocked; creating a single drain hazard.

Mr. Zars then shifted the discussion to alternate solutions that can be as effective as the dual drains. Mr. Zars reviewed his previous report on the suction characteristics of various drain covers and an intervening device. The report looked at the vacuum pressure that CPSC cited through literature research (2.2 psi [4.48" Hg]), the reaction time of the device, and the amount of vacuum exposure. Mr. Zars quantified the cited number by consulting three doctors specializing in prolapse injuries and conducting tests with euthanized pigs. The results of his testing verified the number and provided a benchmark with which to test intervening devices. Mr. Zars conducted additional testing on various intervening devices, including mechanical, electrical, mechanical/electrical, atmospheric vents and the dual drain. The results indicated that the dual drain provided the quickest relief with the least exposure to high vacuum and that some intervening devices did not provided a quick release or minimal

exposure to the vacuum generated by the blockage. These reports are provided as attachments to this log.

The meeting concluded with a discussion on the next course of action. It was concluded that CPSC would review the reports and may request the NSPI writing committee consider developing performance language for incorporation into the voluntary standard.

Attachments