HERCULES

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Hercules Incorporated
Aqualon Division
50 South Minisink Avenue
Parlin, NJ 08859-1089
www.herc.com

November 24, 2002

Mr. George Pangburn
Director
Division of Nuclear Materials Safety
Nuclear Regulatory Commission
Region 1
475 Allendale Road
King of Prussia, PA. 19406-1415

Re: Confirmatory Action Letter 1-02-005

Dear Mr. Pangburn;

As requested by the Confirmatory Action Letter, we submit the following information.

Item 1 – Gauge History

The three source gauges have been identified as follows:

Gauge 1 - Ohmart SHM-2, 20 mCi Cesium-137, serial number 1127, purchased 11/12/64
Gauge 2 - Ohmart SHM-2, 20 mCi Cesium-137, serial number 1128, purchased 11/12/64
Gauge 3 - Ohmart SHM-2, 50 mCi Cesium-137, serial number 1328, purchased 4/22/66

Gauge 1 and 2 were originally installed in our sulfuric acid concentrators and Gauge 3 was installed in a reboiler for level detection. They were control instruments in part of our Nitrocellulose process. These gauges remained in service according to our records until 1975.

The history between 1975 and 1999 is based on the memory of certain past and present employees of Hercules. The gauges were removed from service in 1975 and placed into storage in an isolated "Platinum Room". This room was kept locked and access was limited to one supervisor. According to this supervisor, the gauges were transferred from the "Platinum Room" to the Herculon trailer in 1986 for safe storage. The Herculon trailer was located in a remote area of the plant called the Fire Demonstration Area and was used as storage for the plant's Fire Department. This trailer was kept locked at all times and only fire department personnel had access to it. In early 2000 this trailer had to be vacated due to some construction activities in the area. The Radiation Officer moved these gauges to another storage building, Building 8129, and identified the space with a radiation warning sign. This building was kept locked and access was limited. At this point the Radiation Officer began the process of trying to identify the manufacturer of these instruments. The identification on the instruments was limited and Ohmart Vega Corporation was contacted to help with the identification.

In June 2000, with the help of an Ohmart Vega representative, the Radiation Officer confirmed the identity of these gauges. Also in June 2000, Hercules sold their Nitrocellulose operations to Greentree Chemical Technologies and focus was directed towards the split of the plant into two separate companies. The gauges remained in Building 8129 which was locked and access was restricted until early 2001. The gauges were moved one more time to Storage Building 8129A with access controlled by the Radiation Safety Officer. Following the NRC inspection on October 1, 2002, these gauges were wipe tested, packaged and returned to Ohmart.

Item 2 – Exposure

Twelve employees have been identified who have been exposed to these sources and estimated dosage exposure has been calculated using available information and time estimates. These calculations are based on the 50mCi source with an open shutter and no shielding.

Employees who entered the storage area in the vicinity of the gauges, but did not directly work with these gauges, received an estimated total dosage of between 0.91 to 21.875 mrem for each event. A total of five employees were identified as receiving exposure one time in this manner. Six other employees were exposed more that one time in this manner and it is estimated that they have been exposed as follows:

Employee	Location	Estimated Time Of Exposure	Estimated Annual Dosage (mrem/year)
Employee 1	Platinum Room	1975 – 1986	466.6
Employee 2	Herculon Trailer	1986 – 2000	87.5
Employee 3	Herculon Trailer	1986 – 1998	87.5
Employee 4	Herculon Trailer	1986 – 1995	87.5
Employee 5	Herculon Trailer	1986 – 1995	87.5
Employee 6	Herculon Trailer	1986 – 1995	43.8

One employee worked directly with the gauges to relocate these gauges from the Herculon Trailer to Building 8129 in 2000 and from Building 8129 to Building 8129A in 2001. This individual was estimated to have received an annual dosage of 350 mrem during this time period.

The information presented above is our best efforts to piece together the history on these three gauges. The instruments have been returned to Ohmart back in October 2002. If you have any questions, please contact me at 732-254-1234 extension 375 or the plant's Radiation Officer, John Lambert, at 732-254-1234 extension 201

Sincerely

John W Cacho

John Cacho
Parlin Plant Manager