

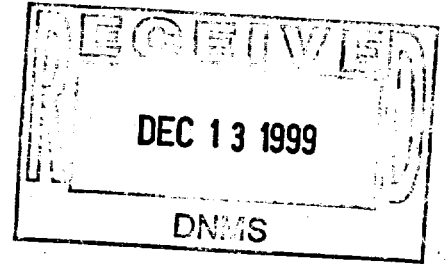
DCD(SPO8)

- ① PHL
- ② FCC
- ③ S&D
- ④ RLB/ASPD

**DEPARTMENT OF HEALTH SERVICES**  
**RADIOLOGIC HEALTH BRANCH**  
 P.O. BOX 942732, MS-178  
 SACRAMENTO, CA 94234-7320  
 (916) 323-2756



December 3, 1999



Michael N. Stephens  
 Environmental Administrator  
 Florida Department of Health  
 2020 Capital Circle, SE, Bin # C21  
 Tallahassee, FL 32399-1741

RE: Report of Defective Component Source  
 dated October 13, 1999

99 DEC 27 AM 8:46  
 OSP

Dear Mr. Stephens:

The California Radiologic Health Branch (RHB) has completed an investigation into the complaint filed with the Florida Department of Health, Bureau of Radiation Control, by Space Science Services (SSS) of Orlando, Florida. The complaint involved a Radiography source changer manufactured by Industrial Nuclear Corporation (INC), San Leandro, CA. California radioactive material license # 2229-41 authorizes INC to manufacture and distribute radiography sources, projectors, and accessories used in Industrial Radiography. Your letter dated October 13, 1999 and Mr. Walter Cofer's e-mail on October 5, 1999 notified our office of the complaint. In addition the trap plate manufactured by INC that was suspected of being defective was mailed to our office to use during the investigation.

Sudana Kwok, Senior Health Physicist and Mark Gottlieb, Associate Health Physicist conducted the investigation at INC and used the trap plate to perform the test. Their report is attached describing their findings. Under test conditions the trap plate functioned as it is intended therefore, we have concluded that there is no evidence of a generic defect that merits a re-call notice.

Conclusions of our investigation raise the question "why did the trap plate fail when SSS attempted to secure a spent source in the source changer"? There are two possibilities. According to their September 29, 1999 notification letter they state a "dummy source" was used to test the trap plate. The possibilities are (1) the dummy source was not fully retracted into the source changer and the stop ball did not secure the source inside or (2) the dummy source that was placed in the changer was not compatible with the changer model. INC said they did not have a record that SSS ever purchased a dummy source from them. Unfortunately our staff can not answer these questions in California so perhaps a site visit to SSS in Florida is called for if this has not already been done.

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Case - Ref. Copy SP-AG-6

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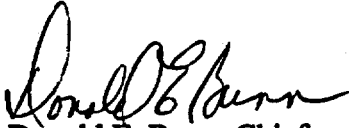
Mr. Michael N. Stephens

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December 3, 1999

Thank you for calling our attention to this matter, if more information is needed please phone me at the number above.

Sincerely,



Donald E. Bunn, Chief  
Inspection, Compliance and Enforcement

cc William Passetti, Chief, Bureau of Radiation Control  
Ed Bailey, Chief, Radiologic Health Branch  
Linda McLean, Agreement State Officer, NRC Region 4.

## **NARRATIVE: INVESTIGATION FILE NUMBER 100699-INC**

On October 5, 1999 Mr. Ed Bailey , Chief of the Radiologic Health Branch (RHB) of the California Department of Health Services (DHS) was contacted by Mr. Walter Cofer of the Florida Bureau of Radiation control regarding an alleged incident involving an Industrial Nuclear Company (INC) IR50 source changer (attachment 1.) A Florida radiography company, Space Science Services, alleged that the "trap plate" of the IR50 source changer, sn 2012A, sent to them by INC was defective and permitted the source pigtail to retract in the locked position. A replacement trap plate was sent to them by INC which, when installed, worked correctly and the IR50 source changer with a spent Iridium-192 source was returned to INC. The trap plate that was alleged to be defective was not returned to INC. It was turned over to the Florida Bureau of Radiation Control.

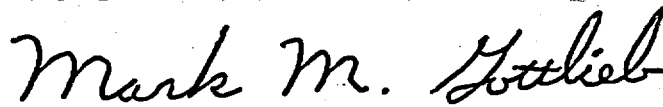
On October 6, 1999 this incident was assigned to Mr. Mark Gottlieb of RHB who contacted Mr. Mike Rose of INC. Mr. Rose discussed his interaction with the employee of Space Science Services who performed the source exchange with the IR50 source changer in question. Mr. Rose alleged that the incident was probably caused by human error. Mr. Gottlieb summarized his discussion with Mr. Rose in an email to Mr. Bailey in which he recommended that the alleged defective trap plate be obtained from the Florida Bureau of Radiation Control and tested in the source changer that was returned to INC by Space Science Services. This would allow RHB to determine if the trap plate was defective (attachment 2.)

The trap plate in question, and related correspondence, was received by RHB on October 27, 1999 from the Florida Bureau of Radiation Control and a chain of custody was established (attachment 3.) On November 16, 1999 Mr. Gottlieb and Ms. Sudana Kwok, Chief of the Berkeley Regional Office, went to INC and met with Mr. Mike Rose, Manufacturing Supervisor, and Mr. Jerry Tucker, RSO. Both the alleged defective trap plate (labeled "A") and the replacement trap plate (labeled "B") worked properly when tested in the IR50 source changer with a non-radioactive version of the model 32 source assembly which was the model of the source assembly received from Space Science Services (attachment 4.) A second rectangular trap plate (labeled "C"), similar to the trap plate labeled "A", was also demonstrated to work for the non-radioactive version of the model 32 source assembly in the IR50 source changer received from Space Science services.

Trap plates "B" and "C" mentioned above, the lock box assembly with key from the IR50 source changer in question, and a ball and connector section from a model 32 source assembly were given to Mr. Gottlieb at his request by Mr.

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Rose. These items are enclosed with this report along with trap plate "A", the trap plate incorrectly alleged to be defective. A copy of the "Radioactive Material Shipping Report" dated September 23, 1999 documenting that the IR50 source changer, sn 2012A, and a model 32 replacement source assembly, were sent to Space Science Services, was also provided by INC (attachment 5.) The undersigned recommends that the above mentioned items and a copy of this report of investigation by RHB be sent to the Florida Bureau of Radiation Control for a subsequent investigation into the activities of Space Science Services germane to this incident.



Mark M. Gottlieb  
Health Physicist  
Inspection, Compliance and Enforcement Section  
Berkeley Regional Office  
Radiologic Health Branch

November 29, 1999