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Fax Cover Sheet

To:	Randy Ragland	Date:	6/6/2006
Address:		Telephone Number:	
		Fax Number:	610-337-5269
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From:	Jameson Health System	Telephone Number:	724-656-4122
	Dept of Medical Imaging	Fax Number:	724-656-4235
	Robert Ondo, PACS Coordinator, Radiation Safety Officer	Re:	Follow up on over-exposure

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Jameson Health System

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12 May 2006

James Yusko
Bureau of Radiation Protection
400 Waterfront Drive
Pittsburgh, PA 15222

Re: Follow up report to potential overexposure reported 10 May 2006 to PaDEP on Wearer No 128 in account # 25916DPT.

Dear Mr. Yusko:

Thank you for taking the time to speak with me yesterday. As noted in our conversation, the following report is provided to meet the requirements of 25 Pa Code 219.222 and is in the format specified in 10 CFR 20 part 20.2203 regarding notification of incidents and reportable events.

Description of Event:

On 10 May 2006, the RSO's office received a fax from Global Dosimetry Solutions, indicating that Wearer # 128, Account # 25916DPT wear date 11-05-05 received a Deep dose of 9218 millirem. The fax was dated 05/08/2006 08:36 at the header on the top of the page. (Attachment 2) The process information and report number are 0155823 and 04754 respectively. The RSO notified the Vice President of Professional Services office and requested that we notify the PaDEP and NRC of a potential overexposure. The Vice President was available by phone and placed the calls to both the Pa DEP Central Office and the NRC Office of Public Affairs in Washington, D.C. The Vice President's call was recorded by the NRC as event # 52564 at 1057 AM. The Vice President's call to the PaDEP Bureau of Radiation Protection Central Office was also recorded.

The RSO also was able to track down Wearer # 128 and notify him in writing and in person. This individual is a Physician and an Anesthesiologist and the RSO was aware that he has been participating in and performing spinal injection procedures, mostly at the health system's South Campus. In a brief interview, the RSO and Physician were able to determine that the source of any occupational exposure for this individual most likely would be from these types of procedures and in the Physician's words, 99.9 % of his work was performed at the South Campus. He was very concerned for his safety and the RSO confirmed with him that he would certainly investigate this report and obtain any guidance as given by the Bureau as necessary. The RSO also told Wearer # 128 that he would have the badge re-evaluated to confirm the reading and to obtain any processing notes that might be available associated with the process.

The RSO felt it appropriate to notify both the NRC and PaDEP of the potential overexposure because in the course of the investigation, if part or all of the exposure was determined to be received from various sources including activities regulated by the NRC, The RSO wanted to meet the 24 hour reporting requirement.

Investigation and possible cause for elevated exposure reading:

Before interviewing Wearer # 128 about possible causes for the badge to come back with a high reading, the RSO was aware that the Physician had worn this particular badge for more than the usual one month period. As the Medical Imaging department manages the accounts for the entire organization, the Medical Imaging office was contacted at least twice that the RSO was aware of by the OR staff at the South Campus regarding Wearer # 128's badge. After pulling the records, the original request for dosimetry was dated 12 October 2005 and the badge was shipped with an 11-05-2005 start date. Wearer # 128 stated in a second interview today when the RSO was giving him an update that he had asked staff members at the OR South for his badge repeatedly and when it finally did arrive to him a staff member had stated that they had found it hanging in the OR at the North Campus. The RSO told Wearer # 128 that that was certainly a significant piece of information because whenever we receive an out of the ordinary dose reading we immediately ask if a badge had been left somewhere. On a second occasion, the RSO was contacted by the OR staff, It is believed to be sometime in February, again about the whereabouts of Wearer # 128's replacement badge and what he should do. At that time the RSO advised the staff to have him to continue to wear the current badge because at a quick look at the on-line account it was noted that the replacement badge was issued. The RSO also went to see the Assistant Director Surgical Services and at that time it was decided both departments would have to monitor the management of the badges in general and Wearer # 128's in particular. The February 2006 replacement badge was found, given to Wearer # 128 and it's reported dosimetry is 45 millirem. (Attachment 3)

On 10 May 2006 in response to the Vice President of Professional Services call, representatives from the Nuclear Regulatory Commission and a Medical Health Physicist from the Nuclear Regulatory Commission contacted the RSO. It was determined that the Anesthosiologist Wearer #128 is not an Authorized User and does not participate in any NRC regulated activities. Therefore there would be no occupational or restrictive action on the part of the agency on Wearer #128's practice. It was also determined that a followup report to the NRC would not be required as specified in 10 CFR 20.2203. The RSO was advised to monitor Wearer #128 in the event his practice would change and consider limiting his participation in NRC licensed activities.

On 11 May 2006, The RSO was contacted by the Central Office of the Pa DEP Bureau of Radiation Protection in Harrisburg , again in response to the Vice President of Professional Services call. It was determined that there would be a lot of variables in the course of the investigation, one of which was were there any other individuals who work with the Physician Wearer #128 with any high readings or was this event an outlier? The RSO stated that in fact there was only one other reading on an individual participating in these same types of procedures was less than 125 millirem for a year to date (2005) averaging less than 20 millirem per month. The RSO was advised to contact the Regional Office with the same information and to forward the written report to the same. It was also determined that having the badge reprocessed could possibly provide additional information or at least include some processing notes.

Later on 11 May 2006, the RSO received by phone the results of the reprocessing request for Badge Process 0155823 from the Physicist at Global Dosimetry Solutions. A follow up e.mail report was also provided. (Attachment 4) The results were verified with the reference items being within limits even though a reference control was used, however two specific problems were found with the badge. One being that for whatever reason, the original badge was issued to this individual Wearer #128 as an "area badge" (This was corrected on 16 Feb 2006 on-line by the RSO, Attachment 5) and secondly, the badge was not returned to Global Dosimetry until 24 April 2006 , near the expiration date of 06 May 2006.

Again on 11 May 2006 after receiving the reprocessing results and talking to the Central Office, the RSO contacted Wearer #128 to give an update. During the discussion again the Physician stated that at most he does the spinal procedures two days a week and on average he estimates his participation at most about three hours per day. The RSO confirmed that the Physician has participated in the organization's Radiation Protection Learning Module and is confident that this individual is competent in understanding the principles of dose rate, dose, and protection. The RSO and Physician agreed to monitor very closely any additional exposure readings and to be very conscious of applying radiation protection measures during his participation in these types of procedures. It was discussed that regardless of the causal or contributing factors of this high reading, whether it be management of the badge itself or procedural, it does not minimize the fact that this is a considerable dose and therefore appropriate concern should be demonstrated.

Finally on 11 May 2006, the RSO contacted the Regional Office of the Pa DEP Bureau of Radiation Protection. The above issues were discussed. In addition, the RSO was notified that the Nuclear Regulatory Commission had already forwarded the above information to the Regional Office in an e.mail. All of the above results were reviewed. It was determined that this report be sent to the Regional Office who would in turn forward it to the Central Office in Harrisburg.

Corrective Steps Planned to ensure against a recurrence.

1. The RSO went to the OR and met with the Senior Anesthesia Tech. The management of this particular individual, Wearer #128's badge appeared to be inconsistent with how the other badges of the anesthesia department were being handled, and there were no apparent problems with any of the other individuals. Both the Tech. and Wearer #128 stated that the Chief CRNA had been managing the badges for the anesthesiologists. The RSO requested that Wearer #128's badge be managed by the Senior Anesthesia Tech in a manner consistent with the badges of the other staff members. The Senior Anesthesia Tech agreed and let the Chief CRNA know that this would be the procedure.
2. The RSO discussed with the Assistant Director of Surgical Services about possibly transferring Wearer #128's badge to the Surgical Account. Again, the thought process was that since none of the other badges were having any problem getting to the South Campus, we might include Wearer #128 as well. After further review, the RSO and Assistant Director of Surgical Services agreed since the level of awareness of proper management of these devices has heightened, there would probably be no further problems. It was also discussed that since the Anesthesiologists were a contract service, the devices should be managed by a Health System employee
3. Proper use and management of the film badge device were reviewed with Wearer #128 by the RSO at the time of the initial notification of the event. Again, the RSO is confident that Wearer #128 is knowledgeable in radiation protection measures and is wearing the monitor appropriately and consistently.
4. The RSO and Administrative Director of Medical Imaging both monitor and sign each and every dosimetry report that returns to the department. The RSO will conduct a Radiation Safety Review with both the staff of the OR North and Anesthesia. A similar review was conducted at the South Campus OR staff on 11 April 2006 prior to this event.

Conclusion:

The high dose reading for Wearer #128 is inconsistent with the readings for the other individuals participating in the procedures and as described above and there do exist some circumstances with this particular badge that may at least partially explain the high reading. However, it does not minimize the fact that this is a considerable dose and therefore appropriate concern should be demonstrated by all the parties involved in the process. The responsible individuals will monitor Wearer #128's dosimetry results very closely and report to the agency any additional issues or concerns.

Please see the attachments provided including the first one labeled "Privacy Act Information: Not for Public Disclosure"

For further information, please contact us at (724) 656-4123 or by e.mail at rondo@jamesonhealthsystem.com.

Submitted by:

Robert A. Ondo

Radiation Safety Officer

Jameson Health System

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Radiation Safety Committee