

TMI MEDICAL LETTER TO  
CONTAMINATED INDIVIDUALS

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**Exelon.**

Nuclear

December 3, 2009

Tom Dougherty  
Plant Manager  
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I would first like to express my appreciation for the work you are doing at Three Mile Island. Your efforts during this outage will help us operate TMI Unit 1 safely and reliably throughout our next operating cycle and well into the future.

I sincerely appreciate your patience on the evening of Saturday, November 21. We take our commitment to radiological and industrial safety very seriously at TMI. Although time consuming, the follow-up actions we employed that night were necessary to provide us all with a clear and accurate assessment of the results. The events that evening resulted in low internal dose to you and other workers. Accordingly, you may have questions and I hope to answer many of them in the enclosed document.

The TMI team is committed to fully understanding why this occurred. To support this effort, a Root Cause team was formed to identify all contributing factors, and corrective actions are in place to ensure this event does not reoccur. If you should have any questions now or in the future, please contact the TMI Radiation Protection Department at 717-948-8190.

Thank you again for the work that you are performing at Three Mile Island.

Sincerely,

Tom Dougherty

Enclosure

**Reference Document for Employee Questions**  
**Re: 1R18 Outage**

**Q. Why did I receive a whole body count?**

A. It is standard industry practice to use whole body counting to evaluate internal dose to workers. You received a whole body count to detect the amount of internal dose you may have received. We monitor all workers that leave containment with a PM-7 monitor. Because you alarmed that monitor, we had reason to believe that you may have received internal dose and required a whole body count. The whole body count instrumentation used to detect internal dose is very sensitive so that it can detect the very low levels of radioactive material that may have been in your body.

**Q. Does the dose that I received pose any short or long term risks to me or my family?**

A. No. No workers initially exceeded even 1% of the allowed yearly NRC dose limit. (5,000 mrem)  
The amount of internal dose received was very low, and less than what is typically received for a chest x-ray. Dose calculations following completion of whole body counting will be used as the basis for determining final total internal dose.

Internal dose received is measured in units of millirem, the same as the external dose that you receive while working inside a nuclear power plant. Please review the table below for the amount of dose that is received naturally from many activities, such as cross-country flights or living in a brick house. If you had any internal contamination, the dose rates would be so low that it would not pose a risk to your family.

**Q. Can I transfer radioactive material to my family members?**

A. The levels of contamination in your body are extremely low and will not result in dose to your family. It is highly improbable that you would transfer any of this internal contamination to your family members.

**Q. How long will the radioactive material stay in my body?**

A. The contamination is eliminated from the body via decay, digestion, respiration, and even perspiration. The time it takes to remove the material depends on a number of factors including metabolism and where the material was deposited and may require from several days to weeks to be eliminated from your body.

**Q. How can I find out more about the amount of dose that I received?**

A. You can obtain an estimate of the dose you received while working at TMI by calling the Radiation Protection department at (717) 948-8597.

**Q. Isn't internal contamination more hazardous than external contamination/dose?**

A. No, internal dose and external dose pose the same radiological risk to you. Both are measured in terms of mrem therefore, internal dose is the same as external dose.

**Q. Putting it in perspective, how much dose did I receive compared to other activities?**

A. The chart below shows common sources of radiation and how many millirems (mrem) are received from each activity.

Natural Radiation	300 mrem per year
Cross-Country Flight	5 mrem roundtrip
Chest X-Ray	2-10 mrem
Living in a Brick House	7 mrem per year
Eating Potatoes	4-6 mrem per year
Living Near a Nuclear Energy Plant	<1 mrem per year
Dental X-Ray	2-3 mrem
Chest X-Ray	2-10 mrem
Head-Neck X-Ray	20 mrem
CT Scan (full body)	1,000-2,000 mrem
GI Series or Heart Catheterization	2,000-10,000 mrem

You may find the following Website helpful in answering additional questions you may have:

<http://www.radiationanswers.org>

If you have any additional questions or concerns, please contact any of the following individuals:

- Richard Davis, Site Radiation Protection Manager – (717) 948- 8190
- Willie Harris, Corporate Radiation Protection manager – (610) 765- 5350
- Dave Ethridge, Site Technical Support Manager – (717) 948– 8875