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# Questions and Answers from the Paducah Gaseous Diffusion Plant (PGDP) Public Meetings

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On September 29, 2010, two meetings were held to discuss the results of a study entitled “Mortality Patterns Among Paducah Gaseous Diffusion Plant Workers”. A public meeting was held at the West Kentucky Community & Technical College in Paducah, Kentucky during the morning followed by a meeting with current PGDP workers at the PGDP site in the afternoon. The purpose of these meetings was to discuss the NIOSH-funded study that was completed by researchers at the University of Louisville led by Dr. David Tollerud. The purpose of the study was to find out if more PGDP workers had died from certain illnesses compared to what would be expected among the U.S. population. The findings of the study will help other researchers and policy-makers better understand if work hazards may have affected workers’ health. Dr. Tollerud gave a brief presentation of the main study findings and entertained questions from those attending the meetings.

Below is a summary of the questions and answers from those meetings.

If you have additional questions, you may call 1-800-CDC-INFO (800-232-4636).

**Q: How many guard personnel were involved in the study? Is there an explanation about the elevated mortality among security personnel?**

**A:** Dr. Tollerud (University of Louisville) – There were 372 security personnel included in the study. The causes of death may not be related to exposure, but since security personnel may have acted as “first responders” to an emergency, they could have received high exposures during those events.

**Q: Causes of death from death certificates are not always accurate. Did the study take that into account?**

**A:** Dr. Tollerud – Studies have shown that there is a small percentage of errors in the causes of death on death certificates. However, there is no reason to believe that any such errors would have made a noticeable effect on the results of this study.

**Q: Smoking is a significant cause of cancer. How were individual smoking habits taken into account in this study?**

**A:** Dr. Tollerud – Kentucky has higher rates of smoking deaths than the national average. However, there are a number of methods that statisticians have developed over recent years to account for likely smoking patterns. By using these methods, researchers are confident that they can determine if death rates in a group of workers are affected by their exposures in the workplace, regardless of their rates of smoking.

**Q: How can you compare what we did out in the plant to the general population?**

**A:** Dr. Tollerud – Just doing a comparison of the death rates among PGDP workers to the national population might not be that informative. That is why a number of other analyses were done, including what are called “internal comparisons”, which take into account the fact that workers tend to be healthier than the national population and that there may be regional health differences that are different from the national population. The internal comparison analysis results were consistent with the national population analysis results.

**Q: How did you deal with people who changed jobs frequently and were at different locations within the plant?**

**A:** Dr. Tollerud – The study was only able to account for people by job title. There was not enough information in available records to determine the physical locations of individuals during their working careers.

**Q: Most of the concerns expressed have focused on cancer, but what about cardiovascular disease?**

**A:** Dr. Tollerud – As would normally be expected in a working population, deaths from cardiovascular disease was about 25% less when compared to the national population. Analysis of specific types of cardiovascular diseases was not conducted.

**Q: Were exposures examined, such as Agent Orange, pesticides, herbicides?**

**A:** Dr. Tollerud – No, there was not sufficient indication nor adequate records to attempt such an examination.

**Q: (maintenance worker with squamous cell carcinoma of the eyelid) -- How do you make the “probability of causation” determination?**

**Note: many attendees had questions about the methods of determining the probability of causation (POC) that is necessary for adjudicating claims under EEOICPA Part B.**

**A:** Grady Calhoun, NIOSH – Under EEOICPA, POC is a measure of how likely it is that an energy employee’s cancer was caused by occupational exposure to ionizing radiation. In general, the Department of Labor (DOL) determines the POC using information from the claimant’s dose reconstruction provided by NIOSH as input to a computer software application developed in collaboration with the National Cancer Institute. This computer software is a science-based tool that allows DOL to determine the probability a cancer was caused by a person’s radiation dose from nuclear weapons production work. The actual outcome of a claim depends on a number of important factors such as the dose estimates, the type of cancer, latency period, age of diagnosis, gender and others.

If there are additional questions about probability of causation, please contact the NIOSH Division of Compensation Analysis and Support by email at [dcas@cdc.gov](mailto:dcas@cdc.gov) or [ocas@cdc.gov](mailto:ocas@cdc.gov) or 513-533-6800 (toll-free at 1-877-222-7570). Additional information can also be found at the website: <http://www.cdc.gov/niosh/ocas/default.html>.

**Q: Could the study be continued to perhaps look at the synergistic effects between beryllium and radiation? Could the study be expanded to include subcontractors?**

**A:** Dr. Tollerud – such studies could be conducted, but none is currently planned or funded. Studying contractors is usually difficult since records necessary to do a study were not kept at the plant.

**Q: People in the Paducah area were likely eating vegetables contaminated with plutonium. Could the elevated results in security workers be from high contamination levels further from the plant?**

**A:** Dr. Tollerud – There clearly could be factors, other than chance, that caused the elevations among security workers. However, examination of factors other than work-related exposures was outside the scope of this study.

**Q: One of the items looked at was hexavalent chrome. We used to routinely dump hex chrome every day. DOE has underestimated the exposure potential. Could the study be biased by a selection of records that was determined (potentially screened) by DOE?**

**A:** Dr. Tollerud – There was no indication that records were selectively provided by DOE. The study authors believe that they received all records that were available.

You can place a Freedom of Information Act request by calling (404) 639-7270. To learn more about this process, visit: <http://www.cdc.gov/od/foia/>