PFOA

M/S & E - 9h

Internal Correspondence

#7 Health Evaluation

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From: Larry R. Zobel, M.D., MPH, Sr. OCC Physician

SUBJECT: Chemolite Examinations, Fall, 1990

DATE: May 10, 1991

Four hundred twenty-six people (426) were examined in the fall of 1990 as part of the SACD surveillance program and ongoing programs in plant engineering, ISD Chemical Plywood Plant, Support Services, Incinerator and the guards. The hazardous waste and emergency response standard required most of the examinations in the latter groups. Seventy-six (76) individuals had physical examinations done between early January and April of 1991. All examinations have now been completed. In addition, blood fluoride levels were done on one hundred twenty-eight (128) people. This was done in conjunction with other tests and an additional panel of hormone levels so that effects of fluoro-chemicals in the body could be assessed with regard to hormonal function. This latter data has not yet been analyzed.

I would like to give you some overall results. Individual reports were mailed last fall and early this year or following their hazardous waste physical exam to individual participants.

Five hundred five (505) individuals were invited to participate in one of the examination programs. Four hundred twenty-six (426) examinations were eventually completed. This is a participation rate of 84%. This broke down to twenty (20) people in administrative services (primarily guards), thirty-five (35) people from the Specialty Chemical Pilot Plant, twenty-eight (28) people from the Incinerator, twenty-six (26) people from Industrial Specialties Division, one hundred twenty-one (121) people in Plant Engineering, one hundred seventy-two (172) people in Specialty Adhesives and Chemicals Division and eighteen (18) people in Support Services. Forty-eight (48) females and three hundred seventy-eight (378) males participated. Demographic variables of interest include the following. Overall, 29% of all participants were cigarette smokers, 29% were ex-smokers. Among males, 27% were current smokers, as opposed to 42% of female participants being current smokers. The average cholesterol level for the plant was 214. The average LDL cholesterol (the bad cholesterol) was 136. The average HDL, or good cholesterol, was 47. For men the corresponding numbers are 216, 139 and 46. For women the numbers are 201, 120, and 56. The National Institute of Health recommends that the population as a whole should attempt to achieve total cholesterol level of under 200, and LDL levels of under 130. The higher the HDL level is, the more desirable it is. Women tend to have higher HDL levels than men, as evidenced from our data.

Five per cent (5%) of both men and women had diastolic blood pressures over ninety (90). This is the number below the line, and people above the level of ninety (90) have been advised to follow up with the nurse and participate in a blood pressure monitoring program. Body mass index, a way of looking at weight in relationship to height, used by the National Institute of Health, has been correlated with health effects. This parameter is defined as body weight in kilograms divided by height in meters squared. Values over 27.8 in men or 27.3 in women have been associated with adverse health outcomes by the National Institute of Health. The average body mass index for men at Chemolite is 27.5 and for women is 25.9. This means that, according to National Institute of Health data, a significant number of men at Chemolite are overweight to the extent that it may produce adverse medical consequences.

Abnormal liver function tests were defined in thirty (30) people. The total population who had complete liver function tests available was four hundred twenty (420) individuals. Statistical analysis of the distribution of these liver function tests among participating groups indicates no significant unexpected numbers in any of the groups studied.

Chest x-rays were reported as normal, abnormal, abnormal with no current significance, and, finally, as containing a finding possibly related to past asbestos exposure. Two hundred forty (240) individuals overall had chest x-rays. One hundred thirty (130) were normal, ten (10) were abnormal, sixty-eight (68) contained abnormal findings with no current medical significance, and thirty-two (32) had findings possibly related to asbestos exposure. Individuals with findings related to asbestos exposure are currently being seen individually, and the vast majority are being sent to a lung specialist for consultation at Medical Department expense.

I would now like to break the numbers down by organization within Chemolite that participated in the exam program.

Administration

This group is primarily the guards. Among this group, 58% are smokers, 32% are ex-smokers, and only 11% never smoked. Average cholesterol is 220, average LDL cholesterol is 131, and HDL cholesterol is 59. Four individuals had either diastolic or systolic blood pressure elevated above ninety (90) or one hundred forty (140) respectively. One individual had a possible asbestos-related finding on chest x-ray.

Incinerator

This group consisted of twenty-eight (28) individuals. 59% were smokers, 11% are ex-smokers and 30% have never smoked. The average cholesterol for the group is 203. LDL cholesterol averages 131, and HDL cholesterol averages 44. Six individuals had chest x-ray findings that may possibly be related to asbestos. No individuals with abnormal blood pressure were identified.

Support Services

Eighteen (18) people from Support Services participated. 25% are current smokers, 25% are ex-smokers, and half have never smoked. Average cholesterol is 218. Average LDL cholesterol is 144; average HDL cholesterol is 46. Three (3) people had findings on their chest x-rays that were possibly related to asbestos. Three (3) individuals had abnormal systolic or diastolic blood pressure.

Specialty Adhesives and Chemicals Division

One hundred seventy-two (172) people participated. 23% are current smokers, 31% are ex-smokers and 43% have never smoked. Average cholesterol is 215. HDL cholesterol averages 48, and LDL cholesterol averages 137. Seven (7) people had chest x-ray findings possibly related to past asbestos exposure. Eight individuals had elevated systolic or diastolic blood pressure. Additionally, in this group liver function abnormalities were studied according to department number which best correlates with the building numbers for the main chemical production buildings. Specifically, Departments 3035, 3036, 3037, 3038 and 3060 were examined in a 5x2 table, according to number of liver function abnormalities. No statistically significant differences across these departments were seen with regard to the occurrence of abnormal liver function among participants.

Plant Engineering

One hundred twenty-one (121) individuals from Plant Engineering participated in the examination program. 28% are current smokers, 33% have stopped smoking and 36% never smoked. Average cholesterol for the group is 216. LDL cholesterol averaged 139, and HDL cholesterol averaged 45. Thirteen (13) individuals had chest x-ray findings possibly related to past asbestos exposure. Thirteen (13) individuals were also identified who had abnormalities of either systolic or diastolic blood pressure.

Specialty Chemical Pilot Plant

Thirty-five (35) individuals participated from this group. 15% are current smokers, 18% have stopped smoking and 59% have never smoked cigarettes. Average cholesterol is 204. LDL cholesterol average 132, and HDL cholesterol averages 48. One individual had a chest x-ray result that was possibly related to past asbestos exposure. Two individuals were identified who had either abnormal systolic or abnormal diastolic blood pressure.

Industrial Specialities Division

Twenty-six (26) people participated in the examination program. 39% smoked cigarettes, 31% have stopped and 31% have never smoked cigarettes. Average cholesterol level is 215. LDL cholesterol level averages 127, and HDL cholesterol averages 46. One individual was found to have a chest x-ray finding possibly related to past asbestos exposure. No findings related to silica exposure were found on any chest x-rays. Three people had abnormalities of either systolic or diastolic blood pressure.

This examination information can be analyzed in other ways. Please talk with me if you would like any other anaylsis done with regard to the overall site or a specific division. Thank you very much for your cooperation with this program. I am very interested in obtaining feedback from any of you with regard to any aspect of the program that you may wish to comment on. Thank you again for your cooperation and encouraging your employees to participate.

LRS:vlk
cc: Don Roach
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