

PREFACE

Second Air Cleaning Seminar for AEC Personnel

Institute for Atomic Research
Iowa State College
Ames, Iowa

September 15, 16, 17, 1952

This second seminar represents a continuing program based on the original seminar held in June, 1951 at Harvard University Air Cleaning Laboratory. Its purpose was to acquaint AEC personnel associated with national laboratories and AEC contractors with the fundamental aspects and problems involved in air and gas cleaning. Since the Atomic Energy Commission invests large sums of money through its divisions, laboratories, and contractors in air and gas cleaning equipment it is the intent of these seminars to discuss new problems and applications as well as to review developments and operating performance of equipment in this field with individuals responsible for selection on application of various devices.

It is also the intent of these seminars to provide basic information for those people who have not had a background in this field.

In the case of this second seminar the first half-day was devoted to a review of the properties of aerosols as related to air and gas cleaning as well as the basic principles and types of air cleaning equipment. The material covered is essentially that presented in the Handbook on Air Cleaning which was first available for distribution at this meeting. Since this material is readily available it is not included in this summary of papers presented at the Ames Meeting.

Some of the papers included in this publication are condensed from the material presented at Ames and in other cases are complete manuscripts. The condensations, however, are complete enough to enable the reader to understand

the intent of the project. It was the opinion of those present that the material given was valuable and should be available in document form for many other personnel. It is interesting to note that the technical papers presented represent a very broad attack upon all aspects of air and gas cleaning problems which confront the atomic energy industry. The successful solutions presented by many of these reports will contribute greatly to the practical application of nuclear energy to many problems.

The Ames Laboratory was made available for this meeting by Dr. Spedding and his group. They were most congenial hosts and provided an interesting facility for inspecting many air and gas cleaning applications. We are indebted to them for making this a successful meeting.

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INTRODUCTION AND WELCOME

Dr. F. H. Spedding
Director, Ames Laboratory

DR. SPEDDING: I would like to welcome you to this Laboratory, and I hope very much that your stay here will be pleasant. I might say that Mr. Fisher has been in charge of the arrangements. I hope he has done a very fine job. If he has, I hope you will praise him; and if he hasn't, I hope you will let me know and I will put the needle in and see that the next conference that is held goes off right.

In regard to anything you may want to do while you are here--if you want to know about reservations, or you may want to meet some particular individual or see something provided you are allowed to under the arrangements--get in touch with Mrs. Allen in the hall. She will see that you are put in contact with the right people to get answers to your questions.

I may also say I am particularly pleased to have this group meet here at Ames. You know, with the ordinary health and safety programs around the laboratory, looking at it from the laboratory director's viewpoint, there are certain aspects of such a program that ought to be welcomed with open arms, and there are certain aspects that we would like to bury. Two of them that we really need very badly--and I think this field represents one of them--are people to do work and to be able to tell us how to resolve these problems and what are the tolerances we can stand with regard to dust and radioactivity and other questions we are running up against.

This is an area of health and physics that I think badly needs much more help than we are getting today. I am very glad to see a conference being held where at least we can get some idea of the things we have to deal with.

The same thing is true of the tolerance level. I wish there were more work going on. You could get hold of something tough and you ask the experts outside, "Can you throw this away or can't you?" and you can't get anybody to give you an answer--particularly on radioactivity--within a factor of a thousand to ten thousand as to what you can do with it. We would like to have the answer as to what these tolerances are.

On the other hand, I must say in health and physics programs the thing I don't like is where somebody comes in, takes half an hour to look around the plant, makes some suggestions which you don't have the answer to yourself, then goes back and writes a report and says, "You want to follow this along; go ahead and do it this way." This gets us in such a position that I can't even get the boys to make any decisions because they are afraid somebody is going to write a report on them, and with hindsight they have got their neck out.

So I think this is a very bad aspect of the health and physics program. I think the things we should have are the experts who can tell us what to do, but not the ones who are going to make recommendations based on not having complete information. This is one reason I am very much interested in this group, because I think you fellows do have a program where you may not have the answers, but at least you are trying to get them as to how to handle these things. That is one of our major problems here.

My time is short. You have quite a program today. I can't tell you very much about the laboratory, but I think we have some booklets here describing what kind of work goes on and what the general setup is. Mr. Fisher and the men here have these booklets. If you care to take the time to read them, you can learn more about what we have done here during the war, which is unclassified. The classified part still is not in there. Also you can learn how the laboratory is set up at present.

Again I would like to welcome you. I hope you have a very successful conference.

REMARKS

THE CHAIRMAN: Dr. Leslie Silverman:

I would like to take this opportunity to introduce MR. Arthur E. Gorman of the Division of Engineering of AEC to say something about their activities in this field. I might say that we all appreciate his efforts in behalf of correlating and getting information on air cleaning. This conference like the others before it is the result of his pioneering in the field.

MR. GORMAN: The Division of Engineering, which is sponsoring the Harvard contract on air cleaning and other contracts in related fields, is anxious that those who are from the A.E.C. Operating and Research areas and those who are working for architect-engineer contractors for AEC know that this contract is not only for research and development work but also for service and educational activities. This meeting is part of the educational phase.

Therefore, if any of you have problems that you want to discuss with representatives of the Harvard Air Cleaning Laboratory, their services are available to you. If the service desired is an extended one running

into considerable cost some special arrangement would have to be made for covering the expense involved. I hope you feel free to tie into this service program which the AEC is directing through the Harvard Air Cleaning Laboratory.

I would suggest, as an initial contact, you might write to Mr. John C. Robinson, Acting Director of the Division of Engineering; or to me, and let us develop the arrangements for you.

The same holds true with our other Division of Engineering contracts. We have a contract for research on the properties of aerosols with the University of Illinois. Dr. Johnstone and staff are anxious to integrate their research with the real problems in various A.E.C. areas. We have another contract on development of an incinerator with the Bureau of Mines. This evening Dick Corey of their Combustion Engineering Laboratory, Pittsburgh, will discuss this work. If any of you have incinerator problems in which you want help; or if you have air filter problems in which personnel of the A. D. Little, Inc. can help, I hope you will feel free to let us know.

The Division has a contract with the Weather Bureau under which they are doing considerable work on micrometeorology, which is right around the corner from air cleaning. They have a representative here, Paul Humphrey from Idaho, who has done much work of this kind at the National Reactor Testing Station. If any of you have problems of air cleaning that are related to micrometeorology, the Weather Bureau will be pleased to help.

We all appreciate the fine program that the Harvard group put on for us this morning and the excellent arrangements the Ames Laboratory has made for our convenience and comfort. We are very appreciative of it. Thank you very much.

THE CHAIRMAN: Thank you, Mr. Gorman.