President's Commission
on the Accident at Three Mile Island
2100 M Street, NW Washington, DC 20037

ERRATA SHEET

Corrections to (date) October 9, 1979 , Deposition of Robert Bores

Page	Line	Change	To Read
3	11	Should continue with line 14	"Yes, with the exception I just mentioned of the change in job title."
		Delete lines 14 and 15	
	24		"...reactors and fuel facilities"
4	16		"...of various plans and"
5	17		"Fuel Facilities and Materials..."
5	19		"...to our branch, Fuel Facilities..."
6	10	delete than and size.	
	11		"...and also serve as a focal point, I think."
	12		"...information, from all regions which needs"
7	21		"get corrected over the past..."
8	5		"in the plan, of some..."
	6		"and to actually..."
7 and 8		Explanatory Note: Reference the uprgrading of emergency plans through the NRR Task Group: The documented testimony was the Regional perception of how the upgrading of Emergency Plans was to have been accomplished. This process was changed considerably in the interim. Should you with an accurate description of the IE role in this area as it is being done, I will be available for additional deposition.	

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Page	Line	Change	To Read
8	23	NRR Emergency Planning Team Leaders Team 1 Jack Roe Team 2 Dean Kunihiro Team 3 Ray Priebe Team 4 Tom McKenna Team 5 Jim Martin Team 6 Bill Axelson	
9	16		"program since the pre-operational phase for..."
11	24		"...sort of sample collections are..."
12	23		"of the aliquot if..."
15	17		"reports are prepared... or whatever, sent back..."
	21		"actions were taken and..."
17	14		"whereas in the radiological area"
	15		"of this (radiological media) that are..."
	25		"...under the license , especially..."
19	18		"fact, (the radiological ones) in..."
20	3		"...sure that risk is the right word..."
27	14		"that way, while..."
28	7		"...numbers of samples...,"
29	22		"I always run on to things to..."
35	between 10 and 11		"situation that could account for a higher accumulation"
37	24		"...of noncompliance or deviations from"

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Page	Line	Change	To Read
44	10		"...some off-site measurements that"
	15		"were the state people going..."
49	21		"really affirmative data back at that point."
55	23		"...and the Headquarters people..."
	24		"knowledgeable about AMS."
59	9		"task. It ..."
64	64	delete other	
69	5	delete is	
79	11		"...at 1200 milliRoentgens per hour, to your..."
	20		"...from time to time to reduce"
90	13		"...than management knew about it. As..."
95	6		"he dispatched to downwind..."
97	16		"...We had NOAA"
103	23		"...by Erich"
	24		" Bretthauer."
108	14		"Additional notes and logs supplied after the date of deposition, as requested: These notes deal with the type of information exchanges and activities involving my activities after arriving on site for the TMI/ Capitoal City Airport area."

CERTIFICATE

I certify that I have read this transcript and corrected any errors in the transcription that I have been able to identify, except for unimportant punctuation errors.

Date: 10/9/79

Robert J. Bores

Robert J. Bores, Ph.D.

----------x

PRESIDENT'S COMMISSION ON THE

ACCIDENT AT THREE MILE ISLAND

----------x

DEPOSITION of ROBERT J. BORES, held at the offices of the U. S. Nuclear Regulatory Commission, Region I, 631 Park Avenue, King of Prussia, Pennsylvania, on the 24th day of August, 1979, commencing at 10:25 a.m., before Stanley Rudbarg, C.S.R. and Notary Public of the State of New York.

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A P P E A R A N C E S :

PRESIDENT'S COMMISSION ON THREE MILE ISLAND:

ERIC PEARSON, ESQ.
Deputy Chief Counsel

NUCLEAR REGULATORY COMMISSION:

STEPHEN OSTRACH, ESQ.
General Counsel's Office
For Witness Only

o0o

R O B E R T J. B O R E S, having been duly sworn by Eric Pearson, Esq., was called as a witness and testified as follows:

DIRECT EXAMINATION

BY MR. PEARSON:

Q Would you state your name and present position with the NRC for the record, please.

A Okay. My name is Robert Bores. My title is radiation specialist, and at the present time I am acting section chief for the Environme tal and Special Projects Section.

Q I have a document here of two pages entitled, "Robert J. Bores, Professional Qualifications." Would you tell us what this document is, please?

A Well, this document lists my qualifications, my training, job experience and is up-to-date, I guess, except for the acting section chief duties.

Q Did you prepare this document?

A Yes.

Q And is it accurate?

A Yes.

MR. PEARSON: I will ask that we mark this as Deposition Exhibit No. 1.

THE WITNESS: With the exception as I just mentioned of the ~~formal~~ change in job title.

(Above-described document was marked Bores Deposition Exhibit 1 for identification, this date.)

Q Next I would like to explore your work as chief of the Environmental and Special Projects Section. What is your role as chief of that section?

A Okay. My role basically will be to coordinate the inspections, mostly at nuclear power plants, but also at nuclear research reactors and ~~field~~ fuel facilities in the areas of emergency planning, environmental

protection and what were called independent measurements for radiological effluents.

Q You say your responsibilities will be to do these things?

A I have just assumed the role of acting section chief since my section chief has been promoted effective as of about a week ago or two weeks ago, and this job is not yet posted.

Q What role has this section played with respect to emergency planning in the past?

A Well, this section is responsible from the inspection and enforcement standpoint for conducting the emergency planning inspections, observing drills, making recommendations, et cetera to licensees regarding adequacy or inadequacy of various plants and their performance.

Q Is the section now reviewing its approach to emergency planning in light of the accident at Three Mile Island?

A Yes. We are currently reviewing that. We have always, I guess, had an approach where we try and update and make use of deficiencies we have found in the past, particularly those which seem to be generic, and try to continually upgrade the section in terms of

what we will be looking at, what we will be emphasizing.

But since TMI, as you know, everybody has their own plan or program or thoughts on what emergency planning should consist of. Our section will be heavily involved in the NRR task force, visiting each of the sites and bringing licensee plans to the current Reg. Guide requirements.

Q In your role concerning updating review plans, how will you accomplish that task as related to NRC headquarters? What will the relationship of the two units be with respect to that project?

A I am not sure how much you know about the way our headquarters operates. When you say "headquarters," there are lots of different branches in headquarters.

Our direct headquarters counterpart would be the ~~Field~~ Fuel Facilities and Materials Inspection Division. That only deals with things that our branch here -- it is a counterpart to our branch, ~~Field~~ Fuel Facilities and Material Inspection Branch here -- so it is the headquarters equivalent of that.

But there is also a licensing NRR group. There is research. There is standards, all of these various groups down there, so when you say "headquarters," I am not sure I really understand what your question is.

Q How about your role as compared to your counterpart in the Field Facilities Division?

A I think our role would be much larger in that we will physically accompany the inspection teams to each of the sites.

The headquarters group will have some role in terms of trying to coordinate schedules; maybe try to accommodate the regional schedules a little bit more ~~than~~ manpower ~~wise~~-wise, so that we can physically get everybody in, and also ~~is~~ serve as a focal point, I think, for us to feed information, ~~which~~ from all regions which needs to be entered into the considerations for the upgrading of the plan.

Q Who do you think will make the major recommendations to utilities concerning changing the existing emergency plans that they have in place? Will that be Region I, your section, or will that be a branch or division in NRC headquarters or whom?

* See errata

A My understanding as to how this works is that there is a team leader. There are six teams. There are team leaders for each of these teams. There are certain criteria that they will be looking for in current licensees' plans. They will be bouncing these plans off of the Appendix E, as well as the emergency

planning regulatory guide, Reg. Guide 1.101, taking a look at any deficiencies in there, maybe adding some other recommendations which have come out specifically as a result of TMI, into a sort of checklist for whatever criteria that they will be doing, and then go into the site and taking a look at the plant and facilities, equipment, procedures and that sort of thing.

The team leader I think will have the major responsibility for looking at the present planning and bouncing it against the guide's requirements and that sort of thing in making those recommendations.

Of course, the legality of backfitting plans, if they need to be backfitted, to the Reg. Guide will obviously come out of the NRR group. IE will be playing an instrumental role in that they know what is going on at the plant, they know the plant from previous inspections, they know the weak spots, they know the generic problems, things that they have been trying to get ~~critiqued~~ corrected over the past number of inspections. So by being team members they will have a big impact here in influencing, I think, the team to say, "Okay, this is the criteria which need to be met, and these are the options for meeting those criteria."

But at least there are some endpoints there which will finally be pinned down I think in terms of the plan as to what must be done, what would be nice in the plan, of some of these things, and ~~But~~ to actually see the whole flow of the emergency plan, how it should be carried out in all these aspects.

Q Can you identify who the six teams are?

A I know some of the team leaders, but I don't know all of them. I guess that is what you are looking for is the team leaders.

Q Yes.

A I have got a list of them. I can give them to you afterwards if you want or I can give you a couple of names.

Q If you have a list of the teams and their leaders.

A I don't have the team makeup, but I have the team leaders.

MR. PEARSON: Fine. If you would provide us with that list at the conclusion of the deposition, that would be helpful.

* See Errata

Q I would like to focus, if I can now, on the role you played during the accident itself.

What position were you in within the NRC at the time the accident occurred?

A I was a radiation specialist.

Q What were your responsibilities in that capacity?

A I was doing emergency planning, as well as environmental protection inspections.

Q Did you have involvement with Three Mile Island prior to the accident in your capacity as radiation specialist?

A Only in environmental inspections.

Q What would your role be with respect to environmental inspections?

A I was the inspector who had looked at the program since the pre-operational phase for Unit 1.

Q What period of time did you assume that responsibility relating to TMI?

A I would have to go back and take a look at my inspection reports, but my recollection would indicate that it is back about the spring of '74.

Q The spring of '74 through to the time of the accident?

A Yes.

Q Can you characterize generally the

performance of Three Mile Island with respect to environmental concerns during the time that you were inspector?

A Okay. I guess generally I would say they were about average in terms of performance. It is kind of hard to judge because their technical specifications might have been tougher than some of the other plants and not as tough again as some others.

Actual performance was probably about average. They had some problems, and I think they were somewhat shallow in terms of their management support aspect. They had one individual, for example, to take care of all the radiological-environmental monitoring programs as one of his duties.

Many facilities have two or three or more people to take a look at those programs and keep on top of it.

Q How many persons do you think Three Mile Island should have dedicated to that role?

A There probably should have been about three of them at least.

Q Full-time?

A Yes.

Q And instead they had one person part-time?

A Well, on paper, you know, he is there full-time.

But whenever there is an outage, he could get drawn onto the site for personnel monitoring and that sort of thing. He was drawn on for those requirements, and someone else who did not have the background would then have to fill in.

Q About how frequently would you inspect or would someone from Region I inspect Three Mile Island prior to the accident, with respect to environmental monitoring?

A It is about a yearly type inspection, annually.

Q Would that inspection normally be announced or unannounced?

A Normally it is unannounced.

Q When that inspection would be conducted, what particular items would the inspector be looking for?

A Okay. Maybe it would be easiest to sort of run through a typical approach that I would make in doing an environmental inspection.

I would show up at the site unannounced and meet with someone in charge. It might be the health physicist or the plant supervisor. I would find out what sort of sample collections are going on right now then that day, if there is any going on that day.

Q How would you find that out?

A Just ask, are they out collecting samples. If they are collecting samples, I will try and get out there and meet them somewhere along the line, so I can observe the routine sampling collection or whatever is going on. If it is biological and if I have to make some special arrangements to accompany them, I will try and do that.

I may have to come back in the evening because that is when they will be doing sampling. I don't particularly care to accompany on a special collection type thing because then that sort of throws a bias into what you see anyway. Just being there does or has to have some bias. They may or may not be a little more careful with procedures or whatever.

But, in any event, you are able to observe the full process of sample collection, the siting or location of where they are taking their samples, preserving samples, if that is necessary, logging them in, marking the samples for later analyses, taking them back to the laboratory, observing the selection of the aliquat if that is what it is of the sample, splitting samples or keeping reference samples for later analyses.

Q Normally would you split samples and then NRC would conduct an independent analysis of the sample and see if it turned out the same?

A Environmentally the only time we would do that is if we had a problem or suspected problem, I guess, with the media.

Q With a media?

A Well, with the medium, the particular type of sample, where the result appeared to be higher or lower than usual, that would be about the only time we would split a sample.

But what I am talking about here in terms of splitting samples is for the internal quality control program, if they have any, and if they don't have one, then we ask how they can -- how can you have any faith in the measurements or result that you are getting back; what sort of assurance do you have that the results have any meaning?

They usually indicate that, well, if it is identification of biological specimens or this sort of thing, they have certain key references that they use, and you might take a look at what those references are.

They probably have one or two or other consultants to whom they can go to identify a particularly

puzzling specimen or specimens which they are not sure of and ask for identification and that sort of thing.

#2

Q How long would an inspection take?

A A typical two-unit inspection I guess would probably be on the order of four days, I would guess, depending again on how the utility is arranged. In some places they will have everything done on-site. All of the data is collected by plant personnel or utility personnel and is worked up and analyzed by utility personnel, and the records are available right there.

In some other places they will have the program split in that biological programs are contracted out to a contractor who is across the river somewhere, and part of the records are over there. Utility personnel, plant personnel, themselves, will have no input at all for this program.

The radiological may be a split function in that plant personnel actually collect some of the radiological samples. Someone else may collect the additional or the remaining radiological samples and send out the samples then to another contractor for radiological analyses. Then the data are fed back into the corporate headquarters.

For example, this is basically how the Met Ed operation was.

Q Do you have something more to say?

A When you go to a utility like that, if you are going to do the full inspection, you need to look at the biological contractor to see what he is doing. You need to deal with the plant people for those aspects in which the plant personnel are involved because they are usually involved in the maintenance of equipment, as in Three Mile Island. They are also involved in certain non-radiological discharges which we take a look at. So you have the biological people there. You have the plant people here for other things that you need to look at, and then back to the corporate where they have the data coming back in, reports are prepared, Q.A. checks or whatever, sent back to them for resolution, audit, audit results and that sort of thing, as well as records as to what sort of deficiencies have been found by them and what corrective actions were taken and that sort of thing. That is taken care of back in the corporate office.

So that by the time you get the complete cycle done, you will have spent probably five days.

Q Is there a requirement in your inspection

and enforcement manual or in any other location which would require that an inspector check out contractors and other persons, other than the utility, who are involved in the entire sample collection and analysis, preservation, et cetera process?

A I don't think there is a specific requirement that says, "Thou shalt check out all contractors." However, as part of the inspection program, unless one takes a look at who is doing the work and what sort of procedures, et cetera being used, you cannot understand really the results coming out of it. You don't know what these results mean because they may be biased by the collection method or by the analytical methods. So one does need to take a look at the full picture.

Q Is it fair to say that looking at the full spectrum of the parties is a routine inspection function that inspectors in this office normally follow?

A Yes. We may not each time see each contractor. One of the contractors that we do not see as often as some of the others are the radiological contractors.

Q Why is that?

A Well, because our hold on them is even weaker, is weaker than on the biological contractors.

In other words, we have no regulatory authority

over the vendors per se, and our authority must extend through the inspection of the licensee's program.

We have gone to radiological contractors, and I think we have done everyone in our region at least once, in conjunction with a licensee inspection.

Q But why do you say there is less of a hold on radiological contractors than on biological contractors?

A Because the biological contractors typically are working very closely with the utility personnel, and this is just an extension of taking the samples over there and working with them. They are doing the sampling and everything, whereas in the radiological area ~~is~~ typically samples of this (radiological media) that are packaged up and shipped off to a contractor, who may be much more remote. The biological contractors are normally adjacent to the site.

Q What would happen if a contractor refused to allow an NRC inspector entry to observe their work?

A I think they would have problems.

Q Can you be more specific?

A I think they would have problems in that the NRC needs or has the right to access to work being performed by the licensee under the license, especially on-site.

I don't think there is any problem on that, being local. It is just an extension of that process.

Q Assuming that is the case, then it would seem to me -- and perhaps I'm wrong -- that you would have the same hold on all the different contractors, as far as the right of access to see their work is concerned.

A I think that is pretty true. I have always felt that way, if I had a licensee representative with me, and I limited my inspection to those areas in which the licensee had data involved.

In other words, if I am looking at a Met Edison I talk about the Met Edison work and there is a Met Edison fellow there. I do not reach out to one of the other utilities, for contrast, to see how they handled their data with respect to radiological or the particular type of analysis or whatever.

(There was discussion off the record.)

Q Do you consider it a weakness in the inspection program or not that the radiological contractors and other contractors might not be inspected as frequently as the rest of the utility's work or activity?

A Yes.

Q You do consider it a weakness?

A Yes.

Q Would you tell us why?

A Well, at the present time there doesn't appear to be any requirement for any certification or method or standard for laboratories. The only enforcement tool that we have is through the licensee.

If we find results that do not appear to be satisfactory or are erratic, that sort of thing, our tool is only to go back to that licensee. We cannot go and look at the contractor across the board with all his dealings.

I think it would be much better if there were a certification of laboratories and some method of assuring that they maintain some level of quality.

Most contractors are pretty good, as a matter of fact, (the radiological ones) in our region at this time. In the past that has not always been true.

Q Assuming that the work of radiological contractors or biological contractors was inaccurate, and assuming that the lack of inspection would not reveal an inaccuracy, can you in any way quantify what added risk in your judgment that inaccurate information or lack of inspection would present that would otherwise

not be there?

A I am not sure that risk is the right word. I think the biological or the entire environmental program is geared I think to looking for changes as a result of plant operation. It is not there to be a "go-no go" type flag for plant operation.

The purpose of the environmental progam I think is to confirm that the preliminary analyses which had been done before plant operation, before plant construction et cetera are right, that this plant is not going to have a major effect on the environment.

But if you have contractors who do sloppy work biologically, et cetera, you may not know that maybe there is a thermal effect which is gradually changing species composition or eliminating a species or having other effects in a given area or, in fact, you know, promoting a given species over all others in a given area. They are all biological effects. Some of them are rather subtle. With others it takes a long time to observe, particularly when you go into the biological aspect because you have natural cycles of abundance and scarcity of various type of species, and that is affected by the amount of rainfall, the climate and everything else.

So it varies from year to year, as well as naturally cycling.

So in assessing, I guess, the impact of the plant on the biological, let us say, so it would affect the concept for setting up the program initially.

The radiological and environmental monitoring program is sort of looked at as a confirmatory program again in that the tech specs require analyses of all effluents before they leave the plant, and they must be within certain limits or you cannot release materials.

If they are within the tech spec limits, then, according to the preliminary analyses which have been done before plant operation, you would project that the dose to any given population can only be on a certain magnitude, assuming a certain amount of consumption of various media for usage of materials, what have you, that the dose to an individual in the population can only be a certain amount.

This then is an independent check on those numbers to say, "Okay. Here we found a certain amount of material out in the environment. This would represent a certain dose to an individual. Are the numbers correct? Can we confirm what has happened? Indeed, if there were some release which was in excess of the

limit for some reason, we can confirm and say, 'Okay, while it was in excess of the limit, this only means a fraction of a millirem additional exposure or maximal exposure of the individual. It is not 100 millirem or it is not 10 millirem or it is not any rem.'"

So we know where it is at, and if you have problems doing this confirmatory measurement out here in the environment, then you have lost that tool in trying to evaluate what has happened or what is happening.

Again environmental changes are normally quite slow to develop. I think what you have to see for these media is a gradual increase. If you are looking for the effect of the radiological emissions from a plant, and the work is done carefully using the same types of methodology without switching back and forth or having spurious results, only then will you be able to observe these trends.

Q With respect to the inspection process that you have outlined concerning samples and watching how samples are collected and watching how they are logged in and watching how they are preserved and so forth, do you see any other weaknesses in the inspection program, other than the one you have just mentioned?

A Other than the contractor aspect?

Q Correct.

A I guess the only other weakness that I might say which we might have is we would like to get back to some of these people more frequently than we are, and that is primarily because of manpower.

Q How frequently would you think would be adequate or preferable?

A That depends on the form of the particular utility. Obviously someone who is doing a good job and has always been doing a fairly good job, you don't have any problem letting go a year or a year and a half or maybe even two years if that has been sort of the historical record of it.

If you have a utility where you go back or you do an inspection and you find out they have got problems all along in here and problems up here (indicating) and in addition problems are not either communicated to management for resolution or they just lay there and management says, "That is not important. We have to spend our money for something else," and the problems don't get taken care of, you want to get back to those maybe within a couple of months, give them time to get their problems corrected, and then get back out there

and see whether indeed they are taking care of the problems or whether they may have just shifted the emphasis of problems to something else, that is, taking care of it in piecemeal fashion.

You pointed out that this was wrong and they fixed this, but over here are identical items which they never bothered to touch or didn't even recognize.

And so the problem is that one might want to get out there maybe two or three times in between the routine, let us say, one or two times between the routine to be sure they have taken the corrective actions.

#3

Q When you conduct an inspection, do you do things other than what you have mentioned thus far? You have thus far talked about sampling and checking up on the sampling with contractors and so forth. Do you do other checks or inspections than those that you have mentioned thus far?

A Yes, we obviously have to take a look at what the results show. We take a look at the annual report.

Q What report?

A Annual environmental report and try to trace through samples, so that is we have gone through the analyses, how records are kept to the time it gets

reported, so that one can follow any trend, look at the trends on a year-to-year type basis or between samples.

We look at the quality assurance data, the resolution of problems that they may have identified, the audits that they have conducted or have not conducted of the programs, items which we had flagged on the previous inspection either as non-compliance items or items that we just wanted to follow up on, or items we needed more information to determine whether it was satisfactory or not.

We take a look at those to make sure that where corrective actions were needed, they were taken, that where items were left open that they are now satisfactorily resolved, in addition to perhaps carrying along some items which one might have seen at a previous inspection at some other utility that may have some generic implication.

We look at the way the management assures that the program is conducted in accordance with requirements. We look at manpower, for example, and what sort of training they have. Is it a biologist who is expected to know everything about all the radiological or is it the other way around, a guy who is a physicist who is expected to run the entire program by himself and has

no idea of what anything other than a tree is, a fish or whatever -- what sort of competence he may have, what sort of perhaps consultants they have, the manpower situation, and again the feedback to management, proper level of management, to assure resolution of any problems.

Q Can you estimate the percentage of time that you would use during a normal inspection in reviewing the documents that the utility has prepared concerning its operation of the plan?

A Environmental inspection programs are a little different than some of the other ones in that they can vary tremendously from inspection to inspection.

Obviously if you get out to a plant in mid-January you are going to find very little sampling going on out in the river or lake or out in the ocean.

The amount of physical observation of sampling that you are going to be doing will be rather limited at these times of the year. So at those times of the year it will be maybe 70 percent record review and it may go down to 50 percent in summer.

Q What assurances do you get from the utility that the records that they are showing you are accurate?

A The assurances I think have to come from,

number one, the quality control that the utility and/or the contractor have done in comparison with those results, in other words, that quality control program. That is the first thing.

The second thing I think is the traceability of particular samples. If you pull, let us say, a sample collected at Station 14 on April 2nd for a given type of analysis and try and trace that sample through the entire analysis to where it is entered into the document, if you can do this on a sample or a number of samples, it gives you an idea of how the record system is working. If you don't find any discrepancies along that way, while it is a sampling program, it gives you some assurance that the system does work.

Any of your inspections are just sampling. They are not audits per se. We anticipate the 1 censee does audits. All we can do, all we have time for is to sample, since obviously these programs are much much larger than what an individual inspector can do.

As I mentioned, some of the utilities have teams. They may have four or five or six or seven or ten people working on the environmental program. They can do an audit.

Q Normally on an inspection would you track

one or two or three samples from the point of collection to the point of final analysis to determine if there are any discrepancies that show up in the process?

A Yes, that is one of the criteria. Another is after you have looked at numbers of samples...

Q What are numbers?

A Numbers --after several years of doing inspections, you have got a feel for what various levels of various parameters are. And so when one takes a look at the results, and if one sees numbers which appear out of that range, one immediately questions them in his mind and particularly the ones to follow up on.

Those are generally the ones that one selects. They are not really random samples that one picks, but rather he will take this one and take this one and this one and let me see the results on these (indicating).

Q Would it then not be the case if you saw a sample analysis that indicated the results that you thought would be expected that in that case you probably would not isolate that sample for some more intensive study?

A Not unless you found some problems with the others. I mean, I think that the little time one has,

one has to obviously select samples which have a higher probability of problems with them. If you start running into problems with those, then you will start pulling others at random.

Q When you finish an inspection of a facility and you have checked a few samples through in greater detail, and those samples turn out to be okay, as far as you can tell, when you leave, do you feel as if your inspection in that regard has been adequate? Are you satisfied that the facility at that point is doing its samples and collection and preservation and analyses in an accurate way?

A I don't think I ever feel satisfied that I couldn't have done any more. You always run out of time, at least I feel I have always, and if I only had a little more time I would have liked to have looked at this and that. Or maybe I should have spent more time here. At least that is the way I feel. I don't feel like I am done and now I have to spend two more hours before my plane arrives, that sort of thing.

I always run ~~ou~~ on ~~of~~ to things to do, but if I feel strongly that I ought to spend a little more time on it but couldn't, that is one of the things I will indicate on my notes for next time to take a look at,

to make sure I spend more time in that area next time.

Q Do you feel after one of these inspections that you can reliably state on the inspection report that you believe that the facility is handling its sampling and analysis properly?

A Certainly, if they were.

Q Right. Assuming that the results of your inspection on a small group of samples did check out?

A Yes. Well, they are compared in numbers of ways. I mean, that is only one way of following it.

If you followed it this way, through the sequence of analysis up through, that is one method of arriving at a decision as to whether or not the samples are meaningful. Another criteria is to look at the whole batch of them, and you compare stations -- station as a function of time versus another station as a function of time. Then you have the overall annual report and you look at those results. You compare that in your mind to some other station, some other plant rather, whose results hadn't been that different from it.

So it is not really based on just the few samples that one follows through. That is only one method or mechanism of showing the traceability I think of individuals to this.

Q What would another mechanism be by which you could make determinations as to the accuracy of the information the utility would be showing you?

A Well, as I mentioned, you could take a given station, a given sample station as a function of time, and take a look at the variability or the uniformity of the numbers there, providing releases have been approximately the same, and if there are no weapons testing in that immediate period, which could have influenced the samples, so you could look at the uniformity of the data through there, and also you can compare it to a previous time period or the time period after that, and you can compare it to another sampling location.

You also have information that you have gotten over the past number of years maybe at that station, maybe at this plant or maybe at another plant, from doing environmental inspections, and you know what the general range of this nuclide is in this particular type of sample.

You look at that. Then, in addition to that, you are looking at their quality control program. You are looking at samples which were split prior to analysis and analyzed either by two separate contractors

or by the same contractor to a separate analysis by another method or as a blind sample. In other words, the contractor didn't know that this particular Sample 10 is the same sample as No. 7, only it was split.

So you look at those results. When you follow a couple of them through, that is only one portion of the check.

Q Do you have requirements that the utility split samples and analyze them under different methods or that the utility have blind samples, so that you can check up and compare it to another sample, the origin of which is known to the utility?

A Only a few of them. Only a few of the plants now have those specific requirements. The new ones do, those with newer technical specifications.

Q Do you think it is a shortfall for the plants that do not have that requirement?

A Yes, very definitely, although through the process of inspection and pointing out deficiencies that could fall down through the cracks without a quality control program, most of the licensees have instituted some form of quality check. Maybe it is not formal, but most of them have now got some sort of program. It may not be what you would like to see,

but they are coming along.

Q What would happen in this event if during your review you found a sample analysis which indicated results that would not be expected, given the other information you know about the sample, and you decided to look into it in greater depth; how would you determine if you could answer this in the abstract that a sample of that sort was inaccurate?

A Okay. There is little one can do on the basis of the paper. I can follow through, take that sample and follow it on back. You look for mathematical problems or arithmetic-type problems.

If you can't find anything which would indicate that it is an arithmetic-type error or problem with yield or anything else back here, then the next thing is to try and find out what the licensee had done about it.

Has he recognized it as being an atypical type sample? If he hasn't, why not? What are his acceptance criteria? If he doesn't have any, why not? If he has acceptance criteria and has identified it, what has he done about it? Did he go and re-sample? Did he re-analyze this particular sample to confirm that result?

So these are the types of things that one has to go through.

Q Let us assume the utility has done nothing about this atypical sample.

A Well, I think that would be sort of a negative finding in our inspection report, and one of the recommendations certainly that we would have to make to the utility management is that they have a mechanism of recognizing these things, first of all. Maybe that is the reason that they didn't recognize it as an atypical sample, and then recognizing it and then following up on it.

After all, we have enough problems with samples which show a slightly positive nuclide arrangement without having things which are atypically large, having to explain when they may not even be real They may be some sort of analytic problem.

When one points this out to the licensee, they are usually receptive to the idea of resolving these.

(Continued on following page.)

Q Would it be fair to say that it would be difficult for you to challenge the result of that atypical sample, assuming the numbers all worked out?

A Absolutely, although if you do find an atypical sample, one of the things we certainly do is take a look at the effluent for that period, and see if there is something in the effluent which could explain this atypical result -- a gaseous release, a larger gaseous release during a particular month or a meterological situation that could account for a higher accumulation in that given direction. That is one of the ways of pursuing it.

If the releases were all the same, the same order or less and the meteorology cannot be utilized as a tool of transporting material there, one in one's mind sort of rules out a good portion of plant responsibility for putting it out there. But still it is the plant's responsibility then for assuring that the data are worthwhile.

So if there is some reason to suspect that it is plant-related, we certainly will follow that even more closely to take a look at the other records. We will cut off with our own inspection into that area and try and resolve these areas.

Q In your personal experience doing these

types of inspections, have you ever found instances where in your judgment the utility was fraudulently maintaining records?

A I have not.

Q If the utility would fraudulently insert a statistic with respect to a sample to make it look like the rest of the samples, rather than standing out as an atypical sample, would there be any reliable means by which you would discovery that?

A I think one of the ways of doing that would be primarily, as I had indicated before, by following samples through from collection to analyses.

Q But in that event, if they fraudulently were doctoring a sample result so that it appeared to indicate what would be expected in that circumstance, would it be fair to conclude it would be unlikely you would uncover it?

A The likelihood is not very large. You had asked whether a fraudulent type situation had arisen before. I don't think in terms of utility records, but a number of years ago with the Shippingport reactor, there was some controversy which did come up regarding analyses done by a contractor.

Here I think it was picked up primarily

because the utility did not look at the results they were getting. Some of the numbers they were publishing were very atypical, which turned out to be a tip-off. It turned out I think the contractor in that particular case had "dry labbed" a number of the samples.

Q What does that mean?

A They have never performed the analysis but rather provided some numbers. They had either lost the sample or something.

Q When you finish inspections, is it also routine that you will fill out an inspection report?

A Yes.

Q Is it also routine, if that inspection report reveals some possible problems at the plant, that you would follow that up with a letter to the plant indicating the results of the inspection?

A There is always a letter to the plant with inspection results and, as a matter of fact, enclosing the inspection report.

The only time the licensees are asked to address or respond to negative findings, which we call items of non-compliance ~~are~~ or deviations from commitments they had made or problems which needed

to be corrected but may not be specific violations.

Q With respect to Three Mile Island, did you ever send to them inspection reports or letters indicating items of non-compliance?

A Yes.

Q And can you characterize generally how responsive the utility was to correcting whatever problems the inspections had revealed?

A I guess I would have to say they were generally responsive in correcting the problems that we revealed in the inspection.

I would also have to say though that the emphasis seemed to stop with the correction of the specific problems that had been identified.

In other words, they did not look for similar problems which were not cited this time, but you would come back out and almost identical situations may have come up with another type of sample or another type of sample equipment, that sort of thing.

They were not systematic in following through the entire corrective action.

Q So is it your statement that the utility would take specific responses to the specific violations?

A Yes.

Q But would not go beyond that to determine if there were any across the board weaknesses of the same type that had been inspected?

A Yes.

Q Were other utilities, to your knowledge, more responsive in this vein?

A Some were and some were not.

Q Let us focus now on actually what happened during the accident and your role in it.

A I had no role in the accident.

Q I mean your responsive action. I have here two packages of documents. The first package contains 32 pages. The first 27 pages are consecutively numbered and purport to contain notes that you compiled on March 28 and March 29 of 1979, the first two days of the accident. The remaining pages are numbered one through five, and they purport to contain notes that you made on Friday, March 30, concerning the accident. Have you reviewed these pages?

A Yes.

Q Is it your testimony that these pages are notes that you compiled during that time and that they are accurate to the best of your knowledge?

A Yes.

Q Is it also, to the best of your knowledge, true that this is the total sum of notes that you compiled during these three days?

A That is kind of difficult to say.

Q Are there any other notes that you have compiled during that time that you know of that are not contained in this package?

A I don't know of any others.

Q I would only ask at the conclusion of the deposition that you check to see if there were any further notes and that if there are any, I would appreciate it if you would make them available to the Presidential Commission. Will you do that?

A Sure.

MR. PEARSON: First I would like to mark this package of 32 pages that was just noted as Deposition Exhibit 2.

(32-page document was marked as Bores Deposition Exhibit 2 for identification, this date.)

MR. PEARSON: I also have a second package containing 16 pages each page of which is identified as "Incident Messageform."

Because the numbers are non-sequential, I will outline them for purposes of the record.

The first page is B-2. The second page is B-2-continued. The next two pages are entitled "Control Number B-3. The next group of pages is B-4 through B-9 inclusive. The next two pages are B-10, one page being a continuation of the other. B-11 is the next page. There are two pages entitled "B-12," the second being a continuation of the first. The final incident messageform is Control Number R-53A.

Q Have you reviewed these sixteen pages?

A Yes.

Q Did you prepare th e?

A Yes.

Q To the best of your knowledge, are they accurate in their content?

A Yes.

MR. PEARSON: I would like to mark these as Deposition Exhibit 3 please.

(Above described documents were marked Bores Deposition Exhibit 3 for identification, this date.)

(A brief recess was then taken.)

Q When we recessed, we were about to begin talking about your personal involvement and response to the accident at Three Mile Island. Maybe we could begin with the general comment by you as to what role you played during the course of the accident, what functions you performed in a general sense.

A Okay. Well , on the day of the accident I was acting section chief for E&SP Section, and in our own Incident Response Plan, the section chief is the communications man. He is the fellow who notifies other agencies and maintains contact with the State and other Federal Agencies and coordinates assistance as necessary and that sort of thing.

Q In that role would you be the primary contact of Region I or the exclusive contact in the region?

A The primary, because there were so many calls coming in and out that I'm not sure that I got all of them; not for the State of Pennsylvania. I know Tom Elsasser who is the State liaison officer, made the initial contact.

Q With which groups did you maintain contact during the course of the accident?

A During the course of the accident -- that is kind of a long way back. Let me talk about the first couple of days.

Q Let us say through the end of Friday, March 30.

A The State of Pennslyvania, particularly Bureau of Radiological Health, Department of Energy, EPA, and I would say the prime contact there was for dissemination initially. Then we got into some of the water discharge criteria type discussions with them, several other states and the aerial monitoring was part of the deal.

Q Is that ARMS?

A AMS, Aerial Monitoring Service. It used to be ARMS, Aerial Radiological.

Q Are these parties the primary ones with which you were in contact or are there others that would also be primary?

A We spent quite a bit of time talking to the AMS people, but also with the RAP Teams initially.

Q With whom were the RAP Teams affiliated?

A Also Department of Energy. There was this particular contact with Brookhaven National Laboratory, the Region's RAP Response Team.

Q Can you characterize the general subject matter, if there is one, of your contacts with the Bureau of Radiological Health?

A General discussions, obviously TMI, updated status as we understood it to make sure that they had the same word that we did.

We understood that they were going to be performing some iodine analyses or confirming the iodine analyses in some off-site ~~statements~~ measurements that Met Edison had done. That information obviously was of much interest to us. We were trying to coordinate whether or not the RAP Teams, that is the Radiological Assistance Teams, ought to be pulled in and, if so, were the state~~ments~~ people going to ask them to come in or it would fall on the NRC to do that.

I guess generally it was just to make sure that they were aware of the status and were kept abreast of any developments as they occurred.

Q What types of matters d_d you discuss with people from DOE during that period of time?

A Well, with DOE, again we went through the status of the facility, and the discussions resulted around whether or not we wanted them to come to the site or stand in readiness for assistance at some

future time. That was with both the AMS people and with the RAP people out at Brookhaven.

As it turned out, we asked the AMS people to come in to the Harrisburg area and get set up, and the State asked RAP Teams to get set up.

Q And what range of matters did you discuss with the Commonwealth of Pennsylvania personnel?

A I believe I discussed that here before.

Q Would you clarify that for me?

A You asked me what we had discussed with Pennsylvania.

Q That is the BRH specifically?

A Yes.

Q When did you first become aware that there was a problem at Three Mile Island?

A It was about 8:00 o'clock in the morning.

(Continued on the next page.)

Q On Wednesday, the 28th?

ew A On Wednesday, the 28th.

Q You were in these offices?

A Yes.

Q Do you recall from whom you heard that?

A Not specifically. Five months ago I could have told you precisely. It was someone who had gotten a call from the answering service, and I think it was someone in the Safeguard Branch. It may have been Jim Joyner.

Q When you then given instructions as to what to do to respond to the accident?

A Well, I knew that what we would be doing or should be doing was to get set up upstairs in our Incident Response Center and to assemble people, management people, so that we could effectively get our response initiated.

Q Did you do that?

A Yes.

Q How long did it take you to set up the Incident Response Center and to have it actually working?

A I would say we probably had the center set up within about five minutes and phone calls initiated to

5.2 the site perhaps within the next five minutes, which was maintained throughout most of the first several days.

Q From the time that the first Incident Response Center was set up and during your active involvement with the accident, was it your role to receive and relay communications at the center?

A No.

Q No?

A We had a line setup dedicated for operation. We had another line setup dedicated for the radiological, and I was doing the communications with regard to other Federal agencies coordination, and with the State, and trying to keep those people informed. I was working out of my office at the time because I needed an extra line.

Q I see. You were actually in your office, rather than at the Incident Response Center?

A Well, and running back to update the people here and get further information and pass it on down.

Q Did you during that time ever assume the role of giving advice as to what actions might be taken at the plant or other actions that might be taken in response to the accident?

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A Not to the plant, I don't believe. I think our advice certainly was discussed, management in part as the role of alternate program planning officer for the regional office.

Q Did you then in that capacity give advice to outside persons as to what emergency responses, for example, might be taken as the accident proceeded?

A Not outside the office. This was with regard to our own response, what we should be doing, who we should be sending, what sort of equipment, that sort of thing.

Q On Wednesday, the 28th, you have testified that you received telephone calls, and I would like to ask you concerning some of those calls, in your note on Page 2 of what has been identified as Deposition Exhibit 2, there is a call marked in at 10:45 a.m. Could you tell us about that telephone call and explain in greater detail what happened during that telephone call?

A Okay. I called the State of Pennsylvania and I talked to Margaret Reilly and again discussed the status of the plant as we both understood it.

I passed on a reference to her which was given to me by Jim Martin of NRR, which had to do with the

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methodology of evaluating iodine which might have been deposited on pasture grass.

Margaret Reilly passed on some discussion apparently that she had heard from the site in which the B&W people had indicated that they did not think that there was any fuel melt.

Q Do you have any independent recollection of this particular conversation?

A It is sort of vague after five months.

Q Do you remember if Margaret Reilly during the conversation was in an emotional state or if she was very calm or what her perception of the gravity of the accident was, things of that sort?

A It was probably as calm as anybody else, let us put it this way, at the time because we couldn't pay it much weight because, I mean, she certainly was thinking about it, and I'm not sure any of us had any real grasp of how serious the accident was. We were still looking for numbers. We hadn't gotten thinking really affirmatively ~~back~~ data at that point.

Q So is it fair to say that everybody was rather calm at that point, rather than upset?

A I would say so, yes. I think we knew something serious happened, and although she had indicated that

5.5 B&W didn't think there was any fuel melt, I don't think there was any doubt in any one of our minds that they obviously had destroyed the integrity of the fuel.

Q Did you perceive at that time that there was a serious risk to the health of the public?

A No.

Q Is it your recollection --

A As existed at the time, no.

Q I have a record here of another telephone conversation on March 29 contained on Page 5 of Deposition Exhibit 2. It is logged in at 1300 hours, 1:00 p.m., from the Department of Energy. Do you have any independent recollection concerning this telephone call?

A Yes, some.

Q Could you share that with us, please?

A Well, this was a call back to the Department of Energy headquarters, and they wanted to know if we here at Region I wanted to establish an open line with the DOE headquarters emergency center.

At that time I said we did not want to do that. I later confirmed this with my management because we did not have anyone to man an open line essentially. We felt that we could get through any time we wanted

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to the DOE at headquarters.

In addition, the Andrews Air Force Base contingent of the AMS people had indicated that they would be flying to TMI in two helicopters and I had confirmed at this time that the AMS people did not have air sampling capability aboard, and that the measurements that they would be taking would be based on gamma measuring instruments only.

Q They would be samples taken from helicopters, however, is that accurate?

A Gamma measurements from helicopters, not air sampling capability.

Q Is there an indication of an emergency operation center that DOE maintained?

A Yes, that is their DOE-EOC.

Q What is your understanding of the role that the DOE Emergency Operations Center would play during the accident?

A Again the DOE-EOC, I look at as being a center sort of manned around-the-clock in the Washington area to sort of coordinate the overall DOE manpower effort coming in, sort of similar to our Incident Management Center at the NRC in Washington.

The DOE contingent rather seemed to operate

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rather independently, rather than from direct input, and it was the operating contingent of the DOE to keep this Emergency Operations Center informed as to what was going on or the needs and that sort of thing. We were one of the inputs to the center.

Q Did DOE maintain routine and frequent contact with Region I here throughout the course of the accident?

A From their Emergency Operations Center?

Q Correct.

A During the first few days we probably had half a dozen telephone calls or so from them. Then they were sort of left out of that direct link because our communications went to the site, to the AMS people directly on-site, to the Pennsylvania Department of Environmental Resources, BRH, the people there. So we had input going that way, and from DOE on-site to their Emergency Operations Center.

Q As a general matter do you feel that Region I was adequately informed concerning the ongoing activities of the DOE during the accident?

A We were generally pretty well informed as to the aerial monitoring that had been going on, as well as the meteorological work, the ARAC type work.

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We were not really in the reporting chain at all, as far as ground surveys, what they had found or air sampling, in other words, what the RAP teams were finding.

These results we had to get out of the State and had to ask the State for. This was for the first several days at least.

Q Did you consider that a problem that DOE was not providing this information on a routine basis?

A I don't know if I would consider it a problem. I guess it would have been nice to find out yesterday their finding something or, yes, their finding a lot or their finding nothing. But as far as getting back detailed information, I'm not sure that that would have helped us tremendously and that we were getting quite a bit of other input from our own survey teams and from the Met Edison survey teams.

Q Was there any discussion that you recall at that time concerning DOE communication or lack of communication with Region I?

A I think I talked to the State about it, and we really didn't have a contact with the DOE RAP team leader, as I recall it, but the State was getting all the data, and we would get feedback through the State

that way.

Q Would the Region I emergency plan provide for contact with DOE personnel during an emergency of this sort?

A It would if we had initiated the requested assistance. In this case, the RAP was essentially responding to the State's request, as opposed to the NRC's request.

Q I see. So had you initiated a request to DOE, it would be your expectation that they then would have placed you in the routine information chain, and the communications would have been more extensive?

A Yes, certainly.

Q Who instructed the AMS people to go the site to take samples and generally conduct monitoring activities?

A To go to the site? You mean into the Harrisburg area?

Q Correct.

A I instructed them to do that, based on discussions I had with my management.

Q Was it then the intent of Region I to pay for their services at some later time?

A We had concurrence from headquarters.

Q When did that concurrence arrive and what are the circumstances around that to your knowledge?

A I would have to go back to my notes here. At 11:00 o'clock I called and requested that the aerial monitoring craft be brought to the TMI proximity. So it would have had to be probably between, I would say, 10:45 or 10:50 and 11:00 o'clock that we got the concurrence.

Q Do you remember the reasons why this region determined that they would like the assistance of the AMS people?

A Well, at this point, after we had initially contacted them, I guess we felt it would be a lot better to have them in the area, so we could use them if we wanted them.

The initial decision was, "Okay, let us bring them into the area," and before they got to the site, as a matter of fact, a decision had been made to go ahead and fly as soon as they had gotten there.

Q Was that Mr. Grier's decision?

A No, I think the decision was perhaps made out of headquarters by Bernie Weiss and the Headquarters people who were knowledgeable about AMS.

Q I notice in your notes on Page 7 there are

a series of three or four conversations which begin at 1410 hours.

A Yes.

Q It seems to relate in the first entry, 1410, it indicates Bernie Weiss said that the ARMS crew was to "fly." What does that mean?

A That means as soon as they got into the area, to begin surveying.

Q So that was the actual go-ahead order to them, to go off a standby capacity and actually --

A Yes. In actual fact they were en route. So this conversation was related to the DOE-OEC, so that as soon as these people arrived in the Harrisburg area and contacted back to their office, to let them know that they had arrived and they would get the go-ahead to fly.

Q To your knowledge did they immediately follow that order and begin their activities?

A Yes, as soon as they got there.

Q Again on the 28th on Page 8 of Deposition Exhibit 2, there is a telephone call logged at 1530 hours from Reilly of Pennsylvania, and the note indicates she was becoming less convinced of any off-site airborne problem. Do you know why she was becoming

less convinced at that point?

A Yes, I think the State at this point had analyzed one or more of the early off-site charcoal cartridges that had been collected by Met Edison, and Met Edison had indicated that there was 1 x 10 to the -8 microcuries per cc, and the State analysis showed that the samples contained less than the minimal detectible activity, which was on the order of 1 x 10 to the -11 microcuries per cc.

#6 Q Did you have any further discussion with Margaret Reilly at that time beyond what you have just indicated?

A I can't recall at this point.

Q Again on the 28th, on Page 11 of Deposition Exhibit 2 logged in at 1820 there is an indication that you called Tom Gerusky of Pennsylvania. Again it indicates that the purpose for the call was simply to contact, to exchange information. Did you routinely stay in touch with Mr. Gerusky for this purpose?

A Yes. Gerusky or Reilly or Jane Fischer, whoever was there in that same office.

Q Do you recall if you called him at this time after he had just returned from a briefing with the Governor?

A No.

Q So that was a fact that you simply learned for the first time?

A Yes.

Q Did Mr. Gerusky tell you anything about the briefing with the Governor or the press conference?

A Not particularly; not particularly that I can recall, let us put it this way.

Q Do you have any independent recollection beyond what these notes maintain with respect to that conversation?

A No. I think this is pretty much as I can recall it at this time.

Q I would like to refer you to another conversation referred to in your notes on Page 19 of Deposition Exhibit 2 logged in at 1320 hours, and this was a conversation with John Sears. Who is John Sears?

A John Sears is with the NRC Nuclear Reactor Regulation, and I'm not sure what his exact title is.

Q Your note indicates that he asked questions about the TMI emergency plan implementation.

A Yes.

Q It further indicates that he did not know or is that you?

A I did. He wanted to know whether the plan was fully implemented, whether there were any problems with the plan's implementation, generic aspects, that sort of thing, and I simply informed him our people had been mighty busy out there and simply had not gotten around to that stage. You have to handle the crisis situation before you go back into a routine ~~test~~ task. It is simply what I tried to give him.

Q When you were speaking of the emergency plan implementation --

A Talking about TMI emergency plan, as opposed to our implementation of the incident response plan.

Q Was it a concern to you that there was no available information concerning the implementation of this emergency plan on the 29th when this call was logged in?

A Not particularly, because we knew they had teams out. We knew we had people there on-site who were following the course of events, including what surveying was being done. We had additional capability of our own there, and any lack, I guess, or failure of Met Ed to implement portions of the emergency plan I think at this point would have been picked up or would have been past history. In other words, actions would have been

supplemented by another force at that point.

As to any real problems with the emergency plan, it would have to come later when we looked at everything in the full investigation.

Q I would like to focus for a moment on the controversy concerning the dumping of waste water from the site on Thursday afternoon. You have in the notes a couple of conversations which relate to that event or proposed event. Rather than simply running through the conversations, perhaps you can tell us your understanding of the way these events occurred and refer to the conversations as you do it, if that would be a more convenient way of going through this matter.

A Let me just look at these things first. With regard to the IWTS --

Q What is "IWTS"?

A Industrial waste treatment system water, I guess what you need to know is a little bit about what the problem was.

It appears that on the afternoon of the 29th samples were taken of different effluent streams and that sort of thing and analyzed primarily by the NRC at this point.

The IWTS effluent showed levels of Xenon 133

and 135 which were noble gases in this water.

Q Would that be unexpected?

A It was somewhat unexpected I guess because this is a normal clean industrial waste. That is all it is, and no radioactivity is anticipated. In hindsight it is probably as a result of gases being in the fuel-handling building and the primary and auxiliary building and mixing with the industrial waste water in the sumps.

What we had was simply some of this gas being carried out with the sump water.

Q How were you aware of that at the time that this was happening? How did you know at the time that the waste water was showing some measurement of radio-activity?

A These were the results of NRC analyses.

Q They were relayed to you, so you were personally aware of them?

A Yes.

Q What time was that information relayed approximately?

A I think what you will have to do is check our message forms, and you will probably find it in there.

Q Do you have any recollection as to when

that came in?

A I don't have any personal knowledge, but it must have been before 1430.

Q 1430 on March 29?

A Yes.

Q That is some background information concerning the waste water question. When did you first hear word other than that concerning it, in other words, what happened next?

A Oh, well, there was some controversy here whether or not it could be dumped legally.

I guess the consensus was that, as far as any radiological hazard, there really wasn't because as soon as it mixes with the water or in the process of churning with the other water in the river, it would simply outgas, and the activity would be released from the water, so that it wouldn't be a hazard downstream.

In addition, since this industrial waste treatment system pump is a normally operating system, if you shut it off or isolate it, what will happen is the sump will overflow and simply run down into a storm drain and be discharged directly to the Susquehanna River, without any dilution from cooling tower blowdown and that sort of thing.

So it looked like the best alternative would be simply to discharge it at a controlled rate with dilution before it hit the river.

Q How did NRC Region I to your knowledge become aware that the utility was planning to dump this waste water?

A I was trying to guess. This information must have come from the mobile laboratory on-site or from the control room, one of the control room links to the Region I office.

Again you may have to go back to the regional radiological incident message forms to find out precisely how it got in.

Q Was there any concern in Region I respecting this proposed dumping of waste water material?

A Initially there was concern about how it had gotten into the water and, second, whether or not any limits might have been exceeded. So after that evaluation had been performed, I don't believe we had any major concern.

Q Were personnel from Region I aware at the time how the radioactivity got into the waste water or were they surprised that that could have occurred under any set of facts?

A I'm not sure we could term it "surprise" that it could have occurred at all. I think what we did was sort of surmise how it must have happened because we were looking at pretty much any effluent stream from the Island at that point, just looking to make sure we had all paths isolated. There was a concern that there might be some loss of radioactive water somewhere ~~other~~ from the Island. So any pathway that could be thought of was sampled.

Q Was the utility contacting the region at that time to request permission to dump or to simply indicate that they intended to do so?

A I think the utility had requested permission to dump to keep it from overflowing.

Q So at that point there was no dump ongoing?

A No, I think they had isolated it once it had been identified.

Q And what did the region do with that request?

A That information was passed on to IE headquarters, the Incident Management Center.

Q Who passed it on?

A Region I probably from the Incident Operation Center here up to the Incident Management Center in

Washington.

Q Do you know which persons were involved in that specific conversation?

A Not specifically. Again that information should have been recorded on an incident message form.

Q What did headquarters of NRC do with that request?

A I think you will have to ask NRC headquarters what they did with it.

Q You don't have personal knowledge concerning that?

A No.

Q Did you participate in any conversations concerning the waste water dump by either relaying the request to the parties or relaying the response to the request back to the utility?

A No. My contact had been primarily with the State and with the regional people here, the positions here.

Q You have an entry on Thursday, the 29th, logged in at 4:20 in the afternoon, which I believe was a conversation between yourself and again Margaret Reilly from the State of Pennsylvania.

A Yes.

Q Can you describe that conversation for us?
A This conversation, according to the record here, indicates that I had called Margaret Reilly to inform her of the decision by TMI to dump the 400,000 gallons of water through the IWTS by the normal release pathway at approximately 200 gallons per minute with the dilution flow from the plant as I had described earlier.
Q You used the words "decision of TMI" to do this. Is it fair to say that it was really their preference but they were awaiting NRC concurrence with that action or had they actually made a firm decision to your knowledge to do that?
A I don't know at this point. I can't remember.
Q To you recollection was this the first information that Margaret Reilly had concerning the proposed waste water dump?
A That is difficult to say because I had discussed this information with Tom Gerusky earlier, and obviously one of the reasons for discussing it would have been to keep him informed of the options available. So I guess she should not have been surprised if there was a decision to dump that waste.
Q When you earlier spoke with Tom Gerusky on

this --

A I think it was at 1420.

Q Can you find it here in the notes?

A 1430 (indicating).

Q Do you recall whether this was the first time that Mr. Gerusky had heard of the possibility that the plant might be releasing this waste water?

A I don't know.

Q You don't recall if he had a reaction of surprise or anything of that sort?

A No. I think I had enough trouble trying to record all my own comments.

Q In these two conversations did you have reason to think that Pennsylvania personnel, that is Mr. Gerusky or Miss Reilly, were in any way unduly concerned about this release?

A No.

Q Do you have any independent recollection as to whether Reilly or Gerusky had contacted others concerning this release and their views on it?

A I am sure they were in contact with the site personnel because they also had an open line to the site.

Q When you were talking with Margaret Reilly

at 1620 hours, 4:20 in the afternoon, on March 29th, and you informed her concerning the TMI decision, what was her reaction to that?

A She didn't see any particular problem with it, and as a second thought she had inquired if anybody had looked at Tritium being mixed with it. I informed her that, as far as I know, nobody had looked at it, but I would find out and get back to her.

Q Is it your recollection that this conversation took place prior to your knowledge as to what decision NRC headquarters would make concerning the TMI request to dump?

A Yes.

(Continued on following page.)

T-7

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Q Did you become aware on Thursday of what the Headquarters recommendation or decision concerning the dump was?

A Yes, I think that was Thursday night ~~is~~ the first time I got a feel for where they were assessing and trying to iron out problems I guess with the State and other agencies within the State.

Q What kind of a feel did you get?

A What sort of feel? I thought that what was happening was becoming a big political issue at that point and that people were trying to make political decisions when there wasn't really a technical basis, if one looked at the radiological implications involved.

Q How did you make these impressions or reach these conclusions?

A I think based on our earlier evaluation of the amount of activitiy in the water, the type of activity that was there, it's expected duration in that water; in other words, it would have been gone entirely by the time it would have reached the first potential water user downstream anyway.

Q Did groups with whom you were in contact share your concerns about the politicizing of this

whole matter?

A I think some did.

Q Who do you remember?

A I think the State did. That is Margaret Reilly and Tom Gerusky and his office and the Radiological Health Bureau.

Q You have a conversation logged in at 7:45 p.m. with Margaret Reilly?

A That is 19:45.

Q Was it during this conversation that she indicated to you that she was concerned that this waste water dump might be taking on a greater importance than it should?

A At this point she indicated I think she was getting pressures from other groups from water quality within the state.

Q Within the Department of Environmental Sources, you mean?

A Yes, and possibly from downstream water users, from perhaps EPA, who were concerned with technicalities of their NPDS permit requirements.

Q Did she indicate she was getting pressure from persons outside of Pennsylvania concerning this?

A No, I think it was primarily -- I think she

got pressures even coming down from the Governor's office and other State representatives, people who make political decisions, but not necessarily technical ones.

Q Was she in any way upset or concerned about these developments?

A Yes. I would certainly say she was very concerned about them. Upset about them? I don't know. It takes a lot to get Margaret upset, I think in some ways.

Q Did she indicate to you at that time that she thought that any decision -- she suspected the NRC might take the wrong position or make the wrong decision concerning this waste water dump question?

A I don't know if I got that impression or not.

Q Do you have any other independent recollection of this conversation with Margaret Reilly?

A No.

Q You have noted here at 7:00 p.m., 1900 hours, on page 24 a conversation between yourself and a Mr. Langford?

A Yes.

Q Who is Mr. Langford?

A Mr. Langford is the Region III EPA representative

with whom we have a sort of informal agreement to contact for dissemination of information related to releases from power plants or any of our licensees, that sort of thing.

Q Was he the person with whom you were in contact in Region III?

A Yes, he is one of the people, yes.

Q Who were the others, if you recall?

A Well, the other people I've contacted later on in the accident at Harrisburg, for example?

Q You indicated in this conversation note that you told him of the release of IWTS effluent, and I assume that is Xenon?

A Yes.

Q To your recollection, was that the first information that Langford had concerning that discharge?

A It appeared to be, yes.

Q Did you call him or did he call you?

A I tried to get him. This indicates that I had called him. I think I have some notes where I tried to call him much earlier.

Q What prompted your call to Langford?

Why did you try to call him?

A To inform him of the activities in the IWTS and release or at least possibility of that release.

Q Was Langford in any way irritated or upset or did he show any emotion concerning the fact that he had not received any information of this from sources other than yourself?

A I didn't get that impression from him.

Q Did he comment at all concerning that aspect, the route by which the notification of the release reached him?

A No. I didn't get that impression at all.

Q What was his reaction to the information that you gave him? You gave him a status report, I think. What was his reaction to that?

A Well, he had some additional questions, I guess, and he went back and asked whether the discharges had been continued from the day before, in other words, was activity also released the previous day or had it just started. I think we talked about perhaps radiological implications, these sorts of things.

Q Did you have any involvement with the matter of the waste water discharge after your

conversation with Margaret at 1945 hours on the 29th?

A I'm not sure I know what your question is about "involvement."

Q Did you hear any other information over the telephone with respect to it?

A I would have to go back and take a look at what was logged.

Q So you're saying that this log that we have in front of us, Deposition Exhibit 2, would contain --

A Any additional.

Q Any additional information of your involvement?

A Yes.

Q Let us focus on Friday, the 30th. Before we do that, is there anything else concerning the activities of Thursday, the 29th, that you would want to mention for the record that we haven't covered?

A It was busy.

Q Very busy, I'm sure. Let us focus on the 30th. When did you arrive at the office on the morning of Friday, the 30th?

A About 0800.

Q During Friday, the 30th, did you perform any functions other than as a communications person with respect to the accident?

A No.

Q In the notes that you have, there is logged a call at 0815 a.m. from Mr. Hahn of ARMS. Mr. Hahn indicates, according to your notes, that he was getting some conflict in management direction, and you have indicated NRC Bethesda via DOE Headquarters and Region I.

Could you give us some more information about his concerns of this conflict in management and direction?

A Okay. Herb's concern was that IE management in Bethesda were apparently feeding some information to him through the DOE Headquarters as to what was expected, and we at Region I were also giving some directions, and Herb was concerned that the information that he was getting may not be consistent, and he would have liked to have had at this point, I guess, someone on-site whom he could contact.

Particularly it was getting more and more difficult to get any sort of communications.

He would have to pick up the phone, for example, and it was almost impossible for us from Region I to contact them.

We could not get a circuit, that is a telephone circuit.

At the other end, it wasn't much easier. But they could pick up the phone and wait until a circuit cleared, instead of going through dialing all the numbers and then wait and get the busy circuit.

He had some concern there, that the communications may even get worse. So I think what he was looking for is someone on-site to whom they could go for direction, to try and cut out some of this.

Q So part of his concern then was to determine from whom he should take his marching orders?

A Yes.

Q And from whom he should take information and distribute information?

A Yes.

Q Did he at that time indicate that he was experiencing significant delays in relaying the

information that he would gather to persons who would use it?

A Yes.

Q Did he go into any great detail on that particular fact?

A I think the major delay that he had mentioned was through the telephone hookup. Incidentally, even back here with the apparent management conflict or a fear of management conflict of direction, he was told that the directions ought to be coming from Region I, that NRC-Bethesda information should be relayed to Region I and factored in through Region I direction. That was the way the apparent conflict was to be resolved.

Q What was your response to his problem?

A That was it.

Q When you arrived here at Region I on Friday morning, what was the atmosphere in the office? What was the feeling with respect to the state of the reactor and the problems it was causing at that time, at the time of your arrival?

A As I recall, it was sort of more of the same from when I went home on Thursday night or Friday morning early, the same sort of thing. The

reactor appeared to be in a stable type situation, certainly not very desirable from a cold shutdown type status, but no worse than it had been before, and the temperatures seemed to be declining, which would be significant.

Q At 9:00 o'clock in the morning, according to your notes on Friday, you received a call from Mr. Hahn, which relayed a question I believe from Orin Henderson of PEMA, Pennsylvania Emergency Management Administration, which you indicated as Pennsylvania Civil Defense.

(Discussion off the record.)

Q During which Mr. Henderson questioned concerning a news release that may have occurred from the site. Could you give us more information concerning this particular conversation and your interpretation of the condition at the plant after that conversation?

A Well, after five months it is kind of difficult to remember precisely what was going on, but, as I recall, he was asking DOE what information the NRC had concerning additional releases from the site, or that, in fact, the site would be increasing the amount of activity which was being released.

I had indicated that what was happening

is that some of the waste gas tanks were being dumped because of pressure buildup from the reactor letdown system, and that during those dumps, the activity was increasing.

Q Where was Mr. Hahn when he placed that call, to the best of your knowledge?

A Capitol City Airport.

Q Was the release that Mr. Hahn was referring to, was that the release that supposedly had been measured at 1200 ~~milligrams~~ milliRoentgens per hour, to your knowledge?

A I can't comment on that because I don't know about this. As far as I know, in the Region I incident response log I looked for that, and we do not have any "1200."

Q Do you have any independent recollection regarding this conversation, as to whether it heightened your sense of concern as to the plant?

A Not particularly, in that we knew that the plant had been venting from time to time ~~on~~ to reduce pressure in some of the waste gas tanks, and that the venting occurred over short intervals of time, then the levels would drop back down again.

Q Is it fair to say that it is your understanding then that at that time there was no

new information which would indicate that a continuous release might constitute a greater hazard to public health was ongoing or about to begin or anything of that sort?

A Would you restate that?

Q Is it your understanding then at that time, after this conversation, that there was no cause to believe that the condition of the plant had worsened to the extent that it would constitute a greater threat to public health?

A Okay, that is correct.

Q You have logged in also at 9:55 a.m., a conversation with Mr. Hahn wherein you indicate to Mr. Hahn that Harold Collins of the NRC Headquarters had made an evacuation recommendation?

A Yes.

Q Could you tell us when you first became aware of that recommendation and how?

A The first awareness I had of that recommendation was on a call from Hahn at 9:55 on Monday, March 30th.

Q That call was from Hahn or you called Hahn?

A Oh, I'm sorry. That is when I did call Herb Hahn. I had been trying to reach him, I guess

earlier, and I could not get through. I finally did get through, and he told me of the radio broadcast.

(Continued on the following page.)

8.1
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Q Okay. Were you surprised to hear that information?

A Yes.

Q Was it your immediate decision upon hearing that information that the recommendation out of headquarters was a mistake?

A Yes. Well, the first thing they wanted to do was to verify that, in fact, that decision had been made because we hadn't seen anything in plant status or heard anything in changes in plant condition which would seem to warrant any such recommendation coming out.

So the first thing I did was to check with personnel out here in the Emergency Incident Management Center here, whether they heard anything different or anything which changed the status of the reactor. They had not.

I informed the regional director immediately. He verified through the Incident Management Center down in Bethesda that I&E had made no such recommendation. They had not.

Q This is Mr. Grier you are then speaking to?

A Incident Management Center of the NRC people down there on the open line we had.

8.2 Q And he said you had nothing to do with this recommendation and he was wondering what was going on?

A Yes. They had not made the recommendation from the Incident Management Center.

Q Does he remember with whom he spoke?

A Sure, it is in the log. I don't know. I would guess whoever was on. It might have been Sneizek or it may have been -- I'm not sure.

Q Jumping back for a moment to the 9:55 a.m. conversation with Mr. Hahn, did he precisely tell you what the Collins recommendation for evacuation was or simply say, "There has been a recommendation to evacuate"?

A That is essentially, as far as I got it. Maybe it was within a five-mile area or something. I can't recall at this moment. When I heard those words, it sort of set the hair prickling on the back of my neck, so to speak.

Q To your best recollection was that the first notice of the NRC headquarters evacuation recommendation that this office at Region I received?

A Yes.

Q Did others in Region I share your initial

8.3

skepticism concerning the evacuation recommendation?

A Yes. I started to go through the sequence here, I guess. I told Mr. Grier about it, and Mr. Grier confirmed with headquarters that we had not made, "we" being both Region I personnel as well as I&E personnel down in the Incident Management Center -- had not made that recommendation.

I immediately tried to call the State Emergency Center where I understood that Mr. Henderson was and I could not get through.

Q Where is that call logged in in here?

A Here (indicating).

Q Are you pointing to 9:55?

A Well, this is 10:00 o'clock.

Q 10:00 o'clock?

A Okay.

Q You placed that call and what happened?

A Then I called Gerusky. I placed a call to Gerusky and had Grier talk to Gerusky.

Q For the record, the 10:00 o'clock conversation didn't get through because it was busy?

A Yes.

Q The 10:05 conversation was to Gerusky. All right. What happened at that conversation?

8.4

A I talked to Tom and I told him we did not make the recommendation. I put Mr. Grier on to reaffirm that we had not made the recommendation for evacuation, and he told us that apparently Chairman Hendrie and Collins had made the recommendation based on an earlier dose rate.

Q Was your understanding of that conversation that Mr. Gerusky had more information concerning the evacuation recommendation than even you did?

A Yes, that is true. The indication was from him that these earlier numbers upon which the evacuation had been made were not properly evaluated. That was his understanding of the problem.

Q Did Mr. Gerusky indicate to you the source of his information concerning the identity of the parties who had recommended evacuation?

A It probably was from Henderson. I don't know if he made that clear.

Q Did Mr. Gerusky specifically mention Chairman Hendrie as one of the persons who made the recommendation?

A Yes.

Q Did he indicate to you any reasons why he thought that the information available to NRC

8.5

headquarters may not have been properly evaluated?

A Because he was also in contact with the site, and he knew the situation at the site was not a continuous release situation, and there had been some early releases in the morning, but those had been terminated some several hours before.

Q Was Mr. Gerusky upset at this point?

A Yes.

Q Would you characterize him as being extremely upset?

A Yes. I would say that I would characterize most of us as being extremely upset about it.

Q Did Mr. Gerusky during that conversation indicate what his intentions were to reverse the situation or take any action because of it?

A Gerusky felt that since the announcement had come in that he could not totally reverse the recommendation, that about the best he could do was to say that the State was recommending that people stay indoors and shut the windows, but that the NRC had essentially blown any chances of letting the situation, badly evaluated or whatever, just go away.

Q Did he indicate at that time that he had any intention of following the recommendation?

8.6

A No, he didn't indicate that.

Q Did he indicate whether he would consider NRC headquarters as a credible source of information in the future?

A He would not have indicated that.

Q He would not have. What happened after that conversation with Gerusky, which is logged in at 10:05?

A 10:05 or 10:15?

Q After the 10:05 conversation you have an entry at 10:15.

A Okay. 10:15 I guess Grier went back to headquarters again. This was Moseley. Apparently this is where the confirmation of that earlier phone call was at 10:15, and he confirmed there that it was not headquarters' recommendation, that is IE headquarters recommendation for evacuation.

Q So there was a call placed to Mr. Gerusky to further clarify the source of the evacuation recommendation?

A Yes.

Q Do you have any independent recollection at all of that conversation other than these notes?

A No. Things were going pretty fast at this point,

8.7 and the notes were probably more abbreviated than they should have been because of trying to get everything done and trying to keep up with the documentation as well.

Q The next conversation I would like to mention is at 10:55, although your notes indicate at 10:30 you made attempt to call Mr. Hahn, but that the circuits were busy.

A Yes.

Q At 10:55 apparently you did speak with Mr. Hahn. Did you at the same time speak with Joe Deal?

A I think they were sequential on the same phone call, as opposed to extensions.

Q So it was one call and one party would get on the line, and then the second party would get on the line?

A Yes.

Q You have a note concerning that conversation, that there was a request for clarification of the NRC recommendation for evacuation?

A Yes.

Q Was that request for clarification by Mr. Hahn or Mr. Deal or both?

8.8

A I can't recall at this point.

Q You further indicated that you, meaning NRC Region I, did not recommend evacuation, but the State did recommend sheltering?

A Yes.

Q Could you tell us when you first became aware that the State was recommending sheltering?

A This is essentially what Tom Gerusky had mentioned in the earlier telephone conversation at 10:15.

Q So at that time he did indicate he was going to advise a less drastic response to the problem?

A Yes.

Q Do you have any independent recollection concerning this conversation that is not expressed in these notes?

A No.

Q During that time, which is Friday morning, was this office aware of the several conversations that occurred between Chairman Hendrie and Mr. Thornburgh of Pennsylvania concerning evacuation recommendations?

A Of the specific conversations, no, only that the feedback we had gotten was through the State, Gerusky, and that somehow or other Hendrie had made his

8.9

recommendation to the Governor.

Q Were there complaints among persons here in the region that this decision making was being made either at the wrong levels or without consultation with the proper persons?

A I'm not sure how much -- what was your word?

Q Complaints --

A How much complaint there was of it. Certainly there was that feeling that persisted. I guess we certainly would have liked to have known about it, and I think those of us who were here felt that the criteria for evacuation under the State plan, for example, certainly had not been met, and we felt we should have been in on an evaluation as to whether or not evacuation ought to be recommended, as did Mr. Gerusky.

Q Let me move onwards to Saturday, if I might. As I understand it, the White House on Saturday assigned the NRC to be the lead agency concerning coordinating, collating, gathering environmental monitoring data. Were you aware of that on the 31st, which would be Saturday?

A No.

Q When did you become aware of that?

8.10

A I became aware of it, it must have been about the 2nd or 3rd of April.

Q Did that cause a problem?

A When I became aware of it?

Q First of all, maybe we should clarify. When you say "I became aware of it," you mean yourself, personally?

A Yes.

Q Do you have reason to believe that the NRC Region I was not aware of it on the 31st?

A I probably would have been aware of it if other people, other than management knew about it. As a matter of fact, as a point of clarification, I am not sure -- this decision, I guess, to have the lead agency for environmental data was later explained in another memo which didn't come out yet. It hadn't been out yet.

Q Who wrote that memo?

A Watson.

Q Do you know the date on that memo?

A I probably have copies somewhere around, but I would say that was probably maybe around the 10th of April that assigned the EPA as the lead agency for environmental --

Q Environmental monitoring?

8.11

A Yes.

Q Originally did the White House make a decision to assign NRC to be the lead agency and then they changed that?

A I am not sure what the ramifications of that were. I think we had assumed -- somebody had mentioned that the NRC was going to be the lead agency for compiling all this information and, as a matter of fact, I was told that I would probably have the task of doing that, and then it was changed, I believe.

Q During the first five or six days of the accident when the concern may well have been greatest, who was in fact operating as the lead agency with respect to collating and coordinating environmental monitoring data?

A I'm not sure there was a lead agency per se those first few days. The DOE came in. The RAP teams came in. One of the tasks that they had set up was to provide Pennsylvania with all the information that was being gathered, so they were not the prime gatherer, themselves, DOE, but they were rather entering things into the system, so that Pennsylvania would have access to everything and all the data.

As a matter of fact, the environmental data was

#9

Q But you do think there was a common action on the part of the agency to give their information to the Commonwealth of Pennsylvania?

A Yes, as well as anybody else who wanted it, yes.

Q When the Whitehouse did assign the NRC on Saturday, the 31st, is it fair to say that you did not see any change in the operating procedures of the agencies gathering information due to that assignment?

A As far as I know, nothing was official. I went to the site as indicated on Sunday, the 1st of April, and was assigned as liaison between the NRC then and all the other Federal agencies, as well as with Met Ed, to gather environmental information.

There was no official sheet of paper, as far as I knew, that ever reached the site designating us as the official agency for doing this. It was sort of hearsay.

Q Are you aware of any direct oral communication designating NRC to take this role?

A Not any direct, let us put it this way, so that information was available. If you asked for it, you got it. I think other people had the same sort of implication, that the NRC would be a lead agency in doing it. So information was provided us, and we fed

8.12

then fed into the Pennsylvania system. The NRC was fed in and the Met Ed data was fed in and the EPA data was fed in, but I'm not sure that there was a lead agency per se.

Q Is it fair to say then that DOE was not organizing the inter-agency effort to collect environmental information or environmental data?

A No. As a matter of fact, it appeared very much like each agency was sort of doing what it felt it should or wanted to do and providing that input into a data system, so that rather than there being a coordinated program laid out with, okay, Agency No. 1 doing these tasks and Agency No. 2 doing these other tasks and Agency 3 doing these tasks, and the State will do these things and the licensee will do whatever these are and lay out assigned responsibilities and that sort of thing, this was never done. Instead it was sort of each agency coming in with its own idea of what it wanted to do and went ahead and pursued that, so that some of the things had considerable overlap.

I don't know of any particular program or particular area which had gaps that I can think of as a result, but there wasn't an overall coordination, I don't believe.

back summaries of our information and Met Ed's information back that way. So there was a good exchange of information, let us put it that way.

Q So then if I can characterize your testimony, you are indicating that during the first five or six days of the accident it was each agency pursuing its own activity without any coordinated overlay, so there would not be duplication of effort?

A That is correct.

Q Did that situation change after the first five or six days of the accident?

A Not really.

Q Not really?

A Not really.

Q Is there any minor way in which there may have been changes?

A Some of the overlap disappeared as the agencies did.

Q I see. Do you know if the NRC received any orders in the first two weeks of April directing it to take over any responsibilities that DOE might have in this area?

A No. Let me just indicate that one area of coordination that did exist to a large extent was the

fact that DOE had provided some teams to work at the TMI site under direction of the NRC what we call environmental shift coordinator. He had a number of NRC personnel, as well as then some DOE teams, which he ~~dispensed~~ dispatched to downwind locations to make measurements, take samples and that sort of thing. So that was a coordinated effort.

Q Between DOE and NRC?

A Yes.

Q Was that the extent of the coordination that you know of between those two?

A Well then, of course, the AMS flights was not only routine on a certain frequency, but there were also demand-type flights. In other words, plant conditions change, and we would request and get flights to cover certain situations. So that was coordination.

Q Do you know if there were any attempts being made by any of the agencies to increase the coordination of their work during the first phase of the accident and during the period after the urgency lessened?

A I think, well, the major coordination effort would have come about as a result of the daily 5:00 o'clock briefings which were held at the airport, where people

found out what other people were doing and maybe were persuaded by that, if they are going to do this, let me instead of sampling, go somewhere else and sample or something like that because the sample locations, at least those fixed locations, were known to most of the other agencies.

Q How did you know of these 5:00 o'clock briefings? How did you know that they occurred?

A I was told of them when I got on the site the first day.

Q When was that?

A One of the other individuals from the NRC went with me on the first day and introduced me to several of the key personnel, and thereafter I was the NRC rep.

Q Why did you go to the site?

A I was asked to.

Q For what purpose?

A To be a liaison between the NRC and the other agencies.

Q And at whose direction?

A My branch chief.

Q Did you attend all of the 5:00 o'clock briefings after your arrival?

A I think there was one of them which I did not

attend, and that was the second to last one before DOE left. That was a Sunday I believe or a Saturday.

Q Do you remember the date approximately?

A It could be retrieved from the records. It must have been about the 19th of April.

Q Approximately two weeks or so?

A Yes.

Q Were there regular attendees at these meetings?

A Yes.

Q Who were they?

A The attendees were representatives from each of the agencies involved -- EPA, AMS people, EG&G was doing the flights, Lawrence Livermore people, people who were doing the ARAC calculations. We had NOAA representatives there, I from NRC, the RAP teams and sometimes several different people would say what they had, EML, Environmental Measures Laboratory, HEW, the State, and I'm not sure of anybody else. I would have to go through my list.

Q Who chaired these meetings?

A Generally the DOE.

Q And for what purpose were the meetings called?

A Just information exchange of events which happened during the day or since the last meeting, of findings during the day, survey results, sample results. I would in addition try and present an updated status of the plant conditions.

Q Would that be your general role at these meetings, to comment on the stat of the system as it were of TMI?

A My role was to provide environmental data as well, but, in addition to providing that, it seemed like they were very much anxious to find out what was happening at the plant and could they expect additional releases, what are they doing, are they going down into the cold shutdown, that sort of thing.

Q Do you think these meetings helped to coordinate the response of these agencies?

A To some extent, yes. The people were finding, let us say, when they did see some iodine, other people started looking for iodine -- I guess if people would or, for example, when things were found in some milk, other agencies started doing some milk samples. So to some extent, I guess it did.

But there still was no plan of action which was coordinated among all the agencies. Everybody looked

at what they were doing or wanted to do and was sort of implementing it.

Q Was there ever discussion at these meetings about formulating a plan of action or coordinated approach to this information gathering effort?

A I tried it several times.

Q And what happened?

A They all thought it was a good idea. A committee was not formed, so we didn't get to that stage of Federal bureauracy.

Q If they thought it was a good idea, in your judgment why was there no committee formed or action taken?

A I don't know.

Q Is it clear from your recollection that no one left these meetings with marching orders or advice as to what to do next as to the next day's meeting?

A It is clear they were each taking direction from their own agency. So, you know, one agency did not say to another, "How about getting some of these samples?" It did not occur.

Q Did you perceive during these meetings or otherwise any rivalry among the different agencies that were performing this function?

A Not particularly. If you are looking for rivalry in the sense of trying to keep information from others so that you would have an advantage or something, no.

I think the cooperativeness was certainly expressed I think quite well, if the agencies who typically may be battling constantly in normal situations, certainly at the staff levels that were there the inter-agency coordination was very close.

Q Would you feel that the exchange of information was essentially uninhibited?

A Yes.

Q Are there any other comments or observations you have concerning these meetings that you would like to volunteer for the record?

A No, I thought they were very useful. It was certainly probably the major way of updating everyone on what all the various agencies had found. It certainly highlighted things that a particular agency or agencies had found, including the negative information, you know, samples with no measured activity.

Q On April 13 our records indicate that the White House issued an order that made EPA the lead agency.

A Okay.

Q When did you first become aware of that order?

A Probably about April 14. As a matter of fact, I think that -- let me just ask here -- was this the date that the memo was signed?

Q I'm not certain. I am only certain that the order was issued in some form on that day.

A Whether written or oral, I don't know. I don't know when I first became aware of it. I heard of it several days before we saw the actual memo, let me put it this way. Whether April 13 was the day it was formally sent out or the memo had been around but had not reached the site for several days before, I don't know. We knew about it, but we couldn't read it for several days.

Q Did you have information with respect to why the White House was designating EPA the lead agency at this point?

A Not particularly, no.

Q Did you have any background information on their decision at all?

A No. I knew there were some people I think in NRC who felt it should have been the NRC who gathered the information to be designated.

Q Who were these persons?

A Those were people in management down in headquarters.

Q Is it fair to say that this information concerning the reaction of particular NRC persons was secondhand or thirdhand?

A Yes.

Q In your experience?

A Yes.

Q Did the order after it was received change the method of operation at all on-site concerning the information-gathering activities?

A Not particularly. EPA did initiate after some time a series of meetings, I guess, as to how they wanted the data given to them, provided to them and that sort of thing.

Q "After some time" refer to when, if you know?

A Oh, I guess probably within a week or so after the memo came down and we could read it.

Q Did you attend any of these meetings?

A Yes.

Q Did you attend them all or how many?

A I attended several of them. George Smith attended

I think some of the rest of them.

Q At this point were the DOE meetings that you were holding at 5:00 p.m. terminated or were they still ongoing?

A The memo came out about the time that DOE was withdrawing from the site, with the exception of the AMS, the aerial monitoring survey team. So there was really no connection between discontinuing the 5:00 o'clock briefing and the EPA takeover. It was just sort of coincidental.

Q Was it your perception that EPA was taking over the role that DOE had earlier, after the issuance of the Whitehouse order?

A Not particularly. I don't think DOE ever had that role. DOE was just assisting the gathering of that information and providing that information to the State.

As far as that function, EPA assumed I guess or had taken up some of that responsibility to assure that the State continued to get some of that information.

Q Who chaired the EPA meetings?

A The EPA meetings were generally chaired by Erich ~~Bretower.~~ Brethauer.

Q Can you tell me who was in attendance

generally at those meetings?

A Agency-wise?

Q Yes.

A DOE through Hahn and Deal. NRC --

Q Through yourself?

A Myself, George Smith. Leo Higgenbotham was at one I know. Pennsylvania would have been Tom Gerusky, Margaret Reilly. HEW was John Villfort who went t' one and I think Charlie Cox and Hank Rechen. There were numbers of other people.

Q Can you give us your general observation as to the usefulness that these meetings had?

A Well, these meetings generally set the bases for types of information that were expected from each of the agencies by EPA: Such things as reporting format, schedules or anticipated schedules, at least.

So they were meetings that had to be held if you wanted to get an organized type of input into your reports.

Q Is it your view that had meetings of the sort that these were been conducted earlier at the time of the accident and thereafter it would have been helpful in the response to the accident?

A No, not particularly because here we are talking

about not information gathering per se but information recording in information reporting format or the type of information that needs to be reported.

Q Do you have any general observations with respect to the entire accident which you haven't volunteered that you would like to for the record?

A Well, I guess my impression is that as far as off-site effects from this accident they were rather minimal.

The in-plant aspects were a very serious type accident, and I guess in a way it gives me somewhat of a confidence in the safety systems of plant design criteria, et cetera that if you can have such a serious accident and still minimize the exposures to the general population.

Q Do you have any thoughts concerning the quality of communications during the accident?

A Quality?

Q Among persons who were responding.

A There were a number of problems of communications. One of them is being able to have a system by which you can definitely get through without having to wait and wait and wait because you are being saturated by all kinds of other telephone calls. It would have been

nice to be able to reach the party to whom you are trying to get proper information from or information to. I realize that sometimes these parties are not accessible.

Q Do you think that the response capability was limited or in any way inadequate due to the communications setup that existed?

A I think the response was certainly limited by the type of communications we had. In other words, had we had better communications set up, I think the information flow not only back to this office but on-site between personnel and maybe even between other agencies could have been facilitated and may have made for a better response.

Q Do you think the existence of the emergency plan at the site, that is the TMI emergency plan, made for more effective response to the emergency?

A Just having a plan?

Q Having the plan that they did.

A I think I would have to defer this to Mr. Donaldson. He has been the inspector on that, and I think he would be able to comment on that since he is on the investigation team.

MR. PEARSON: I have no further questions.

Counsel for the NRC indicates he has no further questions.

MR. OSTRACH: That is correct.

MR. PEARSON: So that concludes the deposition.

(The deposition concluded at 1:30 p.m.)

Robert J. Bores

Robert J. Bores

Subscribed and sworn to
before me this 9th
day of October
1979

Notary Public

Delores M. Waddell, Notary Public
Upper Merion Township, Montgomery County
My Commission Expires Sept. 27, 1982
Member, Pennsylvania Association of Notaries

oOo

I-N-D-E-X

E-X-H-I-B-I-T-S

C-E-R-T-I-F-I-C-A-T-E

STATE OF NEW YORK)
) ss:
COUNTY OF NEW YORK)

I, STANLEY RUDBARG, C.S.R. and Notary Public of the State of New York, do hereby certify that the foregoing deposition of ROBERT J. BORES was taken before me on the 24th day of August, 1979.

The said witness was duly sworn before the commencement of his testimony; that the said testimony was taken stenographically by myself and then transcribed.

The within transcript is a true record of the said deposition.

I am not related by blood or marriage to any of the said parties, nor interested directly or indirectly in the matter in controversy, nor am I in the employ of any of the counsel.

IN WITNESS WHEREOF, I have hereunto set my hand this 27th day of August, 1979.

Stanley Rudbarg

STANLEY RUDBARG C.S.R.