10-95-44B

UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

+ + + + +

INTERVIEW

WITH

DR. YUQING LI

+ + + + +

WEDNESDAY,

OCTOBER 18, 1995

10:15 a.m.

+ + + + +

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

+ + + + +

INTERVIEWERS:

JOHN GLENN, Team Leader, Lead Interviewer

GREGGORY P. GONECONTO

ALAN MADISON

THOMAS O'CONNELL

LARRY ROBINSON

SAMI SHERBINI

BETSY ULLRICH

10-95-44A

ADDENDUM

Page	Line	Correction and Reason for Correction
7	7	should be "I" developed. not "We"
~~7~~ Y.L	10	after checking with log book, I did not do a PCR labelling to put radioactive nucleotide into DNA as a probe. It is a mistake, or wrong statement.
Y.L ~~7~~	18	remove one "in"
9	9	should be: Southern blot was failed on August 13, Sunday, the exposure,
9	10	the developing of the IP plate, we ...
9	11	should be "imaging analysis, It's a ..."
10	5	"50" instead of "15"
10	7	should be "... I was using is a new method.
10	10	should be "activity"
10	18	should be "precipitated to ..."
10	21	"50" instead of "15"
13	2	"Componant" not "Complement"
15	1	"Checked" not "isolated"
15	3	And then I thought I believe a ~~contamination entering the room I~~ Y.L ~~worked~~ colleague entered ....
15	6	"colleague" instead of "copy"
15	10	"... is her ..." not "-is his-..."
15	12	"I was 100% sure she was ..."

Page 1 Date 10/21/95 Signature Yueh-Fu L.

10-95-44A

ADDENDUM

Page	Line	Correction and Reason for Correction
15	24	"solution" not "equates"
15	25	"reading" not "leading"
16	1	"stunned" not "stumped"
		"could" not "can't"
16	2	"fold over the background"
16	19	"came to" not "kept"
YL ~~17~~ 17	19-20	"pretty hot" not "previous chalk"
17	24	"gulp" not "cough"
17	25	"gulped" not "count"
19	21	"back" not "park"
20	5	"~~one~~ to get several ml of blood
~~20~~	~~19~~	because I was not ..."
20	19	"That's fine" not "It's fine"
20	25	"to sit" not "to set"
21	3	"calibration" not "calculation"
21	11	"cpm" not "ml"
21	18	"scitilation" not "~~##~~ situation"
21	22	"my" not "high"
22	17	~~"he~~ "So then Mitchell Galanek drove back with me to"
23	6	"I could have" not "I can't"
24		

Should be

Page 2 Date 10/21/95 Signature Gary Fi

10-95-44

ADDENDUM

Page	Line	Correction and Reason for Correction
~~25~~ 24	~~25~~	"one liter" not "a little"
25	1	"one liter of water mixed with ..." ~~"But at that time" not "But every"~~
	Remove	"But every ... Department".
25	4	"curious" not "furious"
26	8	Remove "It's just ... from me".
26	20	"IRPA" not "ICRP"
27	11	"above" not "about"
27	19	"counter" not "count"
27	23	should "I change clothes before I go to work"
28	6	"to" not "into"
29	2	should be "And we were talking at around 500 uCi to 1 mCi"
30	22	"so they got those ..."
31	21	"wrote" not "load"
32	20	"IRPA" not "ICRP"
32	21	"ALI" not "MI"
32	24	should be "microcuries. From the paper I found, it should be 740 microcuries."
33	16	"printed out with"
34	6	should be "And they said they wanted to do the ..."

Page 3 Date 10/4/95 Signature [signature]

10-95-44A

ADDENDUM

Page	Line	Correction and Reason for Correction
34	12	"calculate" not "cooperate"
34	13	"..., he said..." not "he has"
34	24	"might not be so exact.
35	21	"who probably is my primary
35	22	"Probably he's not, I didn't
36	22	"physician" not "probably"
36	20	delete "He's actually... very act
37	6	"or" not "on"
37	12, 14	"on" not "iron"
37	23	remove "Harvard"
38	22	"actually" not "effectively"
39	2	"So I checked with them step by step ..."
41	3	"may be" not "let me"
41	11	"poisoning" not "poisoned"
41	18	"13,500" not "30,500"
42	11	"higher" not "lower"
42	13	"estimate" not "calibration"
42	13-14	delete "So you put... number
42	17	"Company" not "yanyan"
43	17	"not" not "it"
44	9	"previous" not "obvious"
44	20	"by 0.65" not "by lab"
45	18	"work at Center for" not "working same..."

Page 4 Date 10/21/95 Signature

10-95-44

ADDENDUM

Page	Line	Correction and Reason for Correction
45	2	Y.C delete "And" "concerned" not "confident"
46	5	delete "Mitchell"
Y.C ~~46~~ 46	15	"note" not "notebook"
48	4	"or" not "and"
48	5	"~~was~~ wrong" not "double".
48	10	"I tried to stay at normal water intake level" not "I try to stay
48	19-20	"... forgot to calibrate back ~~to~~ into the whole body."
50	4	"day 0" not "today's unit"
51	~~Yes~~ 4	"ion" not "iron"
51	6-7	"... whether the blood counts is normal or not."
52	8	... -related." So I don't
52	9	delete "
52	10	"assumed" not "assume"
55	8	"counter" not "count"
55	15	"should have said"
56	5-6	"And I asked him whether I could talk to him over the phone, because I was ..."
57	6	"accurate" not "direct"
57	7	delete "You think ... hear?"
57	10	delete "of"

Page 5 Date 10/21/95 Signature Yueqing Li

1-95-4

ADDENDUM

Page	Line	Correction and Reason for Correction
57	24 -	Delete.
58	3	
58	16	"to get a lot out of these,"
58	21	"... So I perceived that way."
58	22	"Another" not "Certain"
59	17, 18	"Someone" not "bah"
60	6	"received" not "released"
60	23	"wrote these..." not "loaded the..."
61	23	"12:00" not "10:00"
62	3	"counting" not "printing"
63	19	"If you are familiar..."
63	22	"wrong" not "right".
64	25	~~"the use" not "this"~~ "this" not "the use"
65	24	Delete "So that's what detail is ... five." "yes."
67	18	"IRPA" not "ICRP"
67	25	~~"code"~~ "curve" not "code"

Page 6 Date 10/21/95 Signature [signature]

P-R-O-C-E-E-D-I-N-G-S

(10:15 a.m.)

LEAD INTERVIEWER GLENN: Dr. Li, my name is John Glenn. I'm with the Nuclear Regulatory Commission. And I'm heading up an investigation, incident investigation, team that the Commission has chartered to look at the incident involving your exposure to P-32 here at the Massachusetts Institute of Technology.

Today is October 18th. It is approximately 10:15. And we're going to ask you questions about what happened to you, let you tell your story, and then ask questions so that we can fill in some of the details of the incident.

The purpose of the incident investigation team is to establish the facts and to create a record, which the Commission can rely upon in terms of any recommendations it makes regarding what we find out from the study of this incident. We will try to identify the probable cause, you know, how did this happen and why did it happen. And we will make recommendations in terms of our report.

Why we have interviews with people like you is obviously the facts are from people who were involved with the incident. And certainly since you were the person who was exposed, you're a primary source of information to the team in terms of our study.

It is being transcribed. And the reason it's being transcribed is to aid us in terms of creating a record of what the team has done, be able to refer back to it when we do our analysis and for causes and that sort of thing and to also reduce the amount of note-taking that we do so that we can really concentrate on having a discussion with you and hearing what you have to say.

Now, this transcript is available for review, and it will be available tomorrow. And you can come in and ask to see the transcript, read it. If you see problems that either you were misunderstood, misquoted, or that you have a comment, something that you forgot to say at the time, there will be an errata sheet that you can fill out and put "Line Number" such and such and "The words should have been something else" or "I forgot to mention something else." And then your comments become a part of the record as well as the transcript itself.

It's also publicly available at the conclusion of the investigation. So that after we have published our report, which we'll not refer to people by names, all of the documentation that's a part of that report will be put in the PDR, the Public Document Room, and will be available to any member of the public who wanted to receive it.

Now, everyone here is either yourself, the transcriber, or something from the Nuclear Regulatory

Commission, or in one case the State of Massachusetts. I'd like to have the people who are in the room introduce themselves. So, if we could, I guess, start with you, Larry.

INTERVIEWER ROBINSON: My name is Larry Robinson, Dr. Li. I'm with the Office of Investigations of NRC.

DR. LI: Okay. Thank you.

INTERVIEWER MADISON: I'm Alan Madison. I'm in headquarters, AEOD, with the NRC.

INTERVIEWER ULLRICH: My name is Betsy Ullrich. I'm a health physicist with the Region I office of the NRC.

DR. LI: Thank you.

INTERVIEWER O'CONNELL: Hi. My name is Thomas O'Connell. And I'm with the Massachusetts Department of Public Health.

DR. LI: Yes.

INTERVIEWER SHERBINI: My name is Sami Sherbini. I'm a health physicist in headquarters, Washington.

DR. LI: Okay.

LEAD INTERVIEWER GLENN: Dr. Li, I wonder if you could just for us state briefly where you work and how long you've worked with MIT and what you do, just a little bit about your job and yourself.

DR. LI: Yes. I'm a post-doc fellow at the Cancer Center Research. I have been working for MIT for four years. My work is mainly related to molecular biology. And for this type of work we use a lot of radioisotopes. And primarily, I would say exclusively, it's the P-32. And generally we use isotope in the building which we call E17, E like east, E17. It's third floor.

LEAD INTERVIEWER GLENN: In your education, your degrees?

DR. LI: Yes. I got a Ph.D. '91 in Japan, Nagoya University in Japan. After that I transferred to here to do post-doc research.

LEAD INTERVIEWER GLENN: The way we'd like to start off the interview is by having you sort of relate in a narrative fashion what happened. And I guess the contamination was detected on August 19th, but you have reason to believe that the contamination incident occurred earlier than that.

So if you could start from maybe a week, two weeks in advance of that, those things you think we need to know about the incident that might have contributed to it? And then just take us through what you were doing in the lab, anything unusual that happened during those periods, how you managed to detect the activities, so forth. If you

could just go through and tell us the story?

DR. LI: Yes. It's going to be pretty time-consuming. I don't know what kind of level of detail you want. You want to just go through giving you a framework of happened in the past two months or do you just --

LEAD INTERVIEWER GLENN: We actually want a fairly detailed. So I guess the thing to do would be to go through it in as much detail as you feel is appropriate. If it looks like it's going to be a very long session, then maybe we would need to break it up and come back. We can do that.

DR. LI: Okay. So I will go into the detail. So it takes time probably.

LEAD INTERVIEWER GLENN: Yes.

DR. LI: So usually we do biomedical research. So I first would like to let you know we usually don't have a concept of a weekend, something like that. We basically work 7 days a week and almost 12 hours a day. It's just partly because we love science and we do science as a part of the occupation, part of the enjoyment of doing science.

LEAD INTERVIEWER GLENN: Right.

DR. LI: So I will start from Sunday, which is a day earlier than the day I was supposedly ingested the isotope.

LEAD INTERVIEWER GLENN: What date would that be?

DR. LI: It's August the 13th, Sunday.

LEAD INTERVIEWER GLENN: Thirteenth.

DR. LI: So on August the 13th, Sunday, I came to the MIT around 10:00 o'clock, 10:00 o'clock. And it's not important. We developed some Southern blot films to see what kind of -- see the inside, as I did previously. So after that I found Southern blot film.

I did another labeling of what we call PCI labeling to put radioactive nucleotide into the DNA as a probe. And after that, around 3:00 o'clock or 3:30, I left for home. So that's what happened on August the 13th.

I think one thing important I would like to let you know is since weekends and also weekdays it's sometimes difficult to -- for us to arrange time to go out for lunch or dinner and we work 12 hours, usually I bring in my lunch and a dinner in in lunch box or dinner box, which is prepared by my wife.

And so on Sunday of August 13th I brought in two boxes of lunch, and I ate one for lunch. But since I left early, 3:30, because -- the reason I left early was my wife came. And she told me she was not comfortable, she was with headache, stuff like that. So then we -- I left early.

This is not usual. Usually it's around 8:00 o'clock to go home. And so I had an extra box of food left in the refrigerator, which is only for food for the lab. So I left that overnight. And then we went out to shop at the supermarket to buy food for cooking food for next time.

And for us we got married about three years. And usually my wife cooks for me two times, twice, a week. And she prepares like 6 to 10 lunch boxes for me. So I just take out two and bring to MIT, and I eat two.

So in this way I don't have to worry about when the food court is closed at 7:00 o'clock I don't have to rush out because experiment is difficult to adjust. So I wait.

My wife and I, we cook on that August 13th. The reason we do that is we looked at the credit card transaction sheet. And we identified on that day we went to the supermarket and we bought 30-some dollars of food, cook. So it's a pretty good indication we cooked that day. And it also means the box left overnight was the last box of the previous batch of the food.

So I usually have a habit of if I have two boxes of food, I will eat the old one first and eat fresher prepared ones for dinner. And, in addition to that, I usually can identify which one is the old one and new one because if next day I come and eat, I usually bring in

fruits, like apple and a banana, something like that, so that new batch will have fruit in that box. So I can easily identify which one is left overnight, which one is the new batch I prepared on Sunday. So I will attend to that later.

So that's what happened August 13th. And then on August 14th I came in at 8:10. I arrived at MIT at 8:10 in the morning. And I did -- since I told you that Southern blot was film on August, Sunday, the exposure, developing of the -- we are not using X-ray film. We use Uniden alignment. It's a much advanced form of detection. So I did again labeling action, trying to get it to work.

So I have to go into my notebook. Do you want me --

LEAD INTERVIEWER GLENN: I guess one thing, are you probably going to have some documents that you want to leave with us when this is through?

DR. LI: Yes, yes.

LEAD INTERVIEWER GLENN: Okay. Well, we will discuss that.

DR. LI: Do you think we need to go -- do you need that type of detail or you don't need that?

LEAD INTERVIEWER GLENN: Probably not that level right now, but --

DR. LI: Okay. Well, we don't have --

LEAD INTERVIEWER GLENN: If you're going to leave the documents, that will be --

DR. LI: Yes. So we did -- I did labeling again. I used 100 microcuries of the materials for two reaction. Usually for one reaction we use 15 microcuries. I know the first time the incorporation was not working because PCR labeling I was using a new method. I was trying to work it out. I know the isotope were in the tube. It's not leaked out because I measured the reactivity.

It's approximately. I cannot remember exact count. It should be in the notebook.

LEAD INTERVIEWER GLENN: You have a record there of the --

DR. LI: Yes. It should be in the notebook. So I know it's not working. Most of them were in the supernatant, we call in the supernatant. The probe usually is pre-fixated to the bottom of the tube. So I discarded it.

And then I started labeling again. Now, the second time the labeling worked because of more than 15 percent. Again, I cannot know exact numbers. I can find them out in the notebook.

So I measured both the supernatant and the probe. So I know it worked. And then I did a Southern

hybridization. This I'm not sure whether I did a Southern because I have to look at that notebook to find out. So, anyway, I did a -- second time it succeeded in the thing.

So during that whole-day period I ate lunch around, I believe it's around, 12:00 to 1:00 o'clock. So that box of lunch was the one left overnight.

LEAD INTERVIEWER GLENN: Excuse me. Let's take a pause.

(Whereupon, the foregoing matter went off the record at 10:31 a.m. and went back on the record at 10:32 a.m.)

LEAD INTERVIEWER GLENN: We just went off the record and came back on the record. We interrupted Dr. Li's narrative because of the arrival of another individual from the NRC. So I wonder if you could introduce yourself and say who you're with.

INTERVIEWER GONECONTO: My name is Greggory P. Goneconto. I'm a special agent with the Nuclear Regulatory Commission Office of the Inspector General.

INTERVIEWER ROBINSON: And for the record it's now 10:32 a.m.

LEAD INTERVIEWER GLENN: Okay. Dr. Li, if you could continue with the description?

DR. LI: Yes. So second time it worked. And I had lunch between 12:00 to 1:00 o'clock, I believe. And

then I left on Monday at 8:15 at night, 8:15 in the evening.

Before I left the lab, I usually -- about 30 minutes before I usually leave the lab, I usually have dinner at the lab in the conference room. And then after that I would just go home. This is a kind of a habit I am in, always like this. So this is what happened on Monday, August 14th.

Then from August 15th to August 18th I was not doing bench work. The major reason for that was I got a new job at the University of Illinois. And I have to do some paperwork for the new place. And, actually, I received a grant application for private foundations. I have to finish so to get them on time. So I stopped experiment for the next three or four days because of the grant write. I'm still sitting near the bench because our bench is connected to desk, to my desk.

So then on Saturday, August 19th, as usual I went to the lab at 9:50, 5-0. And I -- since the work was disrupted for several days because of the grant-writing activity in the lab, then I labeled the probe again, tried to get it to high efficiency because the previous one was not working because I was trying to work out the -- how to get good labeling.

Actually, in between I ordered a kit, a kit to

do PCR labeling. Previously I was trying to do it myself with self-assembled complement. I found it's a new method identified by a kit. So I used a new kit to do the labeling.

In the middle I went out to see a movie with my wife. And then when I came back, the labeling should be finished. So I took the tube out, and I was about to count the incorporation. By in between we have to precipitate the probe. So that's why I started to survey my hands.

I have been working with radioisotopes for almost 10 to 12 years. Usually I always -- I was -- almost exclusively, 99.9 percent, I will wear gloves, disposable gloves. And I will check using data count about -- usually I only check the hands because we have a shield like --

LEAD INTERVIEWER GLENN: Yes.

DR. LI: And I work with only hands with this. But only if hands are contaminated, then I will check the other parts. So on that day I checked my hands, and I found it's radioactive.

And I saw it. It's on the glove, the contamination with gloves. So I washed in a radioactive sink using the -- we have a detergent called Radiowash or something like that.

LEAD INTERVIEWER GLENN: Yes, right.

DR. LI: So still I couldn't wash it off the

gloves. And I thought it's strange. So I took off the gloves and measured my hands again. And I found it's radioactive. And I used the same detergent to try to wash off my hands. And I couldn't wash it off.

And it's really strange because I only did it on Monday. And then Monday I had surveyed it when I finished. I couldn't find the radioactivity in the hands. So it's just very strange to me.

And I -- somehow I wondered for several minutes. Then I happened to hit my leg. And I found it's much higher than the --

LEAD INTERVIEWER GLENN: Higher than the --

DR. LI: -- knee, my knee pad. And then I pointed to my head. It's off like crazy. So then I realized that I was contaminated.

And then the next thing I did was I want to make sure. I thought it's a contamination probably. So I checked my bench and also the desk area. And I couldn't find anything hot on the surface of these.

And then since -- my wife was in the campus somewhere else. So since -- my wife watched a movie with me and she was about to go back home. So I immediately ran downstairs and got my wife back because I thought it's probably someone put the radioisotope in my home or something or maybe the contamination source is at home. So

I got my wife back and isolated my wife. And I know she was not contaminated. So I let her go back to home.

And then I caught I believe a copycat enter the scene. So I thought it's contamination probably in the air or maybe in that room generally. So I caught one of the copy -- I cannot remember exactly. Probably I think it's Dr. Wang, Yanyan Wang.

LEAD INTERVIEWER GLENN: Sir, could you spell that?

DR. LI: Y-A-N-Y-A-N is his first name. And last name is W-A-N-G.

I'm not 100 percent sure she was not radioactive. And I thought it's strange why only me got this radioactivity. So then I'm still not convinced how come all over my body will be radioactive.

So I thought for a while. And I was trying to find out whether there was instruction in the -- we have a yellow book from MIT how to solve these kinds of situations. And I couldn't find anything. And I thought for a while.

And I went out to the bathroom. And I took a urine sample myself using test tubes available in the lab. And then I put one ml. I piped one ml into the scintillate counting vial without scintillation equates.

And there's a leading count about 2,800 cpm,

2,800 cpm. Then I was stumped. How come I can't have 200 for the background? Then I would know I was definitely seriously in trouble.

So I immediately searched what I can do with that manual, with that yellow book. I didn't have a copy with me. Anyway, at MIT when you go through the training, you get a yellow booklet on what you can do. So at the end of the page there is an emergency, what emergency situation you can handle. So you describe. If it's a weekday, then you call the Radioprotection Office. If it's off-hour, you call MIT police.

So I called MIT police. I believe it's around 4:00 o'clock. They should have the call to the MIT Police Department. And I told them "I got radiation contamination, and I want to get a professional help. I want to determine what kind of dosage I have in my body. So please contact Radioprotection Office so that we can handle this situation."

And the police, MIT Police Office, kept me about 20 minutes, 10 or 20 minutes, late. And he was on the phone with headquarters. He said he does not know how to handle this situation and, I mean, where I should call and whether I should be escorted into another place.

And then we sat down together and went through that manual again. And we found that in cases like this if

someone was contaminated, one should be treated at MIT Medical Department Isotope Room or something like that.

The police officer then phoned the headquarters and said, "Look, we got this answer in this person's manual. So we have to escort this person." Then he asked the headquarters whether we can just escort this person just through walking or we have to use a police cruiser because it's another building.

LEAD INTERVIEWER GLENN: Yes.

DR. LI: I believe the headquarters say that "You can just walk through the building to that place." So then we walked to the MIT, through several buildings to the MIT Medical Department. So in the first floor they have a -- I think it's a Radioactivity Decontamination Room or stuff like that.

So a doctor asked me how I feel. I told him "I'm okay. I'm just curious what happened." And he surveyed myself using a Geiger counter. And he found out if you use the counter going in the GI tract, it's previous chalk and when I open mouth, get higher reading. So they concluded that "Oh, probably you just got ingested through the mouth."

And he gave me 6, maybe 10 liters of saline. He told me to cough. And I just took -- to get to the count. So I count for like two or three liters of saline.

And they put the liquid in a tub.

And I measured in the tub. It was not radioactive. And I realize that probably it's not ingested from that day. Because if it's ingested, it should be around in the mouth, something.

And then -- and I measured also the head. And I found that it's also as high as the mouth if I measure this way, as high as the mouth. Then I told the doctor. I said, "Probably it's not I ingested it today because how can it circulate, goes through the head already? It's so hot here."

And basically he didn't know how to explain it. And he was trying to catch one of the radioprotection officers.

LEAD INTERVIEWER GLENN: Do you happen to know the name of that doctor?

DR. LI: No, I don't have the name.

So about I think two to three hours, two to three hours, later, Mitchell Galanek and Don Haes from Radioprotection Office came in. And they asked me what I was doing on Saturday and et cetera.

Then they said they were going to take care of me. So they told the MIT Medical Department they were going to take care of me. So they don't have to worry about it.

So they took me back to the lab. And they surveyed the -- both of them surveyed the -- my bench and my desk and the immediate area surrounding my working area in my room, which is Room 347.

But they couldn't find anything that was contaminated. It was very clean and for something that is strange up to that point. They immediately asked me, "Where is the water cooler?"

And now I understand. At that time I didn't understand. I said, "We have two water coolers." So they immediately surveyed the two water coolers. And it was not radioactive.

They asked me where I stored my food. And I told them "this refrigerator." And they surveyed that food in the refrigerator, and it was not radioactive.

Several days later they told me there was an incident in NIH involving water cooler contamination, stuff like that. Then I realized why they searched all water coolers, but at that point I didn't know why they did all of these things.

So then I -- oh, one thing I forgot. Park in MIT Medical Department. I'm sorry I forgot that. So when they came in, I asked them what was the amount in my body because I have 3,000 in 1 ml of urine. And they told me. We discussed what were the possible outcomes. And they

told me "Assuming you have 7,000 ml of liquid. So it's something like 2.1 million cpm in your body. So it's about one microcurie, several microcuries."

And at the MIT Medical Department I asked the doctor also to get the one ml because I was not so sure how come in urine and in the blood it's the same concentration. I just -- I'm a scientist. I just want to make sure one ml of urine is the same amount of one ml blood in terms of scintillation counting number.

So I ask them to withdraw some blood from me. So the doctor got maybe 10 ml of blood from me. And so we took those, both blood and the urine sample, back to the lab.

I'm sorry for the interruption. This is I forgot to tell you.

So they quickly did a survey at my work area. And then Mitchell Galanek told me if it's possible, he would like to go to my apartment to see whether my apartment was contaminated. I said, "It's fine."

But he said, "We first have to do -- we first have to do it on whole body counts." That's what he said, "whole body count." "Then we will know the correct dosage," he said."

Then we went on to the Radioprotection Office, which is, of course, here. And he asked me to set on whole

body counts. He did the count. And I asked him, "What is the dosage based on that count?" He said he has to do the calibration in order to -- he had the old calculation, but he is not so sure whether it changed or not.

And then he came back. He told me, "It's not 3,000 in your urine. It's 8,000."

I said, "Why it's 8,000?"

He said, "Probably used only Channel 1 only because you have three channels. So if you cut off at Channel 1 you get small number." And he said, "What I got here is 8,000 ml."

And he said, "We have to monitor you throughout the following days to get an approximate number in order to -- until you get rid of all the isotopes." So they gave me lots of bottles for storing urine.

And I asked Mitchell Galanek to measure the blood. And he measured 10 or 20 microliters. And he told me something in the blood will quench the situation, solution. So that's why you cannot measure the one ml total.

Then I discussed again with him. If one ml it's a total -- if the total volume of high liquid is 7,000 ml, then it ends up with 6 million or something, 5.6 million. And so since I know 2.2 million is 1 microcurie, so it will be 3 or 4 microcuries, like that. They said

it's probably 10 to 20 microcuries. But we will know the exact number when we get the calibration number.

And also Mitch Galanek told me why I was counting, because you have to sit in a whole body count for 10 or 20 minutes to get the count, told me he was just on the phone with Frank Masse. I didn't know Frank Masse. He told me Frank Masse is in charge of radioactive isotopes at MIT, stuff like that.

So he said, "I will go back with you to your apartment to check whether your apartment is contaminated or whether it's contaminated from your home."

And after that, after I finished whole body counting, Mitch Galanek and Don Haes also did a like Geiger counting various parts of my body. So they got counts that had at the knee, at the back, at the front, everywhere so they just had a new record.

So then I drove back with Mitchell Galanek to my apartment. For some -- because of all of those things going on, I was late. It's almost 9:00 o'clock. So my wife phoned the lab, why I'm still not back. So then one of my colleagues told my wife I'm contaminated with radioisotope. So then my wife was very anxious. And she drove to MIT while we drove back. So we were just paralleled each other.

And then we arrived at my apartment. And

Mitchell Galanek checked everything. On the way to the -- to my apartment I discussed the dosage again with Mitchell Galanek. And my impression was it's about 10 to 20 microcuries based on those figures and based -- later I asked them why they told me it's 10 to 20 microcuries. They told me because they believe I can't ingest it on that day. So if you have that amount in the urine, then it must be 10 to 20 microcuries.

So then we arrived at the apartment. So he surveyed both the bathroom, the kitchen, the study room I have, the meeting room, everything that was affected. So no isotope contamination was detected, even my clothes.

I have a habit of doing laundry only once a week. So usually because that day was a -- Saturday I usually go to the laundry. So the previous week's clothes were --

LEAD INTERVIEWER GLENN: A whole week's worth.

DR. LI: -- all in the laundry bag. So he surveyed all those. He pulled them out to see radioactive. So then he said that "It's okay. Probably you don't have contamination at home. So you just take a rest. And we will consult on Monday what kind of dosage you have." So this is what happened on the Saturday, 19th.

And then I think about 30 minutes later Dr. Yanyan Wang, the previous person, called me at home. And

she was very concerned about my situation. And I told her, "Don't worry. It's only 10 to 20 microcuries."

And she said, "We don't know what will happen with 10 to 20 microcuries."

And then I asked her what I can do if I have 10 to 20 microcuries in my body. She said, "You should drink lots of fluid." And I thought naively I should have -- since it's probably P-32, P-32 we know yet.

Another thing I asked Mitch Galanek while I was in the Medical Department, I asked what type of radioisotope it is in my body. So in the whole body counts, for some reason they can tell it's P-32. So at that point I was already quite sure it's P-32.

Then I was quite naive. I thought probably if I drink more phosphate, then I should be able to get rid of that. So I drove out with my wife to CVS or Brooks Drug Stores, tried to get phosphate solution. But clearly they didn't have phosphate solution commercially available for me to drink.

And the one pharmacist actually found a drug which is pretty high in phosphate, but this would cause me vomiting, he said. So I bought that drug, but I didn't use it. I think it's just too tough for me to use.

So I stayed up all night, basically. I didn't sleep. Maybe every one or two hours I just drink a little,

but a little over mixed with maybe orange juice. But every time even I get one ml sample, I will give them to MIT Medical Department.

So I have -- so I was quite furious. I hope you understand it's just anxious, what happened to me.

LEAD INTERVIEWER GLENN: Sure.

DR. LI: And I'm still quite puzzled why it's 10 to 20 microcuries I can get so a lot in my body. I started to doubt it's not because I have confidence in myself. I have been working with P-32 lots of millicuries so far, and I never got this type of contamination. So I think probably it's something strange.

This may be much more than 10 to 20 microcuries. And I looked -- I reflected on what I used on Saturday. I only used maybe I think 100 microcuries or 50 microcuries. I cannot remember exactly.

So to get 10 to 20 microcuries, I have to assume 20 percent somehow stuck to my hand or my glove and then I touched to my mouth. But usually I never do that. And then if I touch it on my clothes, on my skin, I should have spot which is hot. I couldn't find it.

So I worked with my computer at home, and I logged into MIT, tried to find literature how to determine the original dose because I started to doubt why it's 10 to 20 microcuries. So I got a list of papers and books

related to radioactivity. So I printed them out so I would have them in the morning.

And I drove off to MIT and was looking for the literature describing what was the original dosage because it looks to me the MIT Radioprotection Office would not know how to calculate this because they -- because it's just not -- a physical model I couldn't comprehend. It's just curiosity. It's just very inviting out from me. I couldn't sleep.

So I found a book which is about radioprotection protection and safety. And they have a table. On Sunday I borrowed that book. And they have a table about how to calculate what you originally got. So they have a table of what the level will be at day 3, day 5, day 7, day 30, and at day 60.

LEAD INTERVIEWER GLENN: Do you happen to remember what that reference was?

DR. LI: I have a copy here.

LEAD INTERVIEWER GLENN: Okay.

DR. LI: It's an ICRP publication, a conference publication. So then I copied that page, table, that paper. It's only a four-page paper, a meeting report or something like that.

And I realized I have to determine when I got ingested because if I ingested it on Saturday, I get one

number; right? And if I got ingested on some day else, then I got another number.

So I thought very hard how I can determine which day I got ingested. So after one hour I was thinking at home, I realized since my clothes is still not washed yet -- I was supposed to wash them on Saturday, but I was back late. And it's just overwhelming it seems like.

I took out the clothes. And I can arrange it into which day because it's a small bag like this, like two feet or maybe this is one and a half feet, two feet, this big. So the clothes is stacked one about another. And also it's not only my clothes, but my wife's clothes is also interspersed between them.

So I can basically reconstruct which day I wore these clothes. It was pretty hot in August. So I have t-shirts. And I remember that. So usually I change every day.

So I asked my wife to measure it because my hand is hot, too. If I'm near that count -- so I got a count for each day's clothes. And I found it's started to have radioactivity along the Monday, August 14th, because I always change clothes. In the morning I have a shower. I usually have one or two showers. I only change clothes if I go to work.

So this means if that is the earliest time I

got radioactivity in that, that will be from Monday around 8:00 o'clock to Tuesday, 8:00 o'clock. It's that period something got into my body and started to excrete to my clothes. That's what my conclusion was.

Then I put all the clothes in individual bags marked by date. And I brought the whole box of bags into Mitchell Galanek in MIT. So this is -- so we are going to the next day. So it's Monday, Monday.

So I talked to Mitchell Galanek about the dosage again. And he said he is going to do a calibration in a minute or something. And I told Mitchell Galanek. And I said, "It's not 10 to 20 microcuries." I said, "It's probably much higher than that." I forgot the number I mentioned to him because I got the date I got ingested.

I said, "It's probably Monday." So it's fortunate to have a date. Day five is Saturday. But they don't have a day five in that table. So I can only average day three and day seven for a fraction if they cut the activity levels or investigation levels. So I used that number.

I got like -- I believe it's maybe 5 to 700. I can't remember exactly. This I cannot remember what number I told Mitch Galanek. It's much more than 10 to microcuries.

And Mitchell Galanek told me, "Yes, yes. It's

probably not that. I was on the phone yesterday with -- Saturday with Frank Masse. And we are looking at around 500 to 1 millicurie." That's what he told me.

LEAD INTERVIEWER GLENN: Did you say "micro" or "millicurie"?

DR. LI: Five hundred to one millicurie.

LEAD INTERVIEWER GLENN: Five hundred microcuries.

DR. LI: Five hundred microcuries to one millicurie, yes.

So I said -- and then I got really nervous because I know that they told me the annual limit was 600 at the Medical Department because they said, "You only have 10 to 20. Annual limit was 600 or so. You're far lower. It's no problem."

Then I got a little bit anxious because if it's 500 to 1 millicurie, it's just off this limit. And also I cannot understand what happened or how can this 500 to 1 millicurie go into my head? I hope you understand it's just I was just upset.

And Mitchell Galanek said, "At the end of today I'm going to let you know what the dosage is because I'm going to do calibration today."

So then I talked to the lab manager. So I started to suspect probably somebody might have poisoned

me. And also I can remember maybe on Saturday they told me there was poison incident in NIH or maybe Monday they told me that.

I can't remember which day they told -- either Mitchell Galanek told me which day. I think it's either Saturday or the Monday. So I started to think along that lines.

So I talked to a lab manager because I couldn't find -- in the past I couldn't find a new bottle, new vial of isotope, which came in last Monday, last Monday, which is August 13th.

LEAD INTERVIEWER GLENN: August 13th.

DR. LI: And that vial is August the 19th vial. For some reason, they labeled it several days later. So the activity date is marked on Friday, although they ship it on Monday. So that's -- I asked him to find out who had that vial. I thought --

INTERVIEWER MADISON: Would that be Dr. King?

DR. LI: Yes, Dr. King. Yes. Dr. Dennis King, yes.

So then on that afternoon, on that afternoon, so they go to those -- those calibrations. I had meeting with Frank Masse and Mitchell Galanek. And Mitchell introduced me to Frank Masse. He told me these -- he is the Director of MIT Radioprotection Program or stuff like

that.

So he interviewed me for about 30 minutes, trying to determine -- I guess trying to determine whether I'm a conscientious people, I'm a clean people, follow regulations and stuff like that. And he finally -- my understanding is he finally believes I'm a person who was very clean, very organized person.

Then we started to discuss along the lines of probably it's poisoning. Then he told me he knows the NIH incident. Right from the beginning he was involved. But he didn't want to let MIT people know because he didn't want to have copycats in MIT to do the same thing. Unfortunately, it's probably happening here.

They gave me a number, which is 200 microcuries. I think it's on Monday, on Monday. I have to check. I have those copies with me. It's 147. So they gave me a copy of how it would be with individual urine samples.

LEAD INTERVIEWER GLENN: That's a copy from their records?

DR. LI: Yes. They load something, and I asked -- demanded a copy and --

LEAD INTERVIEWER GLENN: And the date there is 8?

DR. LI: 8-20.

LEAD INTERVIEWER GLENN: 8-20?

DR. LI: Yes. 8-20's unit based on -- because that day probably I think it's Monday, is Monday, yes. So we calculated it's 147 microcuries and another calibration. He got a calibration from that number, but they didn't release the calibration to me because he said he wanted to make sure the first number. I don't know why he wanted to do the calibration again. Anyway, I didn't get the first calibration report with me.

So based on all these figures they told me it's probably around 200 microcuries. Then I was quite upset. I said, "Why do you tell me it's 10 to 20 microcuries and now you're telling me it's 200 microcuries, tenfold difference?" Then I told them "Probably it's not 200 microcuries. I have my writing here. And I showed them the total is about 6.21 microcuries for that Sunday, 24 hours."

And Sunday should be day six, I believe. So we have an investigation level from the paper I found in the ICRP publication. And I calculated back. It's about 25-fold over the level they assume, which is 1/20th of MI, 1/20th of that. So 24.6-fold over 30 microcuries was 740 microcuries. So I told them it's probably not 200 microcuries thinking from the paper I found. It's 740 microcuries.

They said, "No, no, no. Your calculation is wrong. And you drink this amount of water. You just flush out a lot probably." It's artificial. Yes. I think that's basically all.

So they asked me not to flush it because it might artificially increase the number, what will appear in the estimate. And also they asked me, Mitchell Galanek asked me, to give him a copy of that book, of that paper. So I copied the one for him so that they can follow how to calculate it.

And I asked a post-doc fellow in the lab to do a curve fitting of that 4 points, 4 points, because they only listed basically 5 points and that day 30 and day 60. So if I want to get each day's investigation, then I have to fit with the curve. So we did a curve fitting at our lab. And I printed out won each day what kind of level will be.

And I gave that table also to Frank Masse and Mitchell Galanek. I forgot. I think I gave it to both of them while both of them were calibrating.

I can't remember which day I was giving it to them. I have a range between -- I think it's between Monday to Thursday. So it will be 8 21st, August 21st, through August 25th, something like that. I can't remember which date it is. And I told them, "This is the fitting I

got. And if you want to calculate the level of this, this is the table you should use."

So on that date I didn't agree with them it's 200 microcuries, and I said, "It's 740 microcuries." It's probably high.

And they said, "Yes." They wanted to do the whole body count again. Okay. And I was just puzzled about why they have to do whole body count again. I demanded to have the calibration data.

And I asked Bob. I'm sorry. I don't know his last name. I know his name is Bob. I said I want to cooperate with the whole body counts to get the calibration number. He said he cannot give it to me, he has -- I have to get it from Mitchell Galanek.

So I went to Mitchell Galanek, and I demanded a copy of the calibration. He gave me the number. So I calculated it. Sorry. I didn't calculate it. I don't know how to do calculations. So this is a problem.

So something I talked to him probably did not happen on Monday because it might happen on Tuesday. I just could have mixed up.

LEAD INTERVIEWER GLENN: Okay.

DR. LI: So you have to understand this. So the date might not be the next, maybe only one or two days. So then -- so let's --

INTERVIEWER ROBINSON: Excuse me just a minute, Doctor. Would now be a good time to just kind of take a little break and reorganize your thoughts? I can get you another glass of water.

DR. LI: Yes. Thank you very much.

LEAD INTERVIEWER GLENN: Yes. We'll go off the record.

INTERVIEWER ROBINSON: It's now 11:14, and we're off the record.

(Whereupon, the foregoing matter went off the record at 11:14 a.m. and went back on the record at 11:22 a.m.)

LEAD INTERVIEWER GLENN: We're going back on the record, and the time is approximately 11:25.

DR. LI: So we just talked about what happened on Monday probably, also Tuesday. I couldn't remember exactly which day it is.

And then on Tuesday also another thing I did was I phoned the MIT Medical Department. And I tried to get medical help. So I got an appointment with Dr. Firn, which probably is my private physician. I was very healthy usually. Probably it's not. I don't have a primary physician. So they assigned one for me. And I --

LEAD INTERVIEWER GLENN: Could you spell that name for us?

DR. LI: Okay. F-I-R-N.

LEAD INTERVIEWER GLENN: F-I-R-N.

DR. LI: Yes. Dr. Firn, yes. So he -- I went to see him. And I told him I have radioisotopes. And he referred me to -- and I told him I feel headache, dizziness, and pain bones, pain in my bones, like joint, legs, stuff like that. And he said, "How come you have symptoms?" Because medical records here will show on Saturday when you were admitted to the Radiation Decontamination Room you have no symptoms. So that's what the medical records will say.

So I said -- so I wasn't quite sure. How come they concluded already no symptoms? And that person actually didn't check on me. Just I asked him to withdraw blood. He withdraws blood for me. How come he can conclude no symptoms? I didn't look at the medical records, but the point was I was a little bit just wondering why it's -- how come this come out this way.

So then he referred me to occupational health doctor. He's actually see occupational health since it's very activity. I think he is a primary internal medicine probably.

And I asked him whether I could get sleeping pills because I couldn't sleep. It's totally upside down life was like here. And so many things you have to think

about. So he said he couldn't give me sleeping pill. I have to ask the occupational health doctor to get it.

And so the next day -- so this is Wednesday. I got appointment with Dr. Firn. And he referred me to Dr. McCunney, M-c-C-U-N-N-E-Y. I think he told me he's in charge of the environmental health on something like that.

And he asked me what I have been exposed. I had told him MIT Radioprotection Office was telling me it's probably 200 to 300 and something like that. And he said, "What you are feeling is not a typical symptom of isotope. So probably it's you drink too much water. So the water disrupt your balance. So we should do an iron balance check for you, see whether you're still in balance. Maybe that's the problem you are having." So he did an iron balance and everything.

And he was -- I asked him to get sleeping pills again, and he didn't give me sleeping pills. Then he said, "Probably you should see a psychiatrist." So I was referred to a psychiatrist.

So I'm not strictly around that date now. I'm trying to finish this line of this medical treatment first because this has happened on that week, too.

So I saw the Harvard psychiatrist probably on Friday, on Friday, August 25th. And I saw the occupational health doctor on August the 24th. So I finally got the

sleeping pills from the psychiatrist in MIT.

So -- and another thing I would like to mention, since it's so difficult for me even to get a sleeping pill from the MIT Medical Department. So I decided to terminate the MIT health insurance I have and switch to my wife's health insurance. So we both asked that health insurance, which is in Harvard Community Health Plan. So we got switched to Harvard Community Health Plan. So all the medical care help I got thereafter was not from MIT. It's from Harvard Community Health Plan. Yes. So this is along the line of the medical health.

Another symptom, let's return to the date, the chronological events. On Wednesday -- on Thursday -- on Wednesday -- sorry. On Wednesday so they give me -- August the 23rd I think they finished the second calibration. And I got a copy of that calibration. And we were finally able to calculate from the whole body counts what that will be.

They gave me references of how to calculate this metabolic data for phosphorus. And also they gave me the formulas of how to calculate the whole body measurement. And they concluded it's still 200 microcuries as the data they give me on Monday. Effectually it's 213 microcuries here, but said it's somehow around 200 microcuries.

And I said I didn't agree with them. And I

told them since I am a scientist, I can look whether you've made mistakes. So I checked the last step by one step with them how they calculated it.

So I spotted a place they made a mistake. And I asked, "I see the mistake." I don't know whether they did that intentionally or not. The mistake they made was the whole body counts actually only count me from here to the upper part of the body to the back, not the whole body. Actually, it's not a completed whole body.

I asked "What's the percentage of that body part in terms of whole body?" So they told me it's about 60 percent of the whole body. So I said, "You should have factored that in, into your calculation." So that's why if you get 213 microcuries divided by .6, I got 355. And I said, "It's not 200. It's 355 microcuries, even if your calculation is correct."

And then they said, "Yes, yes, yes." And they said, "Whether -- why you need all this number?"

And I said, "Because I cannot make sure myself if someone did this purposefully on me or I just contaminate myself. If it's only 10 microcuries, maybe I could have still have contaminated. If it's 200 micro, it's less likely. If it's 600 microcuries, it's impossible I would have contaminated myself." So I said, "I want to go to police. I need official data from you so that I can

convince the police something happened here, a crime happened here."

So he said, "You can go to the police for it's this 355 microcuries."

And I phoned the MIT police. And I said, "I want to report a crime. I want to schedule appointment with a police officer." So I think I had a meeting with a police officer on Thursday, August 24th, to ask for investigation.

So I'm pretty convinced at that point it's probably a deliberate poison since I have other unhappy incidents associated with this. So I gathered all the evidence about the unhappy incidents I had in the past maybe 12 month. I tried to give this all as evidence for police to investigate along those lines.

So I talked to -- excuse me. Let me find the notebook. So I talked to campus police officer David McCoy, M-c-C-O-Y, August 24th, '95 at 2:00 o'clock in the afternoon. And we talked about this incident.

And he asked me to write a report of what I have talked to him about, the thing I briefly described to you in the past hour, something like this. And he said he has to digest it all, too, because radioactivity is something new to police officers. So definitely it's something.

And also I told the police officer "Since I'm a little bit tired and also I'm on the verge of recovering, let me collapse. I cannot remember exactly what I say. I probably will take longer time to finish the police report."

And he said, "You have to bear with us, too. We have to learn all this radioactivity knowledge." So that's what we mainly discussed over the about one and a half-hour period in the MIT Police Department. So I asked for an investigation of this incident. And I said it's probably poisoned me because there's no way I could get 355 microcuries into my body myself. I'm quite confident. I was quite confident at that point.

Another thing I forgot to mention, on the previous day, on Wednesday, August 23rd, I also discussed with Francis Masse about the dosage. Since on Saturday we have two data points, one 8,000 counts in 1 ml urine, one is 30,500 in 1 ml at different time points -- it's two time points. So we average that to get 10,750.

And we assume it's 1,400 ml urine per day. I think it's a standard reference volume in that paper. And we got a total number of microcuries as 6.8 microcuries for that day of the excretion. And then we divide by the investigation level. We got it's 23-fold over the 1/20th of ALI.

And I told him this is 690 microcuries. If it's 30 microcuries, 5 percent of ALI. So if it's 23-fold over that, then it's 690 microcuries. So I said it's over the 600 microcuries. And he said, "We still need to get more data to prove that." So that's something I forgot to mention. And I went -- I'm looking at the notebook.

So this is what happened on Thursday. I talked to police. And also I have a meeting with Don Haes and Mitchell Galanek and also Frank Masse about the dosage again. So they gave me the readouts for the second calibration. And the second calibration came out lower than the first calibration. So it gave you 10 percent lower calibration on it. So you put estimate about maybe around 10 percent lower of that number.

I don't know why they used second one, instead of first one. They told me they got the isotope from another lab. They didn't order the isotope from Yanyan directly. So there might be some uncertainties there. So that's another thing I noticed.

I'm trying to check whether the first one is more accurate or not.

LEAD INTERVIEWER GLENN: Did they actually give you a number the second time based on the second calibration?

DR. LI: Yes, yes. I'm looking for it. I have

a number for this based on the second time calibration. So I had a quite long session on August the 24th with Don Haes, Mitchell Galanek, and Frank Masse.

So the first -- they first gave me a number of 388 microcuries. And this is a number. Then we -- I point -- as usual, I pointed out a few places they made assumption wrong.

For example, they assumed urine is the only way you get rid of the radioisotope. And I asked them what else you can get rid of the isotope. For example, you can have sweat out, and you can other ways of excretion. And is urine the predominant one, in the 100 percent? They couldn't tell me. So I said, "I cannot accept that because you don't know what's the percentage of that," yes. So that's one thing we argued.

The second thing is they told me a fraction of that body parts is 65 percent of the total body in 60 percent of the total previously. And I asked why they got that number. They told me it's based on their 20-year long of research.

And I asked specifically whether they have did a calibration, have a real example of someone who just did a piece of it, too, to verify your model is okay. They said that no, they don't have but they have another isotope. I think it's SCRTCH. I cannot remember exactly

the isotope.

They said, "This isotope deposits the same way as P-32. So the same data should apply to the P-32." And I told them that probably isn't -- it's not accurate because I think I will be more convinced if I'm drinking, let's say, 30 microcuries into my body, I wait five days, and I sit here and get a count. Then that's a more accurate estimate. Right now it's difficult to get that.

So I said I have reservations about the obvious calibration, way of calculation. Nevertheless, we went on with those calculations. And it's just that we got a number of about 400 microcuries. Let me get those papers.

Oh, one thing I'm not so sure is probably we didn't calculate the whole body because I can't remember exactly because I mentioned all these other fractions. I think they calculated the whole body. Probably it's about the same number of the urine number.

The urine number they give me is 338. So it's close to that. It's probably 355, yes, 355 if you divide by lab. So I probably have a copy in my record, but I just cannot find out.

LEAD INTERVIEWER GLENN: But you're saying generally that they're giving you a similar number for --

DR. LI: Similar number for the urine. This is my impression. I'm not 100 percent sure. I have to

confirm these with my material. Okay?

So then I calculate with them again with the urine model with the paper -- I found out and I give it to them. And we found the -- it's a new number I showed them. It's a new number. It should be 656 microcuries again based on the more data we got calculations. I said, "This is over 600." This, again, is 656 microcuries.

So we didn't agree on the number. They insist it's 400, and I said it's 650, maybe 750 microcuries because the previous one I mentioned is 740 based on one calculation. So somehow we didn't make -- get agreement with some numbers.

And our lab manager suggested to me I could ask -- instead of fighting with Radioprotection Office to get the number straight, I could start to get through another channel; for example, whether I should talk to Dr. Sharp, who is Chairman of Department of Biology. And we -- although we working same for cancer research, we also are Department of Biology.

I thought it's nice idea. And, actually, Dr. Sharp I believe had spent time, was also confident about these things. So somehow we arranged to have a meeting on Friday, August 26, so on Friday, August 26, around noon.

So Dr. Sharp organized a meeting where it's Dennis King present, Maya. I only know the first name.

Maya may be last name or first name. She's maybe a senior administrative assistant in Cancer Center. And also Frank Masse was present, and Mitchell Galanek was present.

So I asked -- or they asked me whether, Mitchell, I can attend or I can choose not to attend but then later to speak to Dr. Sharp privately. And I asked I wanted to be present. I don't want to speak anything, but I just want to make sure everything was -- they speak was right. So they said I can attend and just listen to them. So I attended the meeting between Dr. Sharp and -- between Department of Biology and Radioprotection Office officers.

So Frank Masse mentioned what they described as line of incident happened. So I think on two accounts they -- on two things they didn't describe it right. So I made a notebook.

The first thing is they said on Saturday we realized it's several hundred microcuries. So later I told Dr. Sharp it's not true. On Saturday what they told me was 10 to 20 microcuries, not several hundred microcuries.

And the second is he said he is drinking lots of fluids on his own. In other words, Radioprotection Office didn't instruct me to drink lots of fluids. And I don't think this is true.

I forgot to tell you when I talked to Dr. Firn, my internal medicine physician doctor, he asked me,

"Although I don't know how to treat you, I have to refer you to the occupational health doctor. But probably you should drink lots of fluids." So I'm not drinking fluids on my own. I have doctor instruction with me. So that's a second thing I don't think he said correctly.

And the third thing, he -- the third thing I noticed was the NIH incident. I believe I asked Dr. Masse about it because during a previous discussion when I mentioned based on the urine calculation it's 656 or 740, they always telling me "Urine model is not good. Whole body model is best, most accurate way of measuring it."

And I asked them, "In NIH, when they reported it's 200 microcuries, what kind of method they used?" And they said, Frank Masse said, he didn't know. But in that meeting when Dr. Sharp asked Dr. Masse -- I'm not sure whether he's a doctor now -- Frank Masse about the way NIH was measured, Masse, Frank Masse, stated they used urine. So this is the first time.

I was quite shocked because I was under the impression the urine method was not good. How come -- and I believe they didn't know NIH, what kind of method they used for NIH. But suddenly they are telling Dr. Sharp in NIH they used urine model. Then my calculation should be correct because I used the urine model, too. So it's about 650 to 700 microcuries. So this is another thing I

noticed.

So this is some -- and also they discussed other things. Another thing is Frank Masse mentioning in the meeting he asked me to stop flushing myself and drink lots of water, fluids. He said that would artificially give me a higher number, double estimate.

So I agreed to not to drink a lot. So it probably would be normal. So after I think starting from August the 25th or 24th I no longer drink a lot of water. I try to stay. So I wanted to get a more close estimate of what it was.

So after that afternoon at 5:15 I had another appointment with Dr. Sharp to express my version of what's going on. So I complained about how things happened to me in the past week, in the week previous to that.

And I complained about the dosage problem. On Saturday they told me it's 20 microcuries. On Monday it's 200. And on Wednesday it's 200. And later it corrected to 355 because I spotted they forgot to fraction to the body fraction back to calibrate back into the whole body.

And I complained about the incompetence of handling even the dosage estimate. And they were trying to push down the number because, as I told you, on Monday Mitchell Galanek told me on the phone on Saturday on the phone, when they were talking to each other, they said it's

500 to 1 millicurie. And now they are trying to push down the number. So that they are not going to give me the right number.

And I said, "This is not supposed to be because I expect the Radioprotection Office work up a model with me to tell me how to calculate it. Instead, I spend almost several hours in my computer finding the papers and getting the model how to calculation back. And I'm feeding that information how to calculate that." And I told Dr. Sharp, "I think it's incompetent for radioprotection officer to act like this."

And also I asked Dr. Sharp to have a third party, independent party, involved regarding my level of radioactivity so that I can get an accurate assessment because I have been experienced with these mistakes from the beginning almost. Whether it's 200 or 400, it's just too complex for it.

And the last thing about dosage, I talked to Dr. Sharp. I said, "Their model is wrong because" -- I didn't elaborate why it's wrong, but I can. What is wrong with their model is if you put their everyday into their model, you get increasingly lower estimate every day. And the reason they get increasingly lower data is they forgot to put the decay factor into their model. Okay?

So, actually, I asked a post-doc in our lab,

"We put every day's estimate into computer." And then you can actually build up a curve fit. And you get 500 curve, like exponention curve, with minimum of 507 microcuries at today's unit, assuming you can get to trace it back to day zero. I know it cannot because on day zero, on day one, the model does not fit. So probably the whole body model, even if calculating their way, points to about 600 microcuries.

So I complained of these four things to Dr. Sharp about the dosage and the -- also I complained about the medical treatment I've had in the past week with MIT Medical Department. I told Dr. Sharp it took me three appointments to get sleeping pills, almost five days to get really a sleeping pill to help me to sleep.

And the advice I got from doctors and the advice I got from Radioprotection Office is conflicting, for example. See, the doctor from Medical Department told me to flush with lots of fluids, it help me to get rid of isotope. And the Radioprotection Office is asking me not to flush, that type of things. I'm just quite at a loss what I can do with this. And I'm not an expert.

And the third thing is I believe the confidentiality of me was violated between patient and a doctor because I was upset. Before the occupational healths doctor even see me, they already know I was

flushing a lot with liquid fluid.

And the occupational health doctor didn't check blood, what's the blood count I have, red blood cell or white blood cell I have. He checked only for iron balance of me. So I think it's just not ordinary because if you are a doctor, you should check first whether the blood is -- white blood cell is in the body or not.

You shouldn't talk a lot about my receiving health care with the personnel in the Radioprotection Office. That's what my feeling about. Now I don't think so because probably for occupational health doctor to receive assessment of what's going on, they have to talk to the people involved. But at that point I thought the doctors shouldn't talk about the patients' information to someone outside of the Medical Department.

LEAD INTERVIEWER GLENN: Can you clarify a little bit what your concern is that you think the doctor shared too much --

DR. LI: Of my information.

LEAD INTERVIEWER GLENN: -- of your information with the Radioprotection Office?

DR. LI: Office, yes, yes. That's what my concern was, but right now I don't think that might be a concern right now because I went to Harvard Community Health Plan. They also have to talk with MIT a lot to get

what's going on. But at that point, actually, I complained of these. I just give you all the facts.

The last thing I complained about the medical treatment is when I had meeting with occupational health when I complained what I feeling, dizziness, feeling the pain over the back, other thing, shortness of breath, stuff like that, weakness, he always telling me "These symptoms is not radioisotope-related. So I don't think this is right away doing this" because he does not know even what the real dosage is. He just assume everything should be okay.

This is -- I don't think is scientific from my point of view because I just -- I was just naive. I didn't see a lot of doctors. I was healthy. So I was thinking along science, scientific, scientist view of how to handle this situation. I might be wrong. At that point I thought so. So I complained also about that.

Another thing I complained about, in addition to the dosage problem and the medical treatment I had possibly, another thing I complained about, the procedure was unclear for me; for example, how if I got this type of accident I couldn't find anywhere in the procedure they'll say what you should go through the Medical Department to do what claim for what, no instruction at all. I just was quite at a loss.

Meanwhile I have to think very hard what the real dosage is, why they are saying the urine model is not correct, what the whole body model is like. I'm not an expert in this. You should understand that. It's just too overwhelming for me to handle all of these things. So I complained.

As a result, this -- because of the procedure, the police is also -- is waiting for the report, stuff like that, and the dosage is unknown. So it's like a circle. Because the dosage is unknown, the medical -- the doctor cannot assess what is going on because the dosage might be changed in the future.

And the police were also depending on the dosage, too, because it's 200 microcuries probably you got yourself. You don't bother to ask us to investigate all these things. So it's just a whole complex mess in there. And I was just hitting the wall around me of all of these things.

And I complained as a result of this unclear procedure. And as a victim I'm further treated unprofessionally. And I was not treated fairly on this. So that's what I complained with Dr. Sharp at the 5:15 meeting on August 25th.

So later I said to MIT -- Dr. Sharp asked me whether Harvard Radioprotection Office is comfortable to do

this with me. And I said, "That's fine."

He said, "I don't know whether they have connection between Harvard and MIT. Just pick randomly."

I said, "That's fine." So they referred me to Dr. Joe Ring in Harvard Radioprotection Office to help me to understand this. And I think -- and I think there might be a misunderstanding at this point because what I originally asked was to have a third independent party to measure my level. They actually assigned someone to calculate this level. Okay?

And second misunderstanding is I asked, actually asked, "Since I am not expert in understanding this whole body model thing or urine model, which one is more accurate?" So I asked. I needed to have access to someone who is an expert who can guide me through to understand all of these things so that when I argue all of these with MIT Radioprotection Office, I'm more experienced, I'm more knowledgeable so that I know what they are saying is correct or not.

But, as a result, they understand it and they need an independent consultant to calculate the input for me. That was not my original request. My original request was to have a third independent party to measure my, for example, urine model or urine counts and whole body counts because you don't know. Maybe your urine counts they can

give you lower counts if you give them urine. So -- but since --

LEAD INTERVIEWER GLENN: I'm sorry. Basically you were looking maybe for someone to take the same urine samples and run them on another set of equipment and see if they get the sam thing.

DR. LI: Yes, yes and also maybe another whole body count because for the past week, for the week I experienced, I sensed that they were trying to push down the number because the number keeps increasing.

It's like when I go to a car dealer, I start at the low end and they start at the high. We mix in to a middle point. So that's what my feeling was. So that's what basically happened on that week.

Another thing I should said is during -- throughout this whole week my supervisor was away, was not at MIT.

LEAD INTERVIEWER GLENN: Is that Dr. King?

DR. LI: No. The supervisor is Dr. Professor Tonegawa.

LEAD INTERVIEWER GLENN: Okay.

DR. LI: Dr. King is the general lab manager in the -- he does not do research. He just takes care of all the daily operation of the lab.

So he was in Japan. He came back, actually,

Friday or Saturday, August the 25th or August the 26th, 25th or 26th.

So on Monday, so on Monday, Dr. Tonegawa phoned me at home. He asked me to have appointment with him so he can talk to me about what's going on. And I asked him when I -- because I was very weak at that point after week of exhaustion.

It's just too much for me. I never expect to have such a big trouble to deal with this. You have to -- basically you're relying on your own. I thought I can get help from Radioprotection Office to determine the dosage, but I couldn't. That was my feeling.

And the Medical Department, the doctors in MIT Medical Department, is basically saying, "You're okay" except the psychiatrist, who was a help to solve this crisis. And also I have to switch the medical insurance and stuff.

It's just too much. So I feel weak, sick, actually. I stayed at home to take a rest. That's why I asked Dr. Tonegawa whether I can talk to him over the phone. He said, "No. You -- it's better to talk to you in person."

So I went to MIT to see Dr. Tonegawa, my supervisor. So that's 2:00 to 3:00 o'clock in the afternoon. This is August 28th. So he -- we discussed

several things about what happened, about several things, about several points which were particularly upsetting to me.

First, he asked me to think about what happened and then what my goal is, what my goal is to know the direct number of dosage; in other words, why you are curious to know the exact dosage. What's your goal? You think you should see clearly harm? He couldn't understand why I want to know the dosage.

So I think of the reason I wanted to know dosage is if it's about 600, then someone could have done this, probably will get a harsh treatment, a harsh punishment in terms of sentencing and a conviction. So that's one reason I wanted to know the correct dosage. And also I have to report to police to convince the police someone did this to me, not I accidentally caused it myself.

And the second thing I wanted to know the real dosage is if something happened to me 5 or 10 years down the road, if it's over the limit, I can come back to MIT and say, "Look, this exposure, probably it's a recurrence of the previous incident." So it's also related to my health. So that's why I was pursuing that.

So this is the first thing he asked me. So he said, "In other words, you are doing something -- my

impression is you are planning. You are doing something ridiculous. Why you bother to know the dosage? It must be important."

And the second thing, he asked me to think is to think of my long-term goals and to get over this quickly. In other words, "You shouldn't be stuck in this. You should be thinking on what's your long-term goal. Don't bother with small things like this."

So I think I perceived this as two ways of -- although he may mean it different, it's just my impression or perception. I think first is this is not a big deal. Even if someone poisoned you, so what? You get poisoned. It's only 600 microcuries or maybe, even if you are correct, 700 microcuries.

Second perception I have at that time was if you are trying to get a lot off from these, you might have trouble in your future because you need to get recommendation letters. And I cannot risk these relationships.

So this was my perception. I may be wrong. Maybe he means differently. So I perceive it that way. Certain things he told me, to find out who did it to me is not going to help me to recover psychologically and physically, focus on my health first. So this is the sort of thing he told me.

And I thought differently after that point because I thought I was very angry that someone did this to me. Maybe it might be 700 microcuries according to my urine model.

And I didn't know what the health effect would be. I thought it naively because I'm a molecular biologist because the phosphorus can go into the DNA. And if it decomposes, the DNA can be cut off at that point. So it might create mutation at that point. So I think it's a serious thing to have several hundred microcuries in my body. So that's not so good.

And the fourth thing he told me, so he said, even if I find it out, who did this to me, my name will have a connotation that somebody did this to me, it will not help my reputation because whenever someone else in the field will mention my name, then they will always think of these things that "He was poisoned by bah in the lab." So bah even risks something to do this to me. So I must be bad, and that's what this means. Right?

And since I'm going to be a faculty member in the University of Illinois. So this reputation is not going to help me to attract graduate students in University of Illinois. So that's what he said. You know, they may always think of this incident as a marker on me. They will always think of "This person was poisoned by a colleague.

So he must be bad." That's what I perceived. Okay?

The fifth thing he told me is that if I can't find out who did it, to me it will be worse than I find it out. Then people will have different various speculation about these things, which is right, I realize now, because I released MIT news release from MIT News Department.

And they said it's either accidental or deliberate. So even to now MIT is not acknowledging this deliberate act of someone poisoning me. They still think it's possible I accidentally contaminated myself. So I will have an image in the field I am doing experiments so sloppily I will even get 600 microcuries into myself.

That's the really trouble for me because if I go to he University of Illinois, if graduate students know I accidentally can ingest 600 microcuries into my body, no one will work for me. No one will do a Ph.D. in my lab because of -- because I'm so sloppy to get 600 microcuries in my body.

I think his advice is right. It's happening right now. And I still cannot figure out whether it's accidental ingestion or it's just deliberately poison. I don't have hard evidence to prove that. So all of these things were particularly upset. So that's why I loaded the after the meeting.

So then I had an appointment with Frank and

Mitchell, Frank Masse and Mitchell Galanek, about the dosage again, discuss with the dosage. Basically we agreed. We agreed we have to collect some technical detail. Let me see. No. I remember now. Yes.

So technical detail we discussed was -- so we basically agreed previous, I think on the previous Wednesday, maybe Thursday that in order to get accurate number, we have to do 24-hour urine, instead of just get a concentration and times 1,400 ml. So to do a 24-hour urine.

But we have some argument over how to get the 24-hour urine because if I urinate at 10:00 o'clock -- so I did something like I cut off at 12:00 o'clock to 12:00 o'clock. I don't care where my urine is.

They say it's not fair to get a real number because if you urinate at 10:00 o'clock and then again at 1:00 o'clock, actually what you collect might be not exactly 24-hour urine because if you urinate at 10:00 o'clock, you start urination from 10:00 o'clock again.

So if you count as of from 12:00 o'clock, you actually have an extra two hours you'll be measuring in that vial. So that's not so accurate. So please urinate at 10:00 o'clock, then collect afterwards, and then do that again so we will get the correct number for you. So that's what they said. Otherwise we cannot say this number is

correct or not.

So that's why starting from that day we did a very accurate printing on our urinary collection. But before that it was not accurate. It might be 10 percent off the correct number.

So this I believe is what mainly discussed on that day with Frank Masse, Mitchell Galanek. I don't have a note of what we really discussed. So that's based on my recall of it.

Then at the 5:00 to 6:00 o'clock -- well, actually, it was from 2:00 to 3:00 o'clock. When I talked to my supervisor, he asked me to come back again to talk to him because from 3:00 o'clock he was supposed to talk to the Radioprotection Office people. So he said he is going to talk to me after that.

So we had another appointment with -- we talked again. I talked again with Dr. Tonegawa about the incident. So he told me after talking to the Radioprotection Office people, he told me there is -- probably there is no treatment. Even if I got over 600, it's too late to get medical treatment. There is no help you can get.

And the second is he told -- secondly, he told me his -- he asked me another incident, which is my file was deliberately deleted in the computer. I didn't mention

before this thing happened I have an imaging file in the computer, in the lab computer. Someone purposely did it.

LEAD INTERVIEWER GLENN: And from what you said before, this would be the same as if somebody was destroying the X-ray film.

DR. LI: Yes, yes.

LEAD INTERVIEWER GLENN: They're using a different technology.

DR. LI: Yes, yes. It's image file is an X-ray film. So I lost that file because some -- I even protected it. I put that file under protection. So someone deprotected it and then deleted it purposely. So this is -- he asked me what that is.

And the third thing he asked me is I also reported another incident to police. Someone changed my instruction for experiment. So the experiment went bad, failed because the code was changed.

So you need a series of code to execute that instruction. If you have a people familiar with biology, it's a DNA gene you have a code, the TGCATGC. So someone changed the one code in the lab. And, as a result, I got the wrong code. I got the gene right. So this I was to follow up on it through police.

So also he discussed with me what kind of conflict I had and what kind of fights we had in the lab

with other members who might have done this to me. And we mentioned a few names, possible but --

INTERVIEWER ROBINSON: Who were those names?

DR. LI: Is it going to be released to public?

INTERVIEWER ROBINSON: Well, if we discuss it here, it will be in the transcript.

LEAD INTERVIEWER GLENN: It will be in the transcript.

DR. LI: Yes, yes. We discussed whether Dr. Zhuo Qian might be involved in this.

INTERVIEWER ROBINSON: First name?

DR. LI: Is Z like X-Y-Z.

INTERVIEWER ROBINSON: Oh, okay.

DR. LI: Z-H-U-O.

INTERVIEWER ROBINSON: Last name Ching?

DR. LI: Qian, Q-I-A-N, Q-I-A-N, Q, yes. Q-I-A-N, yes. So he said he might be not able to do that. He knows he does not have the guts to do this, something like that, he told me.

And also he asked me another. He asked me not to publicize this because I think he knows from talking to Radioprotection Office if I keep asking for the right number probably this will be publicized.

And I think it's true, actually, now we have seen the use. So he said I shouldn't publicize this

because my reputation will -- my reputation will be damaged because he thinks if people usually -- he said people usually thinks if there is smoke, there is fire. In other words, it's always difficult to identify who is responsible for this.

INTERVIEWER ROBINSON: Excuse me. I must have missed. Who is telling you this?

DR. LI: My supervisor.

INTERVIEWER ROBINSON: Your supervisor?

DR. LI: Yes.

INTERVIEWER ROBINSON: Mr. Tonegawa?

DR. LI: Yes.

INTERVIEWER ROBINSON: Okay.

DR. LI: So I'm talking about the appointment with Dr. Tonegawa, 5:00 o'clock to 6:00 o'clock.

LEAD INTERVIEWER GLENN: Yes. There were two sessions that day; right?

DR. LI: Yes. This is the second session.

LEAD INTERVIEWER GLENN: Yes.

DR. LI: Because generally people -- he said generally people believe if there is a smoke, there is a fire. So if someone did this to you, he must be -- in other words, I perceive you must be so bad he wanted to poison you. So that's what detail is there is fire. If there is smoke, there is fire, meaning that's my

perception, yes.

And I told Dr. Tonegawa even if I didn't publicize it, my friend at MGH, Mass. General Hospital, already is phoning me, asking me what's going on with my radiation exposure because things like this travel ver fast. I didn't purposely talk. I was trying to keep quiet.

INTERVIEWER ROBINSON: It's 12:18. We'll go off the record for a minute.

(Whereupon, the foregoing matter went off the record at 12:17 p.m. and went back on the record at 12:27 p.m.)

LEAD INTERVIEWER GLENN: We're going back on the record. The time is approximately 12:30.

At this point in discussions we've had, I think it's been determined that it might be appropriate to break the narrative off at this point, give everybody a chance to rest up and recover a little bit. And we've agreed to resume the interview again tomorrow at approximately 9:00 o'clock in the morning. So that if Dr. Li can accommodate us there, we'd appreciate that very much.

Before we close this session, I'd like to review with Dr. Li the documents that he brought with him and identify those which we would like to have submitted for the record of the incident investigation team. Could

you briefly? You had some records there in terms of surveys that had been done, your copies of the results.

DR. LI: Yes, yes. Let me go through the records. I have some. You want to go through all the records on --

LEAD INTERVIEWER GLENN: No, no. I think we can describe the types of records that you have. And then I'll ask that you give copies to us.

DR. LI: Okay. The type of thing I have is the original scintillation count printout either from MIT or I did it myself; and also some discussion of the dosage with MIT Office of Radiation Protection, whether it's 200 or 400; and also the calibration data of the whole body counts; and also the notes I took when I have meetings with either the supervisor, Dr. Sharp as department chairman, this type of thing.

LEAD INTERVIEWER GLENN: Now, you had referenced at one point in your narrative an ICRP document.

DR. LI: Yes.

LEAD INTERVIEWER GLENN: We don't need a copy if you can actually tell us the title.

DR. LI: Yes. I have a copy of that. I have a coy of that paper I can give you.

LEAD INTERVIEWER GLENN: Okay.

DR. LI: And also I have documents about code

fitting I did, we did ourselves in the Cancer Research Lab to get investigation on the urine model. And I submitted a copy also to Radioprotection Office the first week.

LEAD INTERVIEWER GLENN: Okay. So if you could provide those records fairly promptly so that the team could have a chance to review them before tomorrow's meeting?

DR. LI: Yes. Sure. We can do it right now.

LEAD INTERVIEWER GLENN: Okay. Do you have anything else you think needs to be said now or --

DR. LI: No. I can talk tomorrow.

LEAD INTERVIEWER GLENN: Okay. At that point we'll cut it off.

INTERVIEWER MADISON: The only thing, we want to make sure we give Dr. Li a copy of Guideline 2.1 now so that he can review that.

LEAD INTERVIEWER GLENN: Yes.

INTERVIEWER MADISON: It basically repeats what Dr. Glenn told you at the beginning about the transcripts and about the interview.

DR. LI: Okay. Yes.

LEAD INTERVIEWER GLENN: Okay.

INTERVIEWER ULLRICH: Do you need a copy of that?

LEAD INTERVIEWER GLENN: I had a copy, but --

INTERVIEWER MADISON: We'll get one.

LEAD INTERVIEWER GLENN: We'll provide you with that copy before you go out.

DR. LI: Don't worry. I can get it tomorrow.

LEAD INTERVIEWER GLENN: So at 12:34 we'll close this part of the interview.

(Whereupon, the foregoing matter was recessed at 12:31 p.m., to be reconvened on Thursday, October 19, 1995 at 9:00 a.m.)

C E R T I F I C A T E

This is to certify that the attached proceedings before the United States Nuclear Regulatory Commission in the matter of:

Name of Proceeding: INTERVIEW WITH DR. YUQING LI

Docket Number: --

Place of Proceeding: Cambridge, Massachusetts

were held as herein appears, and that this is the original transcript thereof for the file of the United States Nuclear Regulatory Commission taken by me and, thereafter reduced to typewriting by me or under the direction of the court reporting company, and that the transcript is a true and accurate record of the foregoing proceedings.

_____

K. Wood
Official Reporter
Neal R. Gross and Co., Inc.