I, James Robert Deal, well over 18 and competent to testify, do hereby state under oath and penalty of perjury as follows:

I received this "rough transcript" of a deposition from Jeff Green, whose contact information is www.keepersofthewell.com, greenjeff@cox.net, 800-728-3833.

Mr. Green told me that he obtained it from Kyle Nordrehaug, who deposed Stan Hazen in 2004. Mr. Nordrehaug's contact information is Kyle R. Nordrehaug, 2255 Calle Clara, La Jolla, CA, 858-551-1223, kyle@bamlawlj.com.

The court reporter was Jerre Walker, who works for Lana, 800-826-0277, lana.zoida@merrillcorp.com.

In California this is called a "rough" transcript, and it is considered acceptable for some purposes there.

Although this document is not technically admissible because it is not certified by the court reporter, I ask the Court to admit it given the fact that it bears every sign of being genuine and complete.

I tried to obtain a certified original, but the court reporter said one of the attorneys in the case would have to place the order. There was not time to accomplish this.

See pages 1-6 and pages 48-50.

So sworn:

_____

James Robert Deal

Subject: FW: rough of Hazan
Date: Wed, 10 Mar 2004 10:52:40 -0800
Thread-Topic: rough of Hazan
thread-index: AcQGr8p+HLyEN45nQAysAgYmi0bzVQAINsUA
From: "Kyle Nordrehaug" <kyle@bamlawlj.com>
To: <greenjeff@cox.net>,
"Jeff Green" <jeffgreen@starband.net>

-----Original Message-----
From: Jerre Walker [mailto:jerrewalker@yahoo.com]
Sent: Wednesday, March 10, 2004 6:54 AM
To: Kyle Nordrehaug
Subject: rough of Hazan

Attached is rough transcript you requested. Please
confirm receipt to this email address.
Thanks,
Jerre Walker
LegaLink San Diego
619-235-2582 x 57

=====
Jerre

The deposition of Stan Hazan of NSF International (the same person who responded on NSF's behalf to the Congressional investigation questions I wrote for the House Committee on Science) was taken in 2004 as a part of the MACY, COSHOW, ET AL. vs. CITY OF ESCONDIDO AND CA DEPARTMENT OF HEALTH SERVICES heard in San Diego Superior Court and the appellate court (the case began as Macy, but she died during the 4 year process, with the case then becoming Coshow), which focused on the arsenic harm contributed by hydrofluosilicic acid. FOURTH DISTRICT COURT OF APPEAL NO. D045382, San Diego County Superior Court Case No. GIN015280

I served as a legal clerk, plaintiff representative, and selected and assisted the expert witnesses for the attorneys (now Blumenthal and Nordrehaug) in this case, including creating the questions posed to each of the State's witnesses.

The State of California chose Mr. Hazan, and he volunteered to present himself for deposition (we could not have subpoenaed him as our witness, so this was a coup for us).

I have attached the Rough I sent Eloise. You might note that Hazan attempted to shape the requirement of toxic data "if available", whereas our real focus was on the fact that the manufacturers have not ever declared their specific product content and contamination by weight or percentage, which is not absolved by anything.

What Eloise received from me was an informal email of the Rough Transcript (before the witness has the 30 day period to correct for spelling or meaning). If a correction is not received within 30 days the Rough Transcript becomes the final record of the deposition, but it also includes the transcriber's oath of correctness and disclaimer, along with the appropriate designation for court record. I do not have copies of the final records of all of the depositions (which were taken on Hirzy, Mullenix, Limeback, Kennedy, Carton, Graham, Shames, Krook, and the 5 expert witnesses of the State).

Jeff Green

1:10

UNEDITED ROUGH ASCII

BY MR. NORDREHAUG:

Q. Good afternoon, Mr. Hazan, I appreciate your coming to the office for your deposition. I'm Kyle Nordrehaug. I represent the plaintiffs in this case. And I just wanted to go over a couple ground rules with you on how we do the deposition here so we can get through it without -- without too many inconvenience or time today. First off, the court reporter east going to be recording everything that's said here in a question and answer format. She will transcribe it she'll put it into a written format which she will supply to you. You'll have the opportunity to review it and make any corrections that you feel are necessary to make the testimony true and correct. However, I do have the ability to comment on any changes you might make if that does occur. Your testimony here is as if it's supposed to be as if you were in court. She's [SPWOERPB/] you under oath and so we're looking for your --, you know, your best testimony. If I ask you a question and it's not clear to you or there's or you don't know the answer, please, you know, tell -- state that for the record,. [We have|Weave] don't want any -- no [WHAOE/]

want to make a clear record what is and what is not your testimony and your opinions. Also, because she's typing all this down, she needs us to speak in a verbal format and to use Vern "yes" or "no" and not you humans or had you us, things like that that can't be recorded properly. I'm sure they've gone over other rules with you. Your attorney will interpose objections during the course of the deposition. Allow them to state the objection for the record, and then you'll given an answer. If he does not want you to answer a question she will he'll instruct you not to answer so unless me does, we're looking for your best testimony. So is that all fairly clear to you?

A. Yes.

Q. Okay. If I could just go over a little bit about your background.

Could you state your name for the record.

A. Stan Hazan.

Q. And with whom are you employed currently?

A. NSF International.

Q. How long have you been employed by NSF International?

A. Fifteen years.

Q. Okay. And what is your position there?

A. Currently I am the executive director for the

Center for Public Health Education --

Q. Okay.

A. -- which is the training and education arm of NSF.

Q. Okay.

A. And what does the -- I'm sorry -- training and information branch, did you say?

A. Center for Public Health Education.

Q. What is their function generally at the NSF International?

A. To provide training and education in standards, testing, variety of food safety issues, and we're else responsible for the conferences and seminars that NSF puts on.

Q. Okay. And is that just with respect to water additives or substances other than water additives?

A. Substances other than water additives as well.

Q. Okay.

A. So --

Q. But water additives would fall within that --

A. Correct.

Q. -- within your sphere of what you do at NSF International?

A. Yes.

Q. Okay. If I could ask you a little bit about your background. First off, have -- have you talked to any other experts in this case about this case?

A. I'm sorry. Can you define who an expert --

Q. Yes.

MR. CRIBBS: Are you talking about designated experts or --

MR. NORDREHAUG: Yeah, I think I'll put it both ways. I tried to be --

BY MR. NORDREHAUG:

Q. Have you ever spoken to a Mr. Book about this case?

A. I don't know a Mr. Book.

Q. Have you ever spoken to a Mr. Nelson about this case?

A. Mr. --

Q. Mr. David Nelson. David Nelson.

A. I don't know a David Nelson.

Q. Have you ever spoken to Dave *Morrey about this case?

A. No.

Q. Okay. Now, who at the Attorney General's Office have you spoken to about this case?

A. Greg Cribbs and Karen *Freid.

Q. Okay. Have you reviewed any testimony that you

of anybody that's been given in this case so far?

A. Yes.

Q. And whose testimony did you review?

A. The -- is it Peterson? The plant manager or the --

Q. For the City of Escondido?

A. Correct.

Q. Okay. Now, if I could ask you, what is your educational background?

A. I have a degree in chemistry and biochemistry from the University of Toronto.

Q. Okay.

A. And an MBA from the University of Michigan.

Q. Prior to your employment at NSF International, did you have any involvement with water additives?

A. Technically, no.

Q. So would it be fair to say that the relevant employment experience you've had with respect to water additives was at NSF International?

A. Yes.

Q. Okay. I want to ask you a little bit -- you've been designated as an expert in this case. And if I could just ask you how you've been designated and if I could -- it says here that Stanley Hazan will testify regarding the scope of NSF an N. [SFPLT/] T.

standards 60 drinking water chemicals health effects.

Is that something you are going to -- you intend to give an opinion on in this case?

A. Yes.

Q. Okay. And I'll get to the substance of your opinions.

A. Okay.

MR. CRIBBS: You're reading from the expert designation?

MR. NORDREHAUG: Sure.

MR. CRIBBS: I'll put it in front of him.

BY MR. NORDREHAUG:

Q. It says you're also going to testify regarding the NSF certification procedures.

Is that another matter you're going to give an opinion on in this case?

A. Yes.

Q. And does that include also formulation review?

A. I --

Q. You're not sure what that means?

A. I can -- no. The formulation review process I will provide information on that.

Q. Okay.

A. Yes.

Q. And it says here "product testing for

contaminants."

Is that something --

A. Yes.

Q. Okay. And the final toxicological review of the results.

Is that another thing you intend to give an opinion on in this case?

A. Yes. Except that that's not entirely my area of expertise.

Q. Okay. What department at NSF is responsible for the product testing for contaminants?

A. There are several departments.

Q. Okay.

A. The laboratories actually perform the chemical testing. They are instructed to perform chemical testing by the toxicology department.

Q. Okay.

A. And the toxicology department reviews the laboratory results and determines whether it meets the requirements of the standard or not.

Q. Okay. So there's a toxicological department at NSF International?

A. Yes.

Q. And is -- and the laboratories, are they also a part of NSF International --

A. Yes.

Q. -- or are they outsourced?

A. It's all contained within NSF.

Q. Okay. Is that located in Ann Arbor, Michigan?

A. Yes.

Q. I see here you might have -- you have offices in Sacramento, Washington, DC, and Brussels, Belgium.

Are there -- is there anything performed at those offices with respect to product -- product testing for contaminants; do you know?

A. No. The Sacramento laboratory was closed about a year ago.

Q. Okay.

A. And all of that testing was moved to the Ann Arbor laboratory.

Q. Okay. Is there anything that wasn't sort of generally covered in that description that you -- other areas that you intend to give expertise on, other than what we just talked about? Is that fairly well --

A. The -- you mentioned the product certification. There's also the standards development process, which is related, but it is a separate issue.

Q. Is that the standards 60 development?

A. Correct.

Q. Okay.

A. Yes.

Q. Okay, then. If I could ask you, have you ever given expert testimony in a -- at a trial before?

A. Yes. But not while at NSF.

Q. Okay. And did that trial testimony involve water additives?

A. No.

Q. Okay. Did it involve toxicology at all?

A. No.

Q. Have you ever been designated, and my first question was testify at trial. My next question is, have you ever testified at a deposition as an expert like we're doing here today?

A. I'm sorry. I need to correct that.

Q. Ah.

A. I -- I was deposed in cases prior to my employment.

Q. But didn't go to trial?

A. But didn't go to trial, correct.

Q. Okay. How many cases were you deposed in?

A. Two.

Q. Two?

What did they involve?

A. One was determining the presence of hydraulic fluid in an airplane crash.

Q. Okay.

A. And the other one was trying to determine presence of caustic chemicals on a piece of clothing.

Q. Now, if I could, if we could just sort of go into the substance of your opinions in this case. If you could tell me what your opinions are regarding the scope of the NSF Standard 60.

MR. CRIBBS: Objection. It's vague and calls for a narrative. You want to narrow it down a little bit, Kyle.

MR. NORDREHAUG: Yeah. I was just trying to go along with what we're doing here.

BY MR. NORDREHAUG:

Q. Well, let's just talk about, what opinions do you intend to offer with regards to the development process of Standard 60?

A. I was intending to answer any questions that might arise from how this standard was developed. The -- that's essentially the information I can provide.

Q. Okay.

A. And a lot of the background to how these standards came about are contained in the foreward of this document.

Q. So I haven't had a chance to look at this yet, but --

A. If you'd like, I can, you know, point out where all that information --

Q. Well, I just wanted to ask, is your knowledge of the Standard 60 development derived from this manual?

A. Yes. As well as active participation in the development process --

Q. Okay.

A. -- of it.

Q. Okay. We'll get into that after I've had a chance to look at those.

What opinions do you have with respect to the testing of HFSA for contaminants? What opinions do you have to offer with respect to the testing of FHSA for contaminants?

MR. CRIBBS: Objection. Vague.

You can answer, Stan, if you understand the question.

THE WITNESS: Okay. I -- I guess I'm not sure on the opinions. There is a prescribed method in the standard that tells any laboratory, including NSF, how to prepare a sample, how to test it, and what to test it for.

BY MR. NORDREHAUG:

Q. Okay.

A. And so it's have prescriptive.

Q. Okay. Well, let's go into how that testing occurs.

How does NSF go about performing product testing for hydrofluosilicic acid?

A. NSF auditors will visit the production facility or the repackaging facility and select samples for testing. They are shipped back to NSF laboratories for the required analysis. And the specific analyses that are performed are prescribed by the standard and the results are compared to the appropriate end points in the standard.

Q. Okay. Now, that testing, is that performed on every batch of hydrofluosilicic acid produced by that manufacturer or facility?

A. No.

Q. Is it performed approximately annually at that facility?

A. Yes.

Q. Are those times prescribed or are they surprise audits?

A. They are all unannounced audits.

Q. Unannounced audits. But on average, it would be fair to say they're annual?

A. Yes.

Q. Are they done by facility or by manufacturer?

A. It's done by facility that's listed.

Q. Okay. So if there's a manufacturer who had two facilities, NSF would go to both, even if they were both producing the same thing?

A. Yes.

Q. Now, is NSF International a government agency?

A. No, it's not.

Q. Is it a public agency?

A. I guess I'm not sure what a public agency is.

Q. Well, we'll go the other way.

Is NSF International a private company?

A. NSF International is an independent, not for profit, third party testing and certification organization. It is a 501C-3 chartered in the State of Michigan.

Q. Okay. So it's a - would it be fair to call it a private not for profit organization?

A. Private, not for profit would be correct.

Q. Now, does it have any regulatory authority over any state or public entity?

A. It has no regulatory authorities.

Q. Would it be fair -- well, let me go back.

Does it have any regulatory authority over any water districts?

A. No.

Q. Is there any law of which you are aware that requires NSF Standard 60 to be used by municipalities?

A. Yes.

Q. Which law is that?

A. They are typically state laws that -- and it can also occur at the county or city level as well whereas specified that a product being used in the public water supply must be certified by an independent agency --

Q. Okay.

A. -- such as NSF.

Q. Are there other agencies that do what NSF does?

A. Yes.

Q. And what agencies are those?

A. I know of UL, Underwriters Laboratories --

Q. Okay.

A. -- is another independent not for profit third party testing and certification body. And I don't know offhand if there are others. There might be. But they would not be significant.

Q. Okay. And I have see seen ANSI. What does ANSI stand for?

A. It stands for the American National Standards Institute. And --

Q. Okay.

A. And it is the formal national body that oversees the development of American National Standards.

Q. Okay. Is NSF International part of ANSI?

A. No.

Q. You don't work -- do you work for ANSI in any capacity?

A. No.

Q. Are you aware of any -- are you aware of any law promulgated by the EPA which requires the adherence to or the use only of Standard 60 approved drink water additives?

MR. CRIBBS: I would just object that it may be outside the scope of expertise.

THE WITNESS: Yeah, maybe if you could rephrase the question.

BY MR. NORDREHAUG:

Q. Okay. Well, we talked about the -- the laws of which you were aware of that exist the states which require -- which require municipalities to use additives certified by Standard 60. Or under Standard 60.

And my question is, are you aware of any EPA laws which require across the United States the use only of Standard 60 certified substances?

A. I --

MR. CRIBBS: Same --

THE WITNESS: I guess I'm not aware of any.

BY MR. NORDREHAUG:

Q. Okay. Are there -- are you aware of states that do not use Standard 60 as their base for regulations on water additives?

A. I don't know, but one of the documents that you were handed --

Q. Okay.

A. -- just now is a state survey. There are -- that document you just passed --

Q. Okay.

A. -- if you open that up, that there's an annual survey conducted by the Association of State Drinking Water Administrators.

Q. Okay.

A. ASDWA. And that specifies that organizations interested in providing that information, and so in that chart, you'll find a listing of the states and whether they -- whether they require Standard 60 certification.

Q. I'm going to mark these then as Exhibit no. 1, and I guess these are documents that you've produced in response to the deposition notice for your deposition here today?

A. Yes.

Q. Okay. I'll mark this first one as Exhibit no. 1, which you just referred to. It is a letter or memo dated April 10th, 2003.

The second one here is a letter to the Honorable Ken Calvert dated July 7th, 2000. I'll mark that as Exhibit no. 2.

And I guess I'll just ask you, did you write this letter?

A. Yes.

Q. Why did you write this letter to Mr. Calvert?

A. I was -- we were -- NSF was requested to respond to, I think, a Congressional inquiry.

Q. Okay. Did you respond truthfully in that letter?

A. Yes.

Q. Is everything in there you said still true, to your knowledge?

A. Yes.

Q. Next thing I'm going to mark is Exhibit no. 3, it's a document entitled "Sodium Silicates MAL Report."

And I guess I would ask you, what is this document, if you could tell me briefly.

A. It's an internal NSF document that employs toxicological support for human exposure to silicates.

Q. Okay. But this -- this document does not

discuss toxicological data with respect to *fluorosilicates, does it?

A. No, it is not specific to flouride-containing compounds. It's silicates only.

Q. Is there a document like this at the NSF which discusses only fluorosilicates?

A. Not that I know of.

Q. Okay.

A. There may be.

Q. Well, only what you know of.

A. Okay.

Q. This next one I will lodge as Exhibit no. 4, and this is a portion of the Federal Register.

Did you obtain this copy? Is this something that you obtained?

A. Yes.

Q. And how do you rely on this document for purposes of your opinion?

A. This document dated 1984 is the EPA's request for proposals to develop standards and certification programs to replace its advisory program and it provides a lot of background.

Q. It's true, though, that today the EPA does not regulate water additives; is that correct?

A. Yes.

Q. Next thing I'm going to lodge here is as Exhibit no. 5 is a portion of the Federal Register, July 7, 1988. And I'll mark this as Exhibit no. 5.

I guess I would ask you, in what sense do you rely on this document for purposes of your opinion?

A. That document was the announcement of -- by the EPA that it was terminating its advisory program on drinking water additives because the NSF standards had been developed and that a credible certification program was in place.

Q. Okay. If you know, do you know what the basis is for certain states that do not use Standard 60?

A. I do not.

Q. Okay. Are you aware of any action NSF has ever taken to encourage or force those states to use Standard 60?

MR. CRIBBS: Vague as to "action."

You can answer, Stan, if you know.

THE WITNESS: Pardon me.

MR. CRIBBS: It's okay. You can answer.

THE WITNESS: Okay.

Can you repeat the question.

MR. NORDREHAUG: She can repeat it for us.

(Record read.)

THE WITNESS: Yes.

BY MR. NORDREHAUG:

Q. And what type of actions are those that you're aware of?

A. We have distributed model language to the states, to the state drinking water administrators, to facilitate their writing of laws or requirements.

Q. Is that because NFS -- NSF -- sorry -- wants these states to adopt their Standard 60?

A. Yes.

Q. Has there ever been any occasion that you're aware in which a state that now uses Standard 60 was forced to do so by the NSF?

A. No. We have no leverage over any state, state regulatory agency.

Q. Okay. Are you aware of states that did not rely on Standard 60 which received some sort of lobbying from NSF and now do use Standard 60?

MR. CRIBBS: Object to the term "lobbying" as vague; may be out of his scope or area of expertise.

But you can answer, if you know.

THE WITNESS: I'm sorry. Can you repeat the question. Sorry.

THE WITNESS: I want to make sure I get this right.

MR. NORDREHAUG: That's what we're here for.

THE WITNESS: Yes. But I couldn't be specific. We have sent letters to all of the state drink water administrators looking for their support on the adoption of Standard 60 and primarily because they were principal stake holders in the development of the standard. You'll see that the association of state drinking water administrators is one of the defaulters of the standard and they have also collectively agreed that it is in the best interests to have a standardized national requirement.

BY MR. NORDREHAUG:

Q. Okay.

A. And it's my understanding that the reason that all states don't have the requirements in place is probably more resource oriented than any technical objection to the standard.

Q. Okay. What kind of contaminants has NSF found in hydrofluosilicic acid?

A. We have -- we have found what are termed regulated metals. Those are metals or inorganic compounds that -- I believe there are 12 of them. And at varying levels.

Q. At some point, though, there's been a test positive for all of them, or were there any that you test for that you never --

A. There may be some that we've never detected above the detection limits.

Q. Okay. But for the most part, you will detect some contaminant level sooner or later.

Q. Okay. But it varies between samples; is that true?

A. Yes.

Q. Are you aware of whether or not NSF has any specific duty of care to consumers under Standard 60?

A. I'm not sure I understand the question.

Q. I guess under the terms of Standard 60 itself, does NSF have any specific duty or obligation with respect to consumers?

A. I would answer that by saying we have an obligation to every stakeholder, including consumers, that the testing and evaluation of products be done absolutely correctly and per the specific requirement of the standard.

Q. So would it be fair so that I -- that if Standard 60 was not followed with respect to a particular substance, that would be a breach of that allegation to the stakeholders, I think you referred to them?

A. Uh-huh. Yeah. If we didn't follow specific requirement under the standard, then -- then that would

be a breach.

Q. Okay. I want to -- I'm trying to pin down, Standard 60 needs to be rigidly adhered to. Is that a fair statement?

A. There is room for interpretation within the standard.

Q. Such as, can you give me an example?

A. With regard to the development of toxicological end points where compounds are not regulated by the EPA.

Q. Okay. So would that be substances that don't have particular MCL NSF establishes?

A. Correct.

Q. Toxic points for those. I think I've seen that in the case of silicate. Is that an example?

A. Correct. That would be an item that is not specifically regulated by the EPA, but there is a procedure in appendix A of Standard 60 that permits the development of tox end points where none exists.

Q. Okay. Has that toxic establishment of the toxic end point been done for the compound of fluosilicic acid?

A. Yes. And through the development of end points or the referencing of end points with -- with respect to the products that actually end up in the drinking water.

Q. It's based on the components of the compound,

right?

A. Correct.

Q. Not on the compound itself?

A. Yes.

Q. And that's because it's based upon the belief that it's entirely soluble when put in water?

A. The -- the dissociation of the chemical in water and the ingestion of that water into a very acidic stomach would guarantee dissociation and as a result would -- we would be exposed to the individual components which are regulated.

Q. Have you performed any -- this might mean -- personally. Have you personally performed any studies, laboratory studies which show come establish the dissociative products of HFSA?

A. No. Not that I know of.

Q. Are you aware of NSF having performed any laboratory studies of the dissociative products of HFSA?

A. No. Not that I know of.

Q. Are you aware of any study, other than the Crosby study, which establishes the dissociative properties of HFSA?

A. None.

Q. Are you aware of studies which show that as high as one third of the HFSA does not dissociate in

water?

A. I am not aware of that.

Q. If you were made aware of those, would that be a concern in the development of end points relating to HFSA?

A. Rephrase the question, please.

Q. If you were made aware or if the NSF was made aware of scientific literature which establishes that HFSA does not totally dissociate in water, would that be a concern in the establishment of end points for HFSA?

A. That -- any scientific data that is produced along those lines would be certainly looked at to determine whether NSF needs to revise its approach to this.

Q. Okay. Because if it were shown that it did not totally dissociate, we would need to have an end points for the compound itself; isn't that correct?

A. That would be correct.

Q. Okay. Does -- under Standard 60, does NSF International have any requirement to inform consumers?

A. There is nothing in the standard or the certification program that requires us to inform consumers.

Q. Okay. Are there any sort of -- is there any sort of requirement Standard 60 or at NSF generally

which requires public notice of reviews of water additives?

A. No. Unless, for whatever reason, there is a -- a product failure and that product enters the marketplace and is noncompliant with the standard and the only way to advise the users is through a public notice.

Q. Okay. Now, if a -- if a facility received NSF certification for its hydrofluosilicic acid compound and six months later it turned out that the content was far in excess of NSF certification standards, would that product still be NSF certified until the next audit?

A. No. There is a procedure in place to retest products to verify the results, and if the confirmation is there, then there would be a -- there is a process that exists that addresses that.

Q. What's that process?

A. I'm not entirely sure what that process is. But it can involve recalling product all the way to public notice, depending upon the -- the nature of the -- the product failure.

Q. It is possible, however, for NSF not to know of a product failure until its next annual audit; isn't that correct?

MR. CRIBBS: I would just interpose an

objection. It may be out of his area of expertise. He testified he's not sure what that process is.

MR. NORDREHAUG: Okay.

MR. CRIBBS: So to ask him that question, I think, is not appropriate for his designated specification.

THE WITNESS: Maybe it would help if I describe the process, which is that we sample products during the unannounced audit and those results are typically turned around in less than a month, and we would act on that information immediately. So there would not be any period of time during which we knew after product failure and we were either just going to wait a minute until the next annual audit.

BY MR. NORDREHAUG:

Q. I understand that.

My question is more, is it -- isn't it possible that NSF would not be aware of a product failure for up to a year?

MR. CRIBBS: Same objection.

You can answer it, if you understand what he's asking.

THE WITNESS: Technically, a product that went out of spec could for some time until it was sampled and tested again be out of compliance.

BY MR. NORDREHAUG:

Q. Okay. Are you aware of circumstances in which the certification of a specific facility was revoked by NSF International with respect to HFSA?

A. I'm not aware of -- of any.

Q. Okay. Are you aware of where HFSA comes from?

A. Yes.

Q. What type of industry products result in the HFSA that's being certified by NSF?

A. My understanding is that it is a phosphate rock by product.

Q. Is that -- does that occur during the mining of or creation of fertilizer. I'm looking for the industry it's associated with, I guess. The phosphate rock industry.

A. Yeah. I believe that phosphate rock ends up not only -- it can end up in the fertilizer industry. It can also end up in the phosphate industry.

Q. Okay. And are sometimes those two the same thing?

A. I think sometimes they are.

Q. Are you aware of how HFSA would need to be disposed of if it could not receive NSF certification?

A. I don't have any knowledge on that.

Q. Does the general public have any role in the

approval process for -- by *NSA for a particular water additive?

A. The standards are always open for public comment.

Q. So public comments except for NSF critique of its Standard 60?

A. Yes, it's always open.

Q. Does NSF maintain a file of those critiques or comments?

A. I believe those -- those comments are maintained in the NSF standards department.

Q. Okay. And how would those -- how are those comments addressed? Do you have any knowledge as to that?

A. It's a little out of my area. However, the -- there is a joint committee --

Q. Okay.

A. -- that oversees the technical development of the standard. And that committee meets approximately once per year to review any potential changes to the standard.

Q. Okay.

A. And as part that review process are -- there are -- any public comments that are received would be considered during that process.

Q. Does Standard 60, does it provide -- I'll get back to that.

Under Standard 60 or another NSF standard, does NSF establish a limitation on contaminants contained in any one product added to the water?

A. I didn't understand the question. Sorry.

Q. Okay. Under Standard 60, does NSF establish a particular limitation for contaminants contained in any one product that's add to the water?

A. I'm not sure I understand your question.

Q. Okay. Well, I guess maybe you referred to them as maybe -- you might have referred to them as end points?

A. Unregulated contaminants.

Q. Maybe I've got the *terminology wrong.

A. When NSF goes to take a sample and it tests that sample, does it establish limitations on what contaminants can be contained in that sample for that product that's going to go in the water?

A. I guess I'd rather not answer the question unless I understand it.

Q. No, I understand. I can rephrase it.

A. Yeah.

Q. I know what I'm asking. I just have to ask around it. Okay.

I guess I've seen -- I've seen the use of 10 percent as a percentage of the US EPA MCL.

A. Yes.

Q. Is that some sort of limitation on the type -- on the amount of contaminant that can be present in a product that's going to be added to the water?

A. The 10 percent is -- we are typically talking about 10 percent of the MCL --

Q. Okay.

A. -- which is the regulated level in the finished drinking water. We typically under the MAL or what is now termed the SPAC, which is the single product allowable contaminant -- concentration, that any one product can only contribute up to 10 percent of the MCL. And that is done as a safety factor because other direct additives might also contribute that same contaminant.

Q. So if you had 10 additives and they all give you over 10 percent, then suddenly you're over 100 percent?

A. Correct. So it is a safety factor that's built in where the other sources into the drinking water might not be known or there might be multiple chemicals being used.

Q. Okay. How come NSF International didn't use public health goals instead of MCLs as their base for

the 10 percent requirement?

A. I'm not sure I understand what public health goals.

Q. I'm sorry. I used a state word. Maximum contaminant level goals. How come those were not used instead of maximum contaminant levels?

A. The standard requires comparison against the MCLs.

Q. My question is is, why wasn't a more protective requirement, which would be based on the US EPA MCL goals -- how come that wasn't used instead of -- instead of the MCL?

A. I guess that would go back to the joint committee that developed the standards feeling that it was most appropriate and protective of the public health that one-tenth of the MCL be used.

Q. You mean using one-tenth of the MCL is more protective than the using one-tenth of the MCL goal?

A. No.

Q. It would be more protective to use one-tenth of the MCL goal, wouldn't it, in most cases?

A. In most cases, the MCL goal is less than the MCL.

Q. And do you know why that is?

A. I believe it's because the MCL goal is an ideal

and not necessarily achievable number whereas the MCL incorporates when the EPA establishes the MCL, it incorporates other practical and practical issues.

Q. Such as feasibility of removal?

A. I don't know all of what they consider because I've never participated in that process.

Q. Okay. But you don't know -- do you know the particular reason why the joint committee used the EPA's MCL instead of the US EPA MCL goal?

MR. CRIBBS: Kyle, I think we're clearly out of his designated scope here.

MR. NORDREHAUG: As long as he doesn't tell me he doesn't have any knowledge why -- he's going to talk about why is standard 60 is promulgated and that seems like the core issue here.

MR. CRIBBS: Not what your last question is. If he knows.

THE WITNESS: Could you rephrase the question.

BY MR. NORDREHAUG:

Q. My question is, you said that the use of the MCL for the 10 percent requirement was set forth in the Standard 60 by the joint committee. And I'm wondering, have you seen anywhere, were you present at any time, or have you read anything that indicates why the US EPA MCL was *represented and not the US EPA MCLG or MCL goal?

A. No, not specifically.

Q. Is the percentage that we talked -- the 10 percent that we just talked about always based on percentage, or I guess I should say, do you have another name for that 10 percent? I keep referring to as 10 percent. Did you call it an MAL or a single product?

A. Single product allowable concentration.

Q. Let me write that down so I use the right word.

A. All those terms are in the glossary in the front of the standard.

Q. Okay. Now, with respect to the single product contaminant rule, do you -- is that always based on a percentage of the US EPA MCL?

A. For the regulated contaminants, it is almost always 10 percent. There may be occasions where it is different than the 10 percent.

Q. Why is that?

A. If it can be shown that there are few or no other sources of that same contaminant, then the reviewers would be able to use or be able to justify a slightly higher exposure than 10 percent with the understanding that the at the tap exposure would not exceed the MCL.

Q. What is the purpose of a lower standard for the single product contaminant? What's the purpose of

lowering that below or above -- to a point where it's above 10 percent of the MCL?

A. Where it would not be practical or efficacious to use a concentration of the product if the contaminant level were maintained at 10 percent.

Q. Okay. Which contaminants has NSF established a lower level than the 10 percent MCL?

A. There may be several that I don't specifically know about. But in the case of flouride with an MCL of four, 10 percent would mean .4. Where -- but that is one of the exceptions where 1.2 milligram per litre is the -- is the SPAC, is the single product allowable concentration.

Q. So with respect to HFSA, the only substance which you're familiar -- of which you are aware that the SPAC was set lower is flouride? I say "lower." I guess, higher?

A. Higher. Yes.

That is the only contaminant that would -- would have been set higher.

Q. Does NSF Standard 60 provide for any incidents where the restrict -- where the SPAC can exceed 10 percent of the US EPA MCL?

MR. GREEN: You just asked that one before.

MR. NORDREHAUG: I thought I did. That's why I

was looking at myself quizically.

BY MR. NORDREHAUG:

Q. Who at NSF International determines whether exposures to other sources of a contaminant are not significant or significantly reduced so that additional exposure above the 10 percent is appropriate for a SPAC?

A. The toxicology department at NSF makes all of those decisions.

Q. Do you know -- do you have any knowledge as to what they consider or what they did in the case of fluoride?

A. They -- as far as I know, they didn't deviate from EPA prescribed end points, meaning the MCLs for the regulated metals and the 1.2 for the flouride.

Q. Okay. I guess in -- and do you know, in creating that -- that SPAC level for flouride, do you know whether they did so in part because the possibility of exposure to flouride from other sources is not significant or fairly minimal, something like that?

MR. CRIBBS: I think that might call for speculation, and it's out of the area of his expertise.

If you have an answer, you can answer it.

THE WITNESS: Yes, I don't know whether -- let me rephrase that. I don't have any knowledge of how the 1.2 specifically came about.

BY MR. NORDREHAUG:

Q. Was that one of the considerations of which you are aware of, though?

A. As I mentioned earlier, that would be one of the considerations in deviating from the 10 percent for any chemical.

Q. Do you know whether -- I guess I'm referring to Exhibit no. 2, which is your letter to Congress. And it says here on page 6, which I will hand to you and show you the -- if I could point -- direct you to this paragraph right here. And I guess that's my question: In regards to flouride, was it a consideration that -- was it documented that a limited number of sources of the contaminant occurred in drinking water with respect to flouride, or fluoride-bearing additives, I should say?

A. I'm looking at page D-7 --

Q. Okay.

A. -- of Standard 60. And it is a -- established there that the MCL for fluoride is four milligram per litre and that the single product allowable concentration is 1.2 milligram per litre.

Does that answer the question?

Q. Well, I guess my question is, more specifically, I'm very curious about the statement to

Congress where it says that when they asked about fluorine-bearing additives, it was written that it would -- NSF only deviates from the one-tenth of the MCL rule when the product can be documented that a limited number of sources of the contaminant occur in the drinking water. And I want to know if that was done with respect to flouride. Was that documented?

A. I can't recall whether the 1.2 or 30 percent as opposed to 10 percent came about as a result of NSF deriving that number or whether that had already been derived by EPA and how it made its way into the standard.

Q. Okay. I'm just looking for the source of that statement right there. When it -- unless it can be documented that a limited number of sources in the contaminant occur in the drinking water, I mean, was -- to your knowledge, was that documented with respect to flouride?

A. I don't know.

Q. Okay. In this letter, you indicated that you -- that NSF has begun testing for radionuclides, and this letter is dated 2000.

Have you guys found any since then in HFSA?

A. Not that I'm aware of.

Q. All right. Would you be aware as part of your

duties if a substance had turned up even a trace amount of that radionuclide.

A. I guess one thing I should clarify is that my current position no longer involves oversight --

Q. Okay.

A. -- in the drinking water additives area.

Q. Okay.

A. However, it is my understanding that we have not found any radionuclides in the HFS products that we have tested.

Q. How specifically does the manufacturer get on the NSF list? Is that what this --

A. In order for a manufacturer to have their facility and specific product listed in the NSF listing book or online web listings, they need to apply for product certification. NSF needs to review that application. We need to visit the production facility.

We confirm the details that are provided to us in the application form. We sample product. We bring it back to the laboratories. We conduct the testing.

The results are reviewed by the toxicology department, who then issues a decision on whether to certify or not certify. The -- if the -- if the decision is to certify, the manufacturer receives a certification contract that -- in which they spell out

that they agree to the terms of the certification and that they will not make changes without notifying NSF in advance, and that product is then entered into the listings database.

This book is published approximately once per year. The online lists are updated on pretty much a daily basis.

And then they go into the maintenance program where they are inspected annually unannounced. I will add that the companies that we certify under fluoridation chemicals -- in all of the chemical categories, there are producers and then there are re-packagers and blenders and the like.

So a -- a manufacturer's product may actually be tested more than once per year because we may visit the production facility and take samples there, but at the same time, we will go to a repackager's facility or a distributor's facility and sample product there as well. So the same product might be tested more than once per year.

Q. Okay. Now, does -- does it ever occur that NSF has the producer provide a sample instead of NSF physically going there and taking a sample?

A. I -- I don't know, but I -- I -- if it -- if it does happen, it's on a rare occasion.

Q. Does NSF Standard 60 require that a mining operation send in one sample per year of the substance for which they appear as a manufacturer on the approved list?

A. The standard does not specify testing frequency.

Q. Okay.

A. The NSF certification policies require testing frequency.

Q. Okay.

A. The standard is simply for the product. Whether it's sampled daily or once every 10 years, it makes no difference.

Q. Are all the manufacturers on the NSF list of approved manufacturers for HFSA, have they submitted -- have they all submitted their annual representative sample or provided their sample this year in compliance with Standard 60?

A. My -- my understanding is that for the last complete year that every manufacturer would have been inspected and a sample taken.

Q. Have you heard about anybody being recently in default of that obligation?

A. I have not. But I'm not in the day-to-day operation of that program.

Q. I understand.

Under Standard 60, what is the meaning of the term "maximum use level"?

A. For the finished product as it is received or shipped, the maximum amount of product that that certification is good for.

Q. Who establishes this maximum use level?

A. It is specified on the application form that the -- national manufacturer completes.

Q. Okay. And how is the maximum use level determined?

A. The standard -- the -- let me rephrase. The product in general can be added to a level in which none of the contaminants or the specific ingredients exceed the levels indicated in the NSF Standard 60.

Q. Okay. Is it fair to stay that the maximum use level is established at different levels for different substances depending on how -- the substance makeup itself?

A. Are you talking about, let's say HFS across all manufacturers?

Q. Yeah. I guess I -- I guess the makeup of the various HFSAs varies. Does that affect the maximum use level?

A. Yes, it can. You can end up with a variation

depending upon how much water content there is within an additive.

Q. Okay. Do you know what the maximum use level is for a 23 percent solution of HFSA?

A. It will range in the six to six and a half part per million.

Q. Do you know what the maximum use level is for sodium silicate flouride?

A. The maximum use level for sodium silicate flouride? I don't offhand.

Q. Okay.

A. But it's -- I think it's listed in this book.

Q. Okay. Would that be true for sodium flouride as well? Do you know offhand the maximum use level?

A. I don't know.

Q. Okay.

A. But it is -- again, either looking at the standard or the listing book, we could find out.

Q. Okay. Fair enough.

Do you know whether -- if HFSA had an identical contamination percentage as silicate flouride or sodium flouride? Will the maximum use level for fluosilicic acid, or hydrofluosilicic acid, result in a higher ultimate contamination level than --

A. You lost me.

Q. Well, I guess, here's my question. You have -- you have use levels and they're designed to achieve particular concentrations and an end result in the water. And sodium fluoride's maximum use level is not the same as HFSA's.

Assuming they both had the same contaminants and you used each appropriately, which one would result in an ultimately higher contamination rate in the water itself? If they had the same -- if sodium fluoride and HFSA each had the same contaminant percentage for arsenic and then both were -- one was used in one set of, you know, one water supply, and the other one was used in the other water supply, all things being equal, do you know whether the arsenic contamination level would vary between the two in the end result product?

MR. CRIBBS: Objection. It's vague and ambiguous; it's an improper hypothetical.

If you understand the question and you have an answer, you can answer it.

THE WITNESS: I can -- I don't know what the maximum use level is for sodium fluoride. In fact, I -- I'm not even -- I don't know if there is a listing here for sodium fluoride. But I may be able to give you have an answer for that.

I do have reading glasses here somewhere that

are going to help me.

These are listed alphabetically so -- this is the index. There are three manufacturers listed for sodium fluoride. Page 332. And sodium flouride has a maximum use level of 2.3 for one company. Page 374. A second manufacturer has a maximum use level of 2.3. And a third has sodium flouride at 2.3. So all three manufacturers listed have a maximum use level at 2.3.

BY MR. NORDREHAUG:

Q. Okay.

A. Your question was with the same contaminant concentration is in each product.

Q. And the flouride level you're achieving at the end result is the same, which one results in a higher delivery of arsenic?

A. The -- if I could, the fluosilicic or hydrofluosilicic acid is listed in the six range. I guess I'm not sure because you do have to add more of the sodium flouride in order to achieve the same flouride concentration.

Q. Is that what the two means, the two means you add more?

A. The 2.3 means that your -- and I think that's where the difference lies, is that the sodium flouride is a dry compound, whereas the hydrofluosilicic acid

contains 75 percent water.

Q. I see.

A. And so you -- I guess if you made two solutions of 25 percent flouride, either sodium flouride or HFSA, in that case, if that's what we're talking about, then the sodium flouride would contribute more contaminant.

Q. Okay.

A. Does that answer the question?

Q. Yeah.

I guess I need -- what -- the 2.3, what is the, I guess, the suffix to that? Milligrams per --

A. Litre.

Q. Per litre?

A. Correct.

Q. Okay. And is that reference to the dry substance?

A. I believe that it is. I think the sodium flouride, the sodium would indicate that it is a dry compound.

Q. Okay.

A. The sodium *fluosilicic acid.

Q. No other silicate?

A. Fluoro silicate, yes, that would be a dry compound. So if you were comparing those two --

Q. Right.

A. -- the sodium fluoro silicate would -- actually contributes more fluorine equivalent than does sodium fluoride on a weight basis. I think.

Q. What percentage of sodium flouride is flouride?

A. You would take the atomic weight of the fluorine atom and divide it by the atomic weight of the sodium and the fluorine atom multiplied by 100 percent.

Q. Does NSF Standard 60 require municipalities to notify NSF of any incidents for which the maximum use level of HFSA is exceed?

A. We have no requirement along those lines that I know of.

Q. Does NSF Standard 60 or another NSF regulation provide for any enforcement of compliance with respect to the maximum use level?

A. Not that I know of.

Q. Are you aware of any governmental enforcement procedures that are applied to the maximum use level or used to enforce it?

A. My understanding is that state regulations that specify that certified products only be used also covers or it implies that they be used properly.

Q. Okay. Are you aware of incidences in which consumers of drinking water have become ill or hospitalized or as a result of overfeeds from

fluoridation chemicals?

A. I don't have any knowledge of that.

Q. Let me ask you a question about this document right here. Exhibit no. 2. And I'm looking up here at the question no. 2 regarding NSF standard requirement 3.2.1.

Is this still a, you know, requirement of NSF Standard 60? 3.2.1?

A. My understanding is that when we are dealing with products that are not on established lists with established toxicology end points, that this additional information is required.

Q. Okay. So 3.2.1 has not been applied in the case of HFSA? Are you aware?

A. I'm rereading the question. I want to see if the reference is still current. Because that's a 1999 standard. 342. The current requirements, general requirements of the 3.2, which is 3.2.1 specifically, manufacturer shall submit at a minimum the following information for each product, a proposed maximum use level for the product which consistent with requirements of an exhibit *[SFPLT/]. A complete formulation information which includes the composition of the formulation. The reaction mixture and that's if applicable. Chemical abstract number, chemical name

supplier for each chemical present in the formulation. A list of known or suspected impurities within the treatment chemical formulation and the maximum percent or parts by weight of each impurity. Description or classification of the process in which the treatment chemical is manufactured, handled and packaged. And then there are a couple more selected *spectra and then when available list published and under published tox studies relevant to the treatment, et cetera.

Okay. I'm sorry. I just needed to refresh what --

Q. Sure.

A. -- that was.

Q. My question was, so -- what I was following up on your other statement, so was that requirement not followed with respect to HFSA?

A. My answer at the time in 2000 was that the standard requires the manufacturer of a product submitted for certification provide toxicological information, if available. NSF requires that manufacturers seek certification to the standard submit this information as part of their formulation or ingredient supplier submission. And in general, that's true. But there are many -- there are many compounds where -- rephrase your question.

Q. My question is, you mentioned certain circumstances where under certain circumstances that was not necessary. You *have said established manufacturers, I think, established products or -- and so my question is, is HFSA one of those products?

A. HFSA is one of the products listed in the standard that has designated contaminants to be tested for.

Q. Okay. But does it have -- prior to approving a manufacturer, does NSF require the manufacturer to provide a list of published and unpublished toxicological studies relevant to HFSA and the chemical * impurities present in HFSA?

A. I would say that the HFSA submissions have not come with the tox studies referenced.

Q. Okay.

A. However, that is -- since that is not my department, I probably should defer that to the people in that department.

Q. Okay.

MR. NORDREHAUG: Let me take a quick break here. I need to sort of square up what remaining areas I want to cover and we can get -- take a ten-minute break and I can check on the air conditioner.

(Recess taken.)

MR. NORDREHAUG: All right. If we can go back on the record.

BY MR. NORDREHAUG:

Q. I just wanted to ask you a little bit of background that I missed before.

When were you first retained to give your opinion in this case?

A. I don't know exactly. It was, I believe, last fall. But --

Q. Okay. And what were you asked -- what were you asked to do? Were you given any assignment or --

A. I -- I don't recall there was an assignment other than we were probably going to be asked to testify in this case.

Q. Okay. What were you told you were going to testify regarding?

A. The development of our standards process and the process for certifying drinking water chemicals.

Q. Okay. Now, in terms of -- other than the fluoridation substances we've talked about, are there any other chemicals that NSF certifies that are intended to be used to treat humans? Medically, I should say. As medical treatment of humans.

MR. CRIBBS: I would object as to the relevance of the question.

But you can answer.

THE WITNESS: I don't know of -- I don't know.

BY MR. NORDREHAUG:

Q. Now, does Standard 60 apply to substances that are being used to treat the -- to disinfect the water the same as it does to substances that are being used to treat dental caries?

A. I'm sorry. Repeat the question.

Q. Does -- is Standard 60 applied -- are the requirement of the Standard 60 the same regardless of whether the water additive is for disinfective purposes or for purposes of treating dental caries?

A. The -- I think all of the certification processes differ just a little bit depending upon the chemical compound in question.

Q. Okay.

A. They each have -- there are five or six main categories of products. There are probably upward of 15 to 20 different prep- -- sample preparation. And there are a multitude of different analytical methods used for the various contaminants.

And does that answer the question?

Q. It does.

Are there any additional requirements or studies that are performed with respect to a chemical

that's being used to treat a -- dental health issues in humans as opposed to disinfecting the water. That's what I'm looking for. Anything you know of that's done extra because of that reason.

A. The -- I don't know of any additional testing that we perform.

Q. Does NSF International do any testing to establish the efficacy of the flouride-bearing compound for purposes of treating dental health or dental caries?

A. Not that I know of.

Q. Do you know -- is this -- I'm going to mark this as Exhibit no. 6. And I just wanted to ask you if this is a copy of your resume.

A. Yes, I believe that it is.

Q. Is there anything relevant to this litigation that's not on there? If you want to take a minute and look at it to see if there's anything you've added to it recently.

A. No. This looks pretty much like our CV on file.

Q. All right. Who did you talk to when you were first retained in this case?

A. I believe the first contact was by Karen Freid.

Q. Okay. And how many times have you talked to the attorneys from the AG's office?

A. I don't know. Half a dozen times.

Q. Have you been asked to formulate any rebuttal to any of the experts -- other experts in this case that represent the plaintiffs?

A. We -- we were shown a -- we were provided with copies of the motion for summary judgment and a rebuttal to that where there were some specific issues that dealt with NSF and its procedures, and --

Q. Are there any of those issues that you intend to give rebuttal to at trial as part of your opinion?

A. There -- there were -- there's one comment that stood out, and that is that NSF is a consortium of companies, and I think that the way that NSF as an organization was characterized was inaccurate and I believe that that needs to be corrected.

Q. Okay.

A. We are an independent third party and we are not -- I forget exactly what the term was. We're not an organization of companies, of manufacturers.

Q. Are there any contributors to NSF, whether it be the committee members or employees, who have afilliations with manufacturers of products certified by NSF?

A. The -- there are different committees where manufacturers, regulators, and product users all participate. For instance, there are certain task

groups that are sometimes assembled to develop analytical methods. The joint committee is actually a balanced group of manufacturers, regulators and product users, and those are the folks that develop the standard.

However, in order to make sure that there are no industry interests that would put public health at risk, all the standards are reviewed by the Council of Public Health Consultants which are all either governmental health regulators or academicians with no affiliation to industry.

Q. Does NSF International have any sort of conflict of interest policy?

A. I believe there is a policy, but specifically to what you're asking, I'm not sure.

Q. Does NSF International require any sort of disclosures for people to -- who are on committees to -- to certify under oath or under penalty of perjury what their affiliations are --

A. I -- I don't know.

Q. Okay. How are the joint committee members selected for the Standard 60 development?

A. There is a chairperson, and I believe that there's a -- there's a nomination process. But the goal is to maintain a balanced committee between, again,

manufacturers, regulators and users, such as water utilities. The specific nomination process, I -- I'm not up to date on.

Q. Are you familiar with the producer members of the standards committee on flouride?

A. No.

Q. Are you familiar whether or not it's a Cargio Fertilizers has members on the standards committee for flouride?

A. I'm not aware of them, but then again item not close to the standards or the certification process. And again, the standard is to cover hundreds of different chemical categories, not just flouride. And they -- the one committee addresses all the products in the standard.

Q. Are you aware that Cargio Fertilizer is a leading producer of flourine chemicals in the United States?

A. I'm not familiar with that.

Q. Do you have any affiliation with Cargio Fertilizer?

A. Personally?

Q. Uh-huh.

A. No.

Q. Have you ever met with anybody from Cargio

Fertilizer in the course of your activities at NSF International?

A. I may have.

Q. Can you recall any specific time you met with somebody?

A. No, I cannot recall.

Understanding that there are a lot of meetings, a lot of --

Q. I understand. I understand. I mean, I -- if it doesn't stand out to you, then probably not a meeting that had much substance.

Is the NSF Standard 60 intended to be a substitute in any way for -- for FDA approval of a medication?

A. No. It's -- it's entirely EPA jurisdiction. Drinking water is under the auspices of EPA.

Q. Not drinking water additives, though.

A. Drinking water additives as well.

Q. Are regulated by the EPA?

A. They were given -- in 1979, under a memorandum of understanding between EPA and FDA, EPA was given responsibility for drinking water and additives into drinking water. And since that time, 1979, that's when EPA took on that role and with the understanding that they would carry out certain tasks and they did not

accomplish all of that, which is one of the reasons that they decided to let the private sector develop the standards, which leads to the 1984 Federal Register notice to develop these standards and the certification program. So drinking water --

Q. Currently --

A. I'm sorry.

Q. Currently --

A. Yes.

Q. -- does the *FSA -- I mean, does the EPA regulate or approve drinking water additives?

A. They do not approve drinking water additives. But they do have responsibility for drinking water quality and safety.

Q. In terms of their contamination MCL promulgations?

A. Yes. They were, I believe, identified as the agency responsible for carrying out the Safe Drinking Water Act.

Q. If -- is it mutually exclusive in your mind that if something is both a water additive and a medication, that it wouldn't be regulated by both agencies?

A. I guess I don't have the background to really address any FDA issues.

Q. Well, you gave the opinion that the FDA doesn't regulate drinking water additives, and I was just wondering what did you base that on?

A. Strictly on the 1979 memorandum of understanding where -- where it was the drinking water and additives to drinking water were deemed the responsibility of EPA and both had water, and other food compounds were FDA. And that -- that is what my comment is based on.

Q. Have you seen anything -- take that back.

The witness for the Department of Health Services testified that his only consideration for issuing the permit in this case to the City of Escondido for their selection of a flouride substance was based upon whether or not the manufacturer was on the NSF approved list.

Is that a proper method of selecting the substance to use in this water system, in your mind?

MR. CRIBBS: Let me just interpose an objection to it that that, I'm assuming, is the paraphrase of the testimony.

MR. NORDREHAUG: Paraphrase.

MR. CRIBBS: We don't have the testimony in front of us. That hinges on a hypothetical. So I would say that that deposition testimony speaks for itself

which we don't have in front of us. So for him to comment, he's commenting now on your paraphrase.

MR. NORDREHAUG: On my representation.

MR. CRIBBS: That's fine.

If you understand the question, you can answer it.

THE WITNESS: If you could repeat --

BY MR. NORDREHAUG:

Q. I'm representing to you that the city's -- the Department of Health Services personnel testified that their only consideration was whether or not the manufacturer appears on the NSF list in granting a permit for a municipal water utility or system to use that substance.

And my question to you is, given my representation, in your mind, is that a complete and accurate or a complete and proper way of determining which substance to use in a water system?

A. I think it's a -- I think it's a key factor in determining which product to use. There may be other issues, such as existing water quality, equipment, costs, and the like that also impact the final decision as to which products to use. But certainly a key and if -- probably the major criterion to use is that the product be certified.

Q. Does NSF play favorites between certified substances or, once certified, all substances are equal to them?

MR. CRIBBS: Vague as to "play favorites." I'm not sure he knows what that means.

If you know what that is, answer the question.

THE WITNESS: Okay. All companies are treated the same. And for the most part, it is an invisible process. It's -- we don't play favorites or -- if that's what you mean.

BY MR. NORDREHAUG:

Q. Yeah.

Would it be fair to say that NSF doesn't advocate the use of one approved substance over another approved substance?

A. Correct.

Q. Now, with respect to HFSA, how are the -- this is fun.

How are the specific contaminants chosen for testing?

A. They are listed in the standard.

Q. Okay.

A. And the specific page number is page 25 --

Q. Okay.

A. -- of the standard NSF ANCI 60 - 2003 E. And

that table 7.1 specifies that for fluosilicic acid, metals and radionuclides be tested.

Q. Do you know how those contaminants were selected for that chart?

A. Most, if not all, drinking water treatment chemicals are tested for regulated metals.

Q. Okay.

A. The radionuclides testing is typically performed on mined substances where there may be a radionuclides issue. And so it's appropriate that these mined substances have metals testing and radionuclide testing.

Q. Okay. Do you have any knowledge as to why other contaminants or other possible contaminants weren't on that list?

A. No.

Q. Okay. Are you familiar what an overfeed is in terms of fluoridation?

A. What an overfeed is?

Q. Yes.

A. Self-explanatory? Where you feed more than you intended to?

Q. Yeah. Would it be fair to characterize that as a situation where more than the maximum use level was put in?

A. I don't know. We're not involved in the application after product.

Q. Okay. Do you intend to give any opinion regarding overfeeds or the prevention thereof under NSF standards?

A. That's really not under our --

Q. Okay.

A. -- purview.

Q. Okay. It's -- is it because, as you said before, NSF presumes that the substance will be used properly as well?

A. Correct.

Q. Does NSF Standard 60 require that toxicological data submitted under general requirement 3.2.1 be disclosed to interested parties, such as municipalities, city councils, medical community?

A. No. I believe -- I believe it's not required that we disclose that information. In fact, applications with that information are considered confidential business information.

Q. So it's possible that if such -- that toxicological data submitted pursuant to Standard 60 by the manufacturer might not be available because it's confidential it might not be publicly available?

A. All submissions to us are considered

confidential. However, there's -- there's the -- the purpose of that is to protect proprietary processes as opposed to health-related issues.

Q. Okay. Are you aware -- are you personally aware in this case whether or not NSF International provided toxicological data to the Department of Health Services or to the City of Escondido?

A. No.

Q. Okay.

A. Beyond the exhibits that you see here.

Q. Okay.

MR. NORDREHAUG: Okay. I don't have any further questions: Well actually let me ask a couple more questions just got to clean these. Is there anything else that you feel like you need to ream view or look at before you complete your work in this case?

A. Well, I did want to go back to I think the last questions that -- before the break that we had wherein we talked about the 3.2.1. I felt that my -- my answer was -- needed to be qualified and I was hoping we could go back to that point because I -- if you could read.

MR. NORDREHAUG: I don't know if it's -- she'll have to scroll through a whole bunch of stuff. But if you just want to tell me what your comment is there then --

THE WITNESS: I believe that the way that you phrased the question resulted in my trying -- in my trying to answer it where you -- you said the, you know, did we follow the letter or the specific procedure outlined. And I want to point out that it's when available, and in my answer to Congress in 2000, it's if available, that the toxicology information is -- it's if and when available. And I wanted to -- to try to clear that issue up.

BY MR. NORDREHAUG:

Q. Okay.

A. Okay?

Q. So what you're saying is NSF doesn't require them to go out and perform the data and engage in experimentation, they simply require disclosure of information that's known to them already?

A. Right.

Q. Okay. Has anybody else assisted you in preparing your opinions in this case? Other than Mr. Cribbs and Miss Freid?

A. Yes. I talked with the director of toxicology at NSF.

Q. What was his name?

A. Cliff McClelland.

Q. Okay.

A. And the current program manager that oversees product certification, Dave Purkiss.

Q. What did you talk to the director of toxicology about?

A. Primarily to refresh my memory, since I have not been in this job for three and a half years to go over the letter to Congress in 2000 and refresh myself with certain issues related to this. Certain terminologies within the standard have changed a little bit.

Q. Okay.

A. And just so that I could be as up to speed on the issues as possible.

Q. Did you talk to him in particular about any toxicological issues with respect to FHSA compound?

A. We did. We discussed the -- the process by which the product is made, the -- the dissociation issues and the -- the testing requirements.

Q. Did he tell you that the product difficulties associates entirely?

A. That was -- that was previously known to me --

Q. Okay.

A. -- based on 196- -- I forgot.

Q. What did you talk about in terms of the *dissociative products then. And the dissociation?

A. Well, I believe that one of the -- it was either a deposition or a record that indicated that no -- that NSF failed to follow its own Standard 60 procedures, and because we had no tox data on the HFS, then that was -- we discussed again how the tox -- toxicology department fulfills the Standard 60 requirements by relying on the individual MCLs for the -- for the different elements within HFSA.

Q. Are you aware that the FDA when it looks at the safety and efficacy of medications does not look at the compounds in separate components but looks at it as a whole due to synergistic effects?

MR. CRIBBS: Let me interpose an objection as to its relevance and as far as beyond the scope of your expertise. But if you understand and are aware, you can answer the question.

THE WITNESS: I don't know about the FDA procedures.

MR. NORDREHAUG: Okay. I don't have any further questions. I appreciate you coming here. I think if we can get exactly how long this depo was, we'll -- you can submit a bill to me with your taxpayer IDN and you'll be paid.

And if we can agree that, what, we send the deposition to you, Greg?

MR. CRIBBS: Yeah, that's fine. I'll take it.

MR. NORDREHAUG: He'll provide you with the original. You'll have 30 days to review it. I think that'll get us there before trial. And provide any corrections you may have to Mr. Cribbs and give them to him.

THE WITNESS: Okay.

MR. NORDREHAUG: All right. Thank you very much.

THE WITNESS: Thank you.

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