BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
VOLUME 1

IN THE MATTER OF:	)	
	)	
CONFORMING AMENDMENTS	)	
FOR THE GREAT LAKES	)	R97-25
INITIATIVE: 35 Ill. Adm.	)	
Code Part 302.101;	)	
302.105, 302.Subpart E;	)	
303.443 and 304.222	)	

The following is the transcript of a rulemaking hearing held in the above-entitled matter, taken stenographically by KIMBERLY A. SMITH, CSR, CRR, RDR, a notary public within and for the County of DuPage and State of Illinois, before Marie Tipsord, Hearing Officer, at 100 West Randolph Street, Room 9-040, Chicago, Illinois, on the 19th day of May, 1997, A.D., commencing at the hour of 10:15 a.m.

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

HEARING TAKEN BEFORE:

ILLINOIS POLLUTION CONTROL BOARD,
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(312) 614-4925
By: MS. MARIE TIPSORD
HEARING OFFICER

ILLINOIS POLLUTION CONTROL BOARD MEMBERS PRESENT:

Dr. Ronald C. Flemal
Mr. Joseph Yi
Dr. Tanner Girard

ADVISORS TO THE BOARD PRESENT:

Mr. Anand Rao
Mr. Hiten Soni
Ms. Amy Hoogasian

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY MEMBERS PRESENT:

Mr. Richard C. Warrington, Jr.
Mr. Toby Frevert
Mr. Robert G. Mosher

OTHER AUDIENCE MEMBERS WERE PRESENT AT THE HEARING, BUT NOT LISTED ON THIS APPEARANCE PAGE.

I N D E X

E X H I B I T S

MS. TIPSORD: Good morning. My name is Marie Tipsord, and I've been appointed by the Board to serving as hearing officer for the proceeding entitled "Conforming Amendments for the Great Lakes Initiative," amendments to 35 Ill. Adm. Code 302.101, 302.105, 302.Subpart E, 303.443, and 304.222. The docket number is R 97-25.

To my right is Dr. Tanner Girard. He's the lead Board member in this proceeding. And next to him on his right is Mr. Joseph Yi, who is also a presiding Board member in this proceeding. Then to Mr. Yi's right is Dr. Ron Flemal, also a member of the Board.

Today we also have with us at the far end on my left Amy Hoogasian. She's Chairman Manning's assistant. Next to her is Hiten Soni and next -- to my immediate right is Dr. Anand Rao -- Mr. Anand Rao. Sorry about that.

We also have present from the Board today Chuck Feinen and Amy Muran Felton.

This is the first hearing in this proceeding which was originally filed by the Agency on March 21st, 1997. It is a certified Section 28.2 rule, which means that pursuant to 28.2 of the

Environmental Protection Act, it is considered a required rule. As such, the Board is required to go to first notice as soon as possible but in no case later than six months from the date of filing. This does not appear in the Illinois Register at this time.

The Board on April 3rd, 1997 accepted the proposal, and on May 15th the Board granted in part a motion by the Agency to proceed to first notice after today's hearing. The Board has targeted June 19th, 1997 as the first notice day. Our second hearing will be held on July 28th, 1997 in Waukegan. Copies of the May 15th order are available at the back of the room.

Also at the back of the room are sign-up sheets for the notice and service list. If you wish to be on the service list, you will receive all pleadings including filed appearances and prefiled testimony in this case. Also if you are on the service list, you are required to file an appearance or file with all persons on the service list anything you wish to file in this rulemaking.

If you wish to be on the notice list, you will receive all Board and hearing officer orders

in the rulemaking. Being on the notice list versus the service list does not preclude your ability to participate except in conjunction with where you have to serve orders and things like that and who gets served what. It does not preclude participation in the public hearings.

If you have any questions concerning about which of the two lists you should sign up to be on, please talk to me during a break, and I'll be happy to answer any questions. There are also copies of our current service and notice lists at the back of the room.

The Board received prefiled testimony from the Agency for this hearing along with a motion to accept prefiled testimony.
I grant the motion and accept the prefiled testimony. We will begin with opening statements and then proceed to the Agency's testimony. We will have the Agency read its prefiled testimony into the record at this hearing. We will then allow for questioning of the Agency. If we have time at the end of the day, we will allow persons who wish to testify who did not prefile to testify at today's hearing.

I realize there are some people who may wish to testify at the July 28th, 1997 hearing. We will set prefiling dates at the end of today for the July 28th hearing.

Is there anyone else here who may wish to testify today?

At this time I see no one. I will ask that question again as the day goes on.

At this time I haven't anything.

Dr. Girard, do you wish to say anything?

DR. GIRARD: I would just like to say on behalf of the Board I'd like to welcome everyone here to this hearing today. The Board is appreciative of the considerable amount of work and effort that has gone into this proposal as reflected by what's been filed with the Board. We look forward to a thorough and efficient rulemaking process, and the Board is committed to doing this rulemaking as expeditiously as possible; and hopefully if there are no surprises, we should be finished in November.

Thank you.

MS. TIPSORD: Mr. Yi?

MR. YI: No.

MS. TIPSORD: Dr. Flemal?

DR. FLEMAL: No.

MS. TIPSORD: At this time we will proceed with opening statements.

Mr. Warrington.

MR. WARRINGTON: Thank you. My name is Rich Warrington. I'm the associate counsel for the Bureau of Water with the Environmental Protection Agency; and on behalf of our director, Mary Gade, we'd like to welcome you and thank you for your interest in this proceeding. And specifically we'd like to thank the Board for their attention to expediting and making this rulemaking both quick and efficient.

By way of background, the United States and Canada have been engaged in a dialogue for several years to basically improve the quality of our shared Great Lakes waters. That dialogue reached fruition by the passage of the Great Lakes Critical Programs Act which established a timetable and a requirement for rulemaking on behalf of the Great Lakes states to reduce or eliminate discharge of toxic pollutants to the Great Lakes waters.

Consequently, the United States

Environmental Protection Agency adopted a set of rules known as the Great Lakes Initiative which established numerical water quality standards, establish a procedure for deriving water quality standards that will be protective of aquatic life, of wildlife, and of human health and also establish a set of implementation procedures that would control the application of these new standards.

The United States Environmental Protection Agency promulgated these rules approximately two years ago and established a deadline for their adoption, which technically has passed on March 23rd of this year. The State of Illinois is participating, albeit a bit late. Part of the basic rationale for this delay is that while the other Great Lakes states have thousands of dischargers that will be affected and can potentially improve their discharges to the Great Lakes, the State of Illinois has only approximately 18 dischargers.

Although we may stand to benefit a great deal by improved health for our aquatic species and for human health and wildlife, we simply don't have enough dischargers to make that much of a

difference. And I believe we might hear some comments later today from some of those affected dischargers. So today what we would like to do is present our application of these Great Lakes Initiative rules to the existing State of Illinois system.

We realize that the Board and its predecessors have adopted water quality standards and derivation techniques for these standards that have been quite successful in reducing the amount of pollution going into Lake Michigan. Nonetheless we are under a federal mandate to adopt regulations that are consistent with the federal Great Lakes Initiative.

In order to explain our proposal today, we have hopefully four witnesses. We'll start with Mr. Robert Mosher, who will explain the derivation -- or the establishment of numerical water quality standards.

We have Dr. Clark Olson, who will explain the derivation procedures used to derive criteria and values for the protection of aquatic life, of wildlife, and of human health.

And also, time allowing, we'll have a

presentation by Mr. Toby Frevert on the Agency obligation to adopt implementation procedures to apply these Board standards to NPDES or National Pollutant Discharge Elimination System permittees.

And we have also invited a representative from the United States Environmental Protection Agency to give comments and hopefully answer some questions. She has informed us that she is currently in a meeting with some citizens of, I believe, the State of Indiana, and she will be joining us as soon as possible.

So with that, I think we can turn this over to Mr. Mosher and Dr. Olson.

Would you swear our witnesses?

(Mr. Mosher, Dr. Olson, and Mr. Frevert were duly sworn as witnesses by witnesses by the court reporter.)

MR. WARRINGTON: Can we also add that we've sworn Toby at the same time?

MR. FREVERT: Say "yes" as well.

MR. WARRINGTON: Bob, would you like to start?

MR. MOSHER: My name is Robert G. Mosher, and I'm employed by the Illinois Environmental

Protection Agency as supervisor of the Standards and Monitoring Support Unit of the Planning Section, Division of Water Pollution Control. My responsibilities include drafting and reviewing new and updated water quality standards for use in Illinois and the administration of existing standards, chiefly through the derivation of water quality based limits for NPDES permits.

I have been in my current job title for approximately seven years. In four additional years of employment in the Division of Water Pollution Control, I have been responsible for water quality data management as well as other Standards Unit activities.

Prior to joining the Agency, I was a contract researcher for the Monsanto Company, investigating the toxicity of effluents and sediments to aquatic life in both field and laboratory situations. I also taught biology at Belleville Area College and worked for an environmental consulting firm after graduating from college. I have a Bachelor of Science degree in environmental biology and zoology and a Master of Science degree in zoology from Eastern Illinois

University.

As a result of the Water Quality Guidance for the Great Lakes system, which is known as the Great Lakes Water Quality Standards Initiative or GLI -- and that is found at 60 Fed. Reg. 15366, March 23rd, 1995, Exhibit C -- Illinois is required to adopt into its standards revised water quality criteria and procedures for its Great Lakes waters or be subject to federal promulgation.

The GLI has been a cooperative effort over several years by numerous stakeholders to develop a comprehensive package of water quality standards, narrative water quality standards including derivation procedures, antidegradation regulations, and implementation procedures by applying the latest scientific approaches to the unique environment and problems of the Great Lakes. The intention of the GLI is to find a balance between uniformity among the states while allowing for local flexibility.

With regard to Illinois, Lake Michigan's ecosystem and hydrology, as well as its history of pollution problems, make it unique as far as other waters of the State are concerned. No other

Illinois Lake is as large, as deep or as cold, or has the extremely long retention time as Lake Michigan. The long retention time has exacerbated the major pollution problem of the Lake; the bioaccumulation of toxic substances in fish and wildlife.

Special water quality standards recognizing the singular nature of Lake Michigan already exist at 35 Ill. Adm. Code 302.Subpart E. Water quality standards for substances not specially listed in this subpart are commensurate with the General Use standards of Subpart B and the Public and Food Processing Water Supply standards of Subpart C. While the existing standards apply only to Lake Michigan itself, GLI standards are to be applied to the entire basin or watershed of the Lake.

In Illinois, this watershed has been extensively altered to reduce drainage to the Lake and thereby protect it from pollution. The Chicago and Calumet Rivers no longer empty into the Lake due to the construction of locks and canals that caused the flow to be reversed and head down the Illinois Waterway to the Mississippi. The Deep

Tunnel storm water storage project has ensured that the frequency of storm events that circumvent the flow reversals is minimal.

The bodies of water covered by this proposal have been defined at Section 303.443. Given the differences in hydrology, chemistry, and ecology between the open waters of Lake Michigan and the harbors, areas enclosed by breakwaters, and tributaries to the Lake, the GLI proposes two separate subcategories of waters within the Lake Michigan Basin. Both are covered by the GLI standards but to degrees appropriate to the nature and uses of the specific waters.

Primarily this entails the distinction that the harbors, enclosures, and tributaries will not be used as public water supplies and that these waters historically have not met, and cannot reasonably be expected to meet, the standards originally adopted for Lake Michigan that seem to have been intended to apply to the open water or oligotrophic portion of the Lake. And "oligotrophic" is our lakes exhibiting minimal nutrient enrichment.

For purposes of convenience, most General

Use and Public Water Supply standards, from 35 Ill. Adm. Code Subparts B and C respectively, have been carried over to Subpart E. All applicable standards for Lake Michigan and its watershed are now proposed to be housed together in the regulations. New standards proposed as a result of the GLI are to be added to the existing component.

It is important to note that the GLI and United States Environmental Protection Agency in general refer to "criteria" when discussing concentrations of substances that are deemed protective of various designated uses of waters. These criteria are intended for states to adopt as water quality standards.

Water quality standards now present -- now present in the Board's regulations, and as proposed in this petition, come in two forms. Numeric standards, as described in my testimony, are specific concentrations of chemicals which cover many of the most common substances encountered in the aquatic environment such as metals, common organic pollutants, and several other inorganic molecules. These substances have been extensively studied for their effects on

aquatic biota, human health, wildlife, or other uses of water resources due to their prevalence in the environment or high profile as pollutants of concern.

New research is unlikely to cause these standards to be significantly changed. A high degree of certainty exists in the suitability and correctness of the proposed numeric standards for the Lake Michigan Basin, hence our willingness to propose them as immutable (without future Board rulemaking) numeric standards.

Complementing numeric water quality standards are narrative standards. Section 302.519 is a statement of water quality goals. In essence, this standard states that no substance should be present in the waters of the Lake Michigan Basin in toxic amounts. The substances covered by the narrative standards are all substances other than those listed in the numeric standards portion of the regulation.

However, some substances -- for example, benzene -- are regulated by numeric standards in one portion of the basin and by narrative standards in others. Section 302.519 goes on to provide

directions for determining how the toxic levels of substances are to be determined for various protected uses such as human health and aquatic life.

For aquatic life protection, two tiers or levels of confidence of criteria are created. The word "criterion" it used to express a numeric expression of a narrative standard. Tier I criteria are backed by an extensive database of toxicity information and result in values that are similar in confidence to the numeric standards herein proposed. Tier II values are criteria that are based on lesser amounts of data, and these criteria may have a greater likelihood to change as additional data is collected. Dr. Olson will further describe the components of the narrative Lake Michigan Basin standards in his testimony for this petition.

All the numeric standards hereby proposed for the Lake Michigan Basin, which have their source in the GLI, are derived from Tier I toxicity-based procedures. The standards for lead proposed in 302.504, paragraph (a), are preliminary Tier I standards, however. Some numeric standards

in this proposal for parameters not included in the GLI are based on different approaches. Several standards originally found in Subpart E were designed to protect the unique oligotrophic nature of the open Lake.

In the interest of continuity and to ensure that the high quality of the Lake is preserved, these standards are maintained. Several General Use standards that now are also proposed as Lake Michigan Basin standards are based on other uses besides the aquatic life toxicity, human health, and wildlife uses found in the GLI. The standard for boron, for example, is based on toxicity to terrestrial plants if surface waters are used for irrigation. Barium, fluoride, phenols, and sulfate standards also have nontypical reasons for existence, which do not fall into GLI categories, but nonetheless must be retained as part of a total standards package.

Some existing standards from the Public and Food Processing Water Supply standards of Subpart C have not been carried over to the updated Subpart E. These substances consist of the old generation pesticides that in some cases are

superseded by GLI standards. Where the GLI has not suggested a numeric standard for one of these substances, we have decided that the protection of the Lake is better served by employing the narrative standard.

The narrative prohibition against toxicity provides that a criterion will be derived where a numeric standard does not exist. Given the age of many of the standards in Subpart C, a more scientifically valid protective value will be obtained from the narratives standards than if we were to rely on the existing numeric standards.

In the GLI, numeric standards and equations have been presented for 15 substances for protection of aquatic life for acutely toxic impacts; 14 substances for protection of aquatic life from chronically toxic impacts; 18 for protection of human health, and four for protection of wildlife.

The human health standards are for protection of drinking and nondrinking water use (but including fish consumption in both cases) and also for both carcinogenic and noncarcinogenic events. Numeric standards for the protection of

wildlife are a new concept to Illinois water quality standards. Some substances have a standard for more than one category of use protection; for example, aquatic life, human health, et cetera.

An acute standard for selenium is not proposed at this writing because the criterion in the GLI guidance is being revised. It is anticipated that USEPA will derive a final value before this proceeding is finalized, and we will amend our petition as soon as this criterion becomes known.

Mercury and PCB GLI criteria are presently undergoing challenges in the federal courts. The proposed standards for them given at 302.504 are, therefore, subject to change. The Agency will recommend that the Board adopt the finalized mercury and PCB standards when they become available.

The state of the substance being considered for a criterion is addressed more thoroughly in this rulemaking than in the past. For numerical standards for metals, the freely dissolved form is being proposed as the basis of the standard. However, in most cases there will be

only a slight difference from this -- from the value of the standard based on total metal.

Most of the numeric water quality standards for Lake Michigan are found at Section 304.504 -- I'm sorry. Excuse me -- Section 302.504. Four subsections have been created to distinguish between different applications of the various standards. Subsection (a) provides acute and chronic aquatic life standards and human health standards applicable in all waters of the basin. As in General Use standards, acute standards must not be exceeded at any time outside the zone of initial dilution, and chronic standards and human health standards must not be exceeded by an average of samples outside of a mixing zone.

Subsection (b) standards apply to all waters of the basin except where superseded by a more stringent standards applicable to the open waters of Lake Michigan. As in the General Use standards from which these values were taken, no single sample taken outside a mixing zone may exceed Subsection (b) standards.

Subsection (c) standards apply to the open waters of Lake Michigan. They are applied as

concentrations not to be exceeded in any sample collected outside of a mixing zone. While the GLI dictates that the last nine of the substances listed in Subsection (c) are to be applied on an average basis, we have not proposed this for several reasons.

These nine standards exist mainly to protect drinking water supplies. Averaging should not apply to this use because such standards should never be exceeded. The Lake is large and for that reason water chemistry is fairly stable and, therefore, a single sample should give an accurate indication of conditions. Finally, it would be overly burdensome to require numerous collecting trips to the open waters of the Lake to obtain water quality data, given the large expanses of water present. These nine substances are regulated through the narrative standard in the nonopen water portions of the Lake and its basin for uses other than drinking water.

Subsection (d) provides standards for bioaccumulative substances. These apply everywhere in the basin. As in Subsection (a), acute standards are not to be exceeded by any single

sample collected outside a zone of initial dilution. Chronic human health and wildlife standards are applied as averages outside a mixing zone. Establishing standards for, and working toward the elimination of, bioaccumulative substances is the primary goal of the GLI. For this reason, mixing to allow compliance with these standards will be eliminated from consideration by March 23rd, 2007.

Ammonia standards are given at 302.517. The existing Lake Michigan standard is preserved as the open water standard. This very low concentration of total ammonia (as nitrogen) was never achievable in the harbors and enclosures of the Lake. The proposed regulations utilize the recently adopted General Use standards for these in-shore areas and the tributaries of the watershed. Recent developments in the review of ammonia water quality standards lead us to believe that the General Use standards will be protected -- protective of the trout and salmon that occasionally may be found utilizing in-shore habitats.

MR. WARRINGTON: Thank you Mr. Mosher.

Do you want to start questions now or should we go to Dr. Olson?

MS. TIPSORD: I would prefer that we do both and then we'll ask questions. I do have one clarification point that I wanted to check with Mr. Mosher before we move on.

On page 1 in reading the citation to the Great Lakes Water Quality Standards Initiative of the Federal Register, after the March 1995 date you refer to Exhibit C. That is Exhibit C to the proposal, is it not, not Exhibit C to the Federal Register?

MR. WARRINGTON: That is correct.

DR. OLSON: Do you want me to start? Okay.

My name is Clark Olson. I have been working at the Illinois Environmental Protection Agency in the Division of Water Pollution Control since 1979. I was first employed to work on special projects connected to the toxics control program and now for about 10 years in the standards section. I have advanced degrees in ecology and development biology and postdoctoral study and research in toxicology at North Carolina State University in Raleigh, North Carolina. I

participated in the "toxics" regulatory proceedings of R88-21 and other regulatory hearings. Since the promulgation of R88-21, I have calculated water quality criteria for a number of substances and have helped to apply them in permits and other uses.

The procedures for deriving water quality criteria. In addition to the numerical criteria listed in Section 302.504, there is a narrative standard for come certain tracings of other chemical substances in 302.519, which requires that various kinds of criteria be calculated for a substance to make sure that all uses of Lake Michigan waters will be protected. The procedures for the translation of Section 302.519 are found in Sections 302.533 through 302.570. These replace and revise the procedures in 35 Ill. Adm. Code 302.Subpart F. These procedures are directed at four main targets: aquatic life, 302.533 to 302.545; wildlife, 302.555; human health, 302.560 to 302.570; plus the bioaccumulation factor -- or BAF -- 302.550, which is necessary to derive the wildlife and human health criteria.

Within the sections for aquatic life

there are procedures to derive criteria for both short-term (acute) and long-term (chronic) effects. Wildlife and human health criteria are both for chronic effects. The human health sections are divided into two procedures for deriving criteria for both threshold and nonthreshold effects. Within these procedures there is also provision for deriving criteria to protect either drinking water or nondrinking water usages.

In addition, there is a distinction in the procedures between Tier I criteria and Tier II values -- which Bob has already discussed shortly -- although both can be applied to protect water quality. In general, the procedures for deriving Tier I criteria require more and better quality data than for Tier II values. Tier I criteria could be adopted in the future as reliable numerical standards. Tier II procedures are provided for aquatic life and human health only.

Numbers generated by these procedures could be used for numerical water quality standards, but this is not required by the GLI. Instead, these criteria should be generated when

necessary for various usages -- uses, especially to calculate water quality based effluent limits in NPDES permits. Since the Tier II method is believed to provide a conservative value, there should be a stimulus to the discharger to produce enough toxicity data so that a Tier I 302 -- Tier I criterion can be derived. In the existing 35 Ill. Adm. Code 302.Subpart F there are procedures for calculating default acute and chronic criteria for aquatic life, but the term "Tier II" is not used.

Procedures for derivation of the three different categories of criteria differ because of the entities to be protected and the kind of data that is available. Although the procedures are different for the three protected entities, there is an attempt to standardize the approaches as much as possible.

The following is an outline of this approach: I. "Introductory matters" -- this is an outline -- under "Introductory matters," there may be purpose, goal, description, general definition, entity to be protected, and endpoints. For instance, in the aquatic life, the aquatic community is toe protected. Under "wildlife," we

have a vaguer target which are the populations of wildlife. These are used -- an attempt here is being used to use these ecological references in the terms that ecologists use. Finally, under "human health," we are trying to protect individuals. Also under "Introductory matters" are exposure, contact -- by exposure: contact, ingestion, and definitions.

Roman Numeral II. "Minimal database and quality control," which is improved upon in the GLI procedures over what we already have. Number and type of organisms represented, experimental conditions, data sources, and data sources (sic).

Roman Numeral III. "Data handling. Dose conversion, averaging, extrapolation, uncertainty factors, scaling."

Roman Numeral IV. "Calculation equation" and the definition of terms in that equation.

Finally, something that we don't actually do informally would be assessment. And that's to make sure we really are knowing what we're doing, Roman Numeral V.

The BAF calculation procedure does not fit into the above outline since it is just a

component of the procedures for wildlife and human health. The BAF, that is, is a component.

Data sources and quality assessment are defined in the Federal Register or trawl guidance documents incorporated by reference to supplement the requirements in the regulation.

For aquatic life the entity to be protected, as I said, is the whole aquatic community. All adequate toxicity data for various native species are obtained. A statistical approach is then used -- using data for various species is used to assure that almost all species in a given ecosystem will be protected and that the community will remain intact.

For wildlife and human health the criterion calculation is simply an equation expressing a "safe" dose in the numerator in terms of mass per day per individual and exposure in the denominator in terms of liters per day per individual. The exposure expression in the denominator accounts for both the water ingested (either by purposeful drinking or accidental ingestion while swimming) and fish or other aquatic life eaten by wildlife or humans. It's certainly

an equal amount of water volume used by the fish so it's all in volume terms. The fish consumption factor is expressed in terms of liters of water by means of the BAF.

For wildlife the approach is to protect populations of the more visible species of mammals and birds from harm of ingesting water and aquatic organisms. Since little toxicity data is available for native species of wildlife, the procedure simulates the effect in several target wildlife species from the best laboratory data on conventional laboratory organisms such as rat, chicken, et cetera. For human health the protected entity is (almost all) individual humans in a region. Since there is usually little data on humans -- in other words, epidemiology -- the best data from laboratory animal experiments is used with uncertainty factors to estimate a safe dose for humans.

The biggest differences in the proposed rule compared to Subpart F are as follows: In aquatic life there is an increased database for Tier I, and the Tier II method is different. Tier I and Tier II are explicitly differentiated.

The BAF section is more elaborate with a clear distinction between bioconcentration -- or BCF -- and BAF, and all measures have to be made equivalent to a BAF normalized for percent lipid in the test organism and percent freely dissolved substance in the water.

The wildlife criterion data requirements are more clearly laid out than in Subpart F. The target species approach is more elaborate but is more clear about what is actually being protected. The human health procedure is essentially the same as in Subpart F, but data requirements are clearer. There is provision for deriving either Tier I criteria or Tier II values.

The risk level and fish consumption values are different. Quantitatively it is difficult to say whether aquatic life criteria or values will be more or less than those calculated according to the existing Subpart F. For wildlife and human health there will be a tendency for criteria/values to be somewhat lower since the BAF factor will probably be greater.

Now we're going into a detailed discussion of each of these sections. It's kind of

an encyclopedia.

Aquatic life. The aquatic life section uses basically the same approach as found in 302.Subpart F but with some modifications. As in Subpart F, there are separate procedures for acute and chronic criteria, and both can be made dependent upon water quality characteristics such as hardness or pH if necessary. In addition, the distinction between Tier I and Tier II is clarified.

The data requirements have been increased for a Tier I acute or chronic criterion. Instead of five required taxa (usually a family) for the minimum database, eight are now required. This will be in agreement with the national guidelines and will assure that the criterion is more accurate. However, it will also mean that there will be fewer substances for which a Tier I criterion can be calculated.

Some of the required taxonomic groups are slightly different from those in Subpart F to agree with the GLI. All the taxonomic groups are for animals, but plant data must be included in the database, if available. Data for salmonids is

required, in contrast to criteria for downstate waters. The mathematical procedure for calculation of a criterion, whether independent or dependent on water quality characteristics, remains the same as in Subpart F except for one small detail. The parameter T in Section 302.615 is no longer necessary since data for eight taxa are now required. And that was sort of an adjustment factor.

The proposed rule includes a more elaborate Tier II procedure than that in Subpart F. It uses a sliding scale of adjustment factors rather than simply dividing the lowest datum by 10, no matter how much data is available. Values will still be generally lower than criteria derived by the default method in Subpart F, however. The values for the adjustment factors were worked out by USEPA Duluth laboratory by analysis of a large number of data sets for a large number of substances.

For most substances there are usually not enough data to do a regular Tier I chronic criterion with eight taxa. Instead acute chronic ratios -- or ACRs -- are used to derive the chronic

criterion from the acute criterion. In the new methodology ACRs are averaged rather than taking the highest as in Subpart F. In the proposed rule an ACR can be based on data for salt water organisms, also in contrast to Subpart F.

A Tier II chronic value procedure using a default ACR of 18 is slightly less stringent than the value of 25 used in Subpart F and, in general, would lead to a slightly higher criterion than one derived according to Subpart F.

A criterion can be made for restrictive to protect "recreationally" or "commercially" important species as in Subpart F. These species are expected to be well known sport fish or known fish -- known food of such fish. The term "ecologically important" used in Subpart F is not used in this proposal because the GLI work group was unable to define that term.

This is the second part, the bioaccumulation factor. The BAF for a chemical is necessary for deriving a water -- wildlife or human health criterion or value. The BAF relates the amount of substance in an organism to the amount in the water, in nature, when all sources of exposure

of the substance to that organism are considered. These include the water itself, food, and sediment. Ideally, it should be calculated under steady state conditions.

In contrast, a bioconcentration factor -- or BCF -- measures uptake from water only, under experimental conditions. Organic substances accumulate in organisms because of greater solubility of the lipid-rich structures of the organism such as cell membranes and lipid storage droplets. Inorganic substance may accumulate by becoming attached to proteins.

At equilibrium, molecules of a substance would be entering and leaving the organism at equal rates. However, in nature, for substances with a high propensity to bioaccumulate, there is apparently a disequilibrium in that substances ingested with food tend to stay in the organism, thereby making a BAF higher than a BCF. In a "food web" of larger organisms eating smaller organisms, the larger organisms in a higher trophic level may contain higher concentrations of the substance than those in the lower trophic level. This phenomenon is called "biomagnification" and is very complex in

nature due to various growth and change of prey organizations over time.

These various processes are accounted for in the GLI derivation procedure in a much more explicit way than in the current procedures in Subpart F and a more elaborate way. The process of deriving the BAF takes place in several steps. Data of varying degrees of reliability, which can determine whether a Tier I or Tier II criterion can be calculated, are obtained from studies in the field or laboratory or from calculation.

This data is then normalized, for the amount of substance freely dissolved in the water and the lipid content of the organism, to a standard intermediate value called the baseline BAF -- or dBAF. Finally, the dBAF value is modified to be suitable for use in either a wildlife or human health criterion calculation. The following is a more detailed description of these steps. This is mainly applicable to organic substances.

Data may be obtained from four types of studies. The most preferred datum is an actual BAF measured in the field, in the Great Lakes, and

where there is some assurance that equilibrium has been (nearly) attained. This provision is also found in Subpart F although not as in as clear a form.

The second kind of study is from studies of accumulation from sediment -- this is abbreviated as BSAF -- in the Great Lakes. There is no provision for using such data in Subpart F, since the methodology has been developed more recently by USEPA and other workers.

The third kind of data is a BCF measured in the laboratory, as in Subpart F, but we'll see that it's modified later on.

The fourth kind of data is a calculated BCF based on an equation which is also similar to one this Subpart F.

The second step is to standardize the above data to a baseline BAF. The procedures are different depending on the kind of data used. A dBAF is a BAF that is calculated on the basis of only that portion of the substance which is freely dissolved in the water and not associated with dissolved or particulate organic matter. This means that the dissolved and particulate organic

carbon have to be known or estimated from empirical models.

The dBAF is also normalized with respect to lipid content of the test or representative organism. In essence, the dBAF is what the BAF would be if the test organism were 100 percent lipid. The value of the dBAF is usually about 10 times that of the BAF.

Number 1. A field measured BAF is normalized to a dBAF by adjusting for the fraction of the substance freely dissolved in the water column (vs. total substance) and the lipid content in the representative organism -- usually fish -- which is usually a fish, in the study. Quantitatively, the term for the fraction of freely dissolved substance becomes important only for substances for which the logarithm of the octanol water partition coefficient -- or log Kow -- is higher than five. This adjustment is not found in Subpart F.

Number 2. Using the BSAF. Sediment accumulation data is important for substances that are highly bioaccumulative and poorly water soluble and so are difficult to measure in the water

column. The method does not depend on true study steady state for the sediment. It is a ratio method where one has a BSAF for a chemical with the unknown BAF, but a BSAF and BAF for a reference chemical, presumably of lower bioaccumulative potential.

BAF/dBAFs are available in the Technical Support Document (Exhibit G) for a number of chemicals, and these can be used with the BSAF for the site of interest if there is not a site-specific BAF for the reference chemical at the site and in the same study.

When using -- this is a new paragraph -- when using BCF data below, a new parameter, the food chain multiplier -- or FCM -- is introduced to convert the BCF to a BAF. The food claim multiplier is a measure of the biomagnification propensity of a substance in the trophic level of a food chain. The food chain multiplier values for trophic levels 3 and 4 in the Great Lakes food chain have been developed from a study of biomagnification of various chemicals in Lake Ontario by Gobas -- G-o-b-a-s -- in 1993 which was found in the Journal of Ecological Modeling, Volume

69, pages 1 through 17.

Values of food chain multipliers are found in Table B-1 of the GLI, (Exhibit G). The introduction of the food chain multiplier in the GLI procedure increases the value of the BAF by two to 27 fold, depending on the trophic level used and the Kow of the substance. This means that at approximately a log Kow of seven the criterion will be about 10 to 20 fold lower than if the food chain multiplier were not used. Therefore, this parameter is used to -- to help form a BAF.

From a laboratory BCF. This is Number 3. The baseline BAF can be derived from a laboratory measured BCF by normalizing the BCF for the fraction of substance freely dissolved of the chemical and the lipid content of the test organism times the food chain multiplier.

Number 4. From a calculated BCF. A baseline BAF can also be derived from a calculated baseline BCF times the food chain multiplier. The baseline BCF is simply equal to the Kow for the substance. Although this seems like a coincidental result, it is simply because the Kow is a good measure for the partitioning between water and

lipids of the organism; in other words, it's sort of a definition.

New paragraph. The BAF procedure is somewhat different for inorganic substances. Since criteria already have been calculated for a number of inorganic substances, there may not be much opportunity to do more. Some inorganic substances actually occur in an organic form so the procedure for organic substances may be followed in that case.

In addition, care is needed because some inorganic substances -- for instance, metals -- are needed for nutrition. Thus, there is probably more a need to follow a case-by-case method for inorganic substances. However, in general, only a field measured BAF or laboratory measured BCF should be used, and the baseline BAF step is simplified because the only adjustment is due to the fraction freely dissolved of the chemical in water, and the food chain multiplier is usually one for both trophic levels 3 and 4.

For organic substances the normalized baseline BAF obtained by one of the methods above is used to derive a human health to or wildlife

specific BAF by using standardized values for dissolved organic carbon (DOC) and particulate organic carbon (POC) and the lipid concentration of the prey. The lipid concentrations are derived empirically from a large database supplied by the states. These provisions are more elaborate than those in Subpart F.

For both inorganic and organic substances the BAF used in calculating human health criteria/values are based on edible tissue for fish only. For wildlife criteria the BAF is based on whole tissue for both fish and invertebrates. These provisions are similar to those in Subpart F.

New section for wildlife.

MR. WARRINGTON: Would anyone be interested in a five-minute break for Dr. Olson to catch his breath?

MS. TIPSORD: Yes, that's fine. We'll take five minutes.

(Recess from 11:10 a.m. until 11:20 a.m.)

MS. TIPSORD: We'll go back on the record.

DR. OLSON: This is the wildlife. The

wildlife methodology for the proposed rule follows the general approach of Subpart F but is much more complex. On the other hand, it is also much clearer about what entity is being protected. First, the methodology relies on the more elaborate BAF method discussed above. Secondly, it specifies the quality of the best available data required for both a bird species and a mammal species, which may be from either traditional laboratory species or a wildlife species.

This data is then used to calculate a criterion based on five target species: mink, otter, bald eagle, kingfisher, and herring gull. The criterion is based on the -- the criterion based on the different species will be different because of different drinking and feeding rates and levels occupied by prey food in the food web. The lower of the mean of bird species or mammal species is used as the criterion and should protect all wildlife species using food or water from the Lake Michigan Basin.

The proposed methodology does not specifically include domestic animals, but since some -- which are mentioned in Subpart F. I don't

think that's in the written testimony that you have -- but since some of the wildlife species used as target species consume much food from aquatic sources and thereby are considerably more exposed to waterborne risk, domestic animals should also be protected. The methodology does not specifically involve reptiles; however, they should be protected also. Other terrestrial organisms (such as insects or plants) are not included in this methodology.

The wildlife method produces a Tier I criterion for BCCs, which were not identified before, bioaccumulative chemicals of concern, which is a formal term used in the GLI. For non-BCCs other target species may be used, if justified. Details of the procedure follow.

Minimal data requirements. The BAF used here must be from either a field measured BAF or BSAF since only Tier I criteria are calculated. The study duration will adequately account for chronic toxic effects. Other details for data selection are to be found in the Code of Federal Regulations, incorporated by reference as Exhibits J and K.

In the calculation equation, the test dose is modified by various uncertainty factors to relate the test species to the target species and to adjust to long-term no-effect levels. Inspection of the criterion documents for the four substances for which numerical wildlife criteria have been calculated gives some guidance as to the choice of these values.

Uncertainty Factor A relates the test species to the target species and has a value of one to 100. This is based on several long papers cited in the Technical Support Document comparing both acute and chronic data encompassing some hundreds of data sets. A value of 100 encompasses most of the variation in over 80 percent of the cases. For the wildlife criteria calculated so far, and used in the numerical criteria sections, the values used have been one, three, or ten.

Uncertainty Factor S corrects for subchronic to chronic exposure and has a value of one or ten. This value is based on studies on over 100 substances.

UF L, or Uncertainty Factor L, corrects for using a lowest observed adverse effect level --

LOAEL -- instead of a no observed adverse effect level -- NOAEL -- and has a value of ten.

The equation for calculation of the target species value -- TSV -- is similar to that also used for human health. It is simply an expression bringing together the toxic dose (in milligrams per individual per day) divided by expressions which are equivalent volume of water. The no-effect dose of the test species is multiplied by weight of the target species and divided by the uncertainty factors discussed above. Target species weights are given in Table D-2 of the GLI (Exhibit C).

The factors in the denominator are the water consumption in liters per day of the target species and the food consumption of the target species times the BAF for the relevant trophic levels used by the target species. The water consumption, food consumption, and trophic levels used by the target species are found in Table D-2 of the GLI (Exhibit C).

In the four substances for which wildlife criteria calculations have so far been made, the two mammal values have been fairly close together

as have the three bird values. The mammal value has been lower twice and the bird value twice. In three of four cases the bird and mammal values have been clearly different. So there is a reason for using both mammal and bird data.

This is the last section, on human health. The methodology for deriving human health criteria still uses the general approach of Subpart F, although details have been changed, mainly to account for the more elaborate BAF procedure. The proposed rule is formally divided into sections for threshold and nonthreshold criteria/values derivation, and within these categories there's provision for deriving either a Tier I criterion or Tier II value depending on the quality of data available and either a drinking water or nondrinking water criterion/value depending on the use for the criterion or value.

A criterion or value for both carcinogenic and noncarcinogenic effects may be calculated for a substance if there is sufficient data. But if the substance is a carcinogen, usually the criterion or value will be lower to account for that effect rather than the

noncarcinogenic effect. This approach is somewhat different from Subpart F where it is implied that there is a clear-cut difference between substances which are "carcinogens" or "noncarcinogens." There is now more emphasis, then, on effect rather than classification of chemicals.

There are procedures for both Tier I criteria and Tier II values. Data handling and calculation methods are the same for both levels, but data requirements -- quality requirements are different in degree. However, because the descriptions of data requirements and data quality assurance for the two levels are very involved, there will have to be reliance on the guidance found in the Code of Federal Regulations, incorporated by reference, since the material is much too involved to be presented in a regulatory form.

The methodology provides for calculation of criteria/values for waters where there may be exposure through both drinking water and consuming the fish as well as exposure to miscellaneous contact with water and consuming fish.

The calculation procedure is similar to

that for the wildlife criterion. The criterion/value is calculated by means of an equation which simply places the evaluation of the acceptable toxic dose in mass per individual in the numerator and consumption of water and fish in the denominator again. The acceptable toxic dose is arrived at either through the threshold or nonthreshold procedure. The value obtained in mass per kilogram per day is multiplied by 70 kilograms, which is a standard value for adult human and is used in Subpart F. As a result, the numerator will be in the form of milligrams per day per individual.

Exposure assumptions. Exposure assumption for either the threshold criterion/value or the nonthreshold criterion/value are slightly different from those in Subpart F.

The water consumption value for drinking water remains three -- two liters per day for casual -- for drinking water and for casual exposure is 1/100th of a liter per day. These values are the same as in Subpart F and have been standard for many years.

However, the fish consumption value

suggested by the GLI, and included in the proposal, is 15 grams per day, compared to that of Subpart F where it is 20 grams per day. The GLI value is the mean amount consumed by sport fisherpersons in the Great Lakes according to a survey done for the Michigan DNR. The consumption of fish from the Great Lakes is 3.6 grams per day from trophic level 3 and 11.4 grams per day from trophic level 4. These values were obtained from the same survey. BAF values for these trophic levels are obtained from equations using lipid values obtained by USEPA from several of the Great Lakes states for the GLI.

Now, specific section for the threshold criterion or value. This is equivalent to the GLI noncancer criterion/value, but the label is not as specific. A criterion/value for a carcinogen could be derived this way if the mechanism of action is due to a threshold mechanism. The procedure is very similar to that in Subpart F. However, a relative source contribution -- RSC -- has been introduced into the equation. This has the effect of making the criterion or value somewhat lower than if done according to Subpart F, to allow for

exposure from other media (i.e., food, air, et cetera.) In Subpart F there is provision for using the finished drinking water regulatory value, the MCL. This is not used in the proposed regulation because the basic determination of toxic values by USEPA is now readily available through IRIS, which is a computerized data source.

Minimum data requirements are outlined in the regulation. As mentioned before, details of data quality are very difficult to propose in clear regulatory language and are left to the Code of Federal Regulations, incorporated by reference, as a guideline. If human data are not available (which is most likely), then data from the most relevant animal or the most sensitive animal experiment is used, preferably from oral exposure, eating exposure.

The dosage level from a human study or from an animal study is adjusted by specific uncertainty factors to a value called the acceptable daily exposure -- or ADE -- used in the derivation equation.

If the exposure is from a human study, the uncertainty factor is one to ten to account for

average subjects to a sensitive population.

If the study is from an animal study of a long duration, the uncertainty factor is one to 100 to account for extrapolation from animal to man and averages -- and average to sensitive subjects. In other words, it's the whole uncertainty of cumulative uncertainty to that level.

If the study is from an animal -- shorter animal study, the uncertainty factor is one to 1,000 to account for less than lifetime exposure as well as the previous uncertainties.

If the study is from an animal study which was subchronic, the uncertainty factor can be from one to 3,000 to account for additional as well -- uncertainty as well as the above uncertainty.

If the animal study resulted in an LOAEL but not an NOAEL, the additional uncertainty factor is one to ten, depending on professional judgment.

Finally, there is allowance for additional uncertainty if it is on a case-by-case basis.

Total uncertainty. The total uncertainty for the worst case from above would be 300,000, but

for a Tier I criterion, it must be less than 10,000, and for a Tier II value less than 30,000. Therefore, the magnitude of total uncertainty factor used defines whether a Tier I criterion or Tier II value will be determined for a substance. Guidance for how to determine the value of the uncertainty factor can be found in the criteria documents for the 15 human health Tier I numerical criteria calculated for the GLI (Exhibits H and I).

And the last section is for human health nonthreshold criterion or value. This is equivalent to the GLI cancer criterion/value but is not as specific. The human health nonthreshold criterion is nearly equivalent to the GLI cancer criterion and follows usage in Subpart F. The difference in labeling is used because it is possible that the approach may be necessary for effects other than cancer.

Data requirements and quality are not explicitly laid out in this section of the proposal because they are incorporated in the cancer classification of USEPA. In order to derive a Tier I criterion, the substance must be classified as, (A), "definitive human criteria" --

"carcinogen" -- excuse me -- or (B), "probable human carcinogen." For Tier II the substance may be classified as (C), "possible human carcinogen," on a case-by-case basis, or the "value" could be derived using the threshold procedure described before.

One of the important components of the nonthreshold criterion is the risk level chosen. In Subpart F, ten to the minus six was chosen. The GLI suggests ten to the minus fifth. [Because of the rigor of the BAF methodology even using the ten to the minus fifth risk level, a criterion could be lower than that calculated according to Subpart F with a ten to the minus six.]

Criteria for all 11 carcinogens were calculated according to the old procedure of Subpart F, and the following values for the criteria were found. And for these criteria that have been calculated so far, making a rough comparison between Subpart F procedures and the GLI procedures, it's not always possible to make a one-to-one comparison. But you'll see that the GLI procedures generally will give a higher criterion value in about half of the instances. So this

table --

Could the table be incorporated rather than reading the table --

MS. TIPSORD: Yes.

DR. OLSON: -- in the record?

And that concludes my testimony.

MR. WARRINGTON: Thank you, Dr. Olson.

Dr. Olson and Mr. Mosher made reference in several places in their testimony to exhibits. We'd like to clarify that those are the exhibits A through T that were attached to the original proposal. The Agency would move that they be admitted as exhibits to this proceeding.

MS. TIPSORD: By being part of the proposal, they were already part of the proceeding. Would you like to also have them be a part of the hearing record?

MR. WARRINGTON: If they're before the Board, we're satisfied.

MS. TIPSORD: They're before the Board as a part of the proposal.

MR. WARRINGTON: Thank you.

We'd also like to clarify a few things. The Agency is preparing an errata sheet that will

be filed well in advance of your proposed or target first notice date. But one thing that we would like to mention to the -- to the Board and the audience is that in Section 302.512, antidegradation, the Agency specifies that the procedures are to be applied in cases of National Pollutant Discharge Elimination System permits or NPDES permits and in water quality certifications under Section 401 of the Clean Water Act.

We have discovered that there's another permit requirement in Section 39(n) of the Illinois Environmental Protection Act which requires a joint permit from the Illinois EPA and the Illinois Department of Transportation for structures or dredge and fill operations in Lake Michigan. And we will be amending the proposed rule text to incorporate that.

In addition, in the same section at 302.512, subparagraph (b), the language gives a blanket exemption for certain activities that are not going to be covered by the antidegradation review. We've cross checked the actual language of the Great Lakes Initiative, and that language requires or at least allows a certain case-by-case

determination by the Agency rather than a blanket exclusion from antidegradation review. We still have to develop some language to clarify that -- the criteria of that discretion for a case-by-case determination, but we will be making that amendment, again with an errata sheet.

And the last issue is that Dr. Olson did mention the new concept of a bioaccumulative chemical of concern. There's a definition and a list of bioaccumulative chemicals of concern or BCCs, and we've recently in the last week started a dialogue with certain members of the regulated community to clarify the procedures that the Agency would use to designate additional BCCs and apply them to either NPDES permits, 401 certifications, or permits under 39(n) of the Environmental Protection Act.

All these changes will be made in advance of the target date for your first notice of the Board. With that, I think we can turn it over to Mr. Frevert.

MR. FREVERT: I hate to let the whole morning go without saying something.

MS. TIPSORD: Before we do that though, let's

go ahead and admit the table which is on page 12 of the prefiled testimony as Exhibit Number 1 in this proceeding.

MR. WARRINGTON: Okay.

MS. TIPSORD: That is it was on page 12 of Dr. Olson's prefiled testimony, and that is marked as Exhibit 1.

(Hearing Exhibit No. 1 admitted in evidence.)

MS. TIPSORD: Dr. Flemal has a quick question.

DR. FLEMAL: Just to keep this place in the record, Mr. Olson, could you explain the three columns in that table, "GLI," what basis that calculation is, the "IL," and so on?

DR. OLSON: Well, first of all, this was all based on nondrinking water usage, that is this 10 milliliters per day or 100th milliliter per day of drinking water, and the rest was bioaccumulation of fish consumption, which for Illinois was 20 milligrams -- 20 grams per day, GLI 15 grams per day. And so -- and the Illinois was 10 to the minus six risk level, which, of course, is a big difference. In other words, the GLI was 10.

The GLI also incorporates two different trophic levels for the fish consumption and we used this food chain multiplier -- tables of a GLI. So there's quite a few small differences in the way they're calculated. The units there are given -- most of them are in micrograms per liter, but some of them are much smaller. Nanograms per liter. Picograms per liter. So for benzene, for instance, the value would be 310 micrograms per liter for that usage. Illinois is only 26. And, therefore, the GLI was a factor of 10 -- 12 times that.

DR. FLEMAL: I guess I didn't state my point. The column you've got listed as the "IL," is that in our current Subpart F or is that in the proposal?

DR. OLSON: Those would be what would be the -- Let's see, a quick check to see whether I actually used the same --

Well, somehow or other it came out a little bit different from the one that was published in the Illinois Record. For that it was 21. I'm not quite sure why there's a slight discrepancy there. We have actually used the benzene criterion once or twice in a permit. So

the value used was 21. I'm not sure what happened when I did this recalculation for this table.

DR. FLEMAL: I'm not so concerned about the magnitude of the numbers as understanding what the columns are. The column you have listed "GLI" is the Great Lakes Initiative values as you're proposing here so they're equivalent to Subpart E?

DR. OLSON: Those are the actual proposed values that would be in the tables in the proposal.

DR. FLEMAL: And the "IL" column is what would happen if you used the Subpart F procedures in the alternative?

DR. OLSON: Yes. Now, the toxicity value in IRIS may have changed. I want to make it clear that we have never actually gone to the original literature to calculate a value for human health. The provisions in the proposal allow you to do this, but chances are you would go to IRIS, which is an EPA database upon which numerous scientists have gotten together over the course of years before the numbers actually appear in IRIS. And that's probably the number that we would use for the toxicity value.

So that I'm not absolutely sure that the

toxicity value for the numerator corresponds. I'm not sure I double-checked that. This was just a rough idea to give you an idea of what the value for those substances would be as done by the GLI or as done by Subpart F.

DR. FLEMAL: That was my understanding. I just wanted to make sure that it was, in fact, a correct understanding.

MR. FREVERT: Thank you.

In addition to the water quality standards that we are proposing today, the Great Lakes Guidance as issued March 23 of 1995 has additional qualities upon the eight Great Lakes states. Predominantly those requirements deal with the procedures that the administrative agency would use in carrying out its permit issuing activities, things of that nature. And specifically there are two appendices: Appendix E which deals with antidegradation and Appendix F which deals with the number of permitting issues.

We have developed Agency operating rules to govern our NPDES permit, and in the case of 401, water quality certifications, that as well will be in hopefully a final draft form that I believe will

be available as an exhibit to show you that is progressing. That needs to be submitted for federal USEPA approval along with the water quality standards additions.

Now, when you go through those procedures, you'll recognize the predominant aspect of those requirements fall under the permitting authority, but there are some specific entities that go beyond our authority and actually are hazardable in our State. And I just want to get on the record the fact that those additional requirements, in addition to the water quality standards in the narrative derivation procedures, are contained in this proceeding.

Specifically there are requirements for mixing zone requirements for bioaccumulative chemicals of concern that go over and above the existing mixing zone requirements in the existing Subtitle C. The way we've addressed that, as you notice, we tried to structure this proposal so that everything applying to the Lake Michigan Basin was housed in one subpart. We got away from this add-on where currently Lake Michigan standards incorporate everything specifically for Lake

Michigan. They refer back to general use and they also refer back to drinking water supply. We've structured this proposal to get away from that.

The one exception is if you look at Subpart C, Section 302, there is a Subpart -- excuse me -- Subtitle C. There is a Subpart A, "General Water Quality Provisions." And they deal with things like mixing zones and nondegradation. We've retained that. We have retained nothing else in this proposal for Lake Michigan. We've brought everything from the other subparts into this proposal. When you look at mixing zones, there are specific requirements for BCCs.

We've added a Section 302.515 for supplemental mixing provisions for BCCs. This is to make it directly compatible with the Great Lakes Initiative requirements. We've also added 302.512 that Rich talked about earlier for antidegradation provisions. We believe those are the fundamental regulatory requirements that the Board needs to adopt to comply with the Great Lakes Initiative. The supplemental implementation material necessary for us to execute those in a fashion required under the Great Lakes Initiative is contained in our

administrative rules that we're finalizing and will have available shortly.

Two specific procedures required by the Great Lakes Guidance deal with adjusted standards and variances. And we worked with USEPA to get across the notion that we intend to rely on the Board's existing procedural rules dealing with adjusted standards and variances so those procedures should take effect as is. We've had no indication from EPA that there's any change necessary. The existing procedural rules will do.

There are some requirements regarding additivity of multiple toxic substances. We're going to rely on that based upon the ten to the minus fifth risk level. I believe there's an additive provision in those levels, same as there was in Subtitle F, to deal with that. And there's also an implementation procedure dealing with compliance schedules, and we've got some procedures specifying how we will use compliance schedules based on authority that's currently existing in Part 9, the permit section of Subtitle C.

So with that, we believe we have a comprehensive proposal that does address all the

requirements of the Great Lakes Initiative. And hopefully somewhere before the day is over a representative of the USEPA can be here to, I suppose, if nothing else, convey their urgency in us getting through this process and get a quick adoption, perhaps field some questions if you might have any on progress of the other states.

We have about wrapped up our procedures implementation package with the exception of how we're going to handle all effluent toxicity. That's currently on hold pending some resolution of some issues with the USEPA in the states of Wisconsin, Indiana and Ohio over what procedure would be acceptable and intend to provide a permitting procedure for whole effluent toxicity for whatever would emerge from that discussion.

And that's all I have to say.

MR. WARRINGTON: As Mr. Frevert indicated, we have drafted some proposed Agency rules to implement the Great Lakes requirements. And we would like to give the Board a copy and admit it as an exhibit to this proceeding. It's entitled the May 16th, 1997 draft. What we hope to do this week is to mail it to the notice and service list and

solicit their comments by June 6th, 1997. We'll take those comments, incorporate any changes that we're able to ascertain concerning whole effluent toxicity, generally check the formatting and the language of the proposal so that it will be acceptable to the Secretary of State for filing, and then file it shortly afterwards.

We, of course, you know, are in a position to still make amendments to this based on public comment. We'd be particularly interested in any comments the Board, of course, has coordinating these procedures with the Board's permitting procedures. But we'd so move that the May 16th draft be admitted as an exhibit.

MS. TIPSORD: Is there any objection?

Seeing none, we'll admit that as Exhibit Number 2.

(Hearing Exhibit No. 2 admitted in evidence.)

MR. FREVERT: Rich, if I could, I'd just like to reiterate one area that we are struggling with, and that's the blanket exceptions from antidegradation review for specific provisions. Clearly USEPA's guidance says that should be

applied on a case-by-case basis, on a wholesale basis.

Some feedback we've received from the National Wildlife Federation called that to our attention. They want some provisions for that. Our concern is trying to honor that intent without language that would appear to create an illegal delegation of authority from the Board to the Agency on when to invoke that and when not to. So any testimony from the audience or input from anyone in how we accomplish that would be greatly appreciated.

MR. WARRINGTON: I think we can entertain questions unless you'd like to entertain lunch.

MS. TIPSORD: Let's go off the record for just a minute.

(Discussion off the record.)

MS. TIPSORD: We'll take a lunch break. Let's reconvene at 1:00 o'clock.

(Whereupon, at 11:55 a.m., the hearing was recessed, to reconvene at 1:00 p.m. this same date.)

AFTERNOON SESSION

(1:00 p.m.)

MS. TIPSORD: At this time before we proceed to questions of the Agency, I'd like to know if anyone else would like to make a statement at this time?

MS. ROSEN: Thank you. Good afternoon. My name is Whitney Rosen. I'm legal counsel for Illinois Environmental Regulatory Group. We have worked with the Agency on behalf of our members that may be impacted by this proposal and have had numerous discussions.

Today with me is Mr. Robert Cohen and Mr. Jeff Smith from Commonwealth Edison. They are representing Commonwealth Edison as members that are impacted by this proposal. And we have also -- with us earlier was Melita Leffel, who will be joining us shortly, who is a representative from Abbott Laboratories.

As I said, we have been working with the Agency on this proposal because it does impact a number of our members. We would like to note that IERG is very interested in getting this rulemaking completed as soon as possible to avoid federal

imposition of the GLI. And we thank you for your efforts to expedite the process.

MS. TIPSORD: Thank you, Ms. Rosen.

Is there anyone else who would like to make an opening statement?

Then let's proceed with questions. I think we'll do this -- the best way to do it is section by section. And so we'll start with Section 302.101, and I'll refer to page numbers as they appear in the Agency's original proposal. So Section 302.101 is found at page 8 of the first notice proposal submitted by the Agency.

Are there any questions on Section 302.101?

Okay. I have a couple. These are minor -- and these fall probably in the category of inconsequential types of -- but I know Jay Carr might ask us about them. In 302.101(e), there's a citation to "Ill. Adm. Code 303" and then in parens it's "35 Ill. Adm. Code 303.443."

Could the Agency indicate to me if 303.443 is the specific citation? And if it is, why don't we use that instead of just referring to general 303, both in 302.101(e), and it also appears in 302.501 in the same way. You give a

general cite and then more specific cite.

MR. WARRINGTON: The reason that we first used the citations, the whole part 303, was that is the way it existed in the existing Agency rules -- or sorry -- the existing Board rules. Likewise, 35 Ill. Adm. Code 303.443 is the specific section citation to the waters that will be affected. That is in the Agency proposal at page 55.

MS. TIPSORD: Then you would have no objection to changing that?

MR. WARRINGTON: We have no objection to changing that, cleaning that up. One thing that we consciously avoided in drafting this proposal was trying to clean up anything. We tried to limit this proposal to solely those things that would be necessary to achieve federal approval of a proposal.

MS. TIPSORD: Then moving on to Section 302.105, are there any questions?

302.501?

502?

503?

504?

We'll go with you first.

MR. SMITH: I have a question on 302.504, Table C. And I guess what I'd like is maybe an explanation of the origin of the parameters and the standards that are in that table.

MR. MOSHER: We could go down the list -- Well, let's do it this way. The first four things listed -- phosphorus, chloride, sulfate, total dissolved solids -- are the existing Lake Michigan standards that always were in Subpart E. The next -- let's see -- arsenic, selenium, barium, iron, lead, manganese, nitrate-nitrogen, oil, and phenols came from the Public Water Supply and Food Processing Water Supply standards at 302.304. Subpart C. Then starting with benzene and going through the end of that subsection, those are GLI proposed criteria that we propose to adopt as standards.

MR. SMITH: The GLI standards that begin from benzene and go down to trichloroethylene, are those for protection of human health as drinking water standards?

MR. MOSHER: My understanding is that they're for protection of drinking water and ultimately for human health.

MR. SMITH: Now, these would be applied on an instantaneous basis or as an acute standard?

MR. MOSHER: As I explained in my testimony, given that these are applicable out in the open waters of the Lake, even though the GLI proposed them as standards that would be an average of samples and you would assess compliance based on an average, we felt that that was not entirely proper or entirely fair to do it that way in the open waters of Lake Michigan.

Therefore, we have proposed them as a not-to-be-exceeded value, given the qualities of the Lake where you're dealing with a vast expanse of water and, for one thing, it would be very difficult to get out there and take multiple samples, but also when you do have a violation out there in Lake Michigan, that is a cause for concern, even if it is a violation of just one sample, because of the magnitude of it.

So I think again I'd refer to my testimony for our reasoning behind proposing these as not-to-be-exceeded values.

MR. SMITH: I guess the question I'm trying to get to is if these numbers are to protect human

health, human health criteria is based on exposure for several years and why wouldn't it be appropriate to check over a several-day period as opposed to instantaneous? Is it more a convenience thing that the Agency is proposing to have these applicable with any one sample? Is that the real reason for doing it this way?

MR. MOSHER: Convenience is a factor. I think, to sum it up, we've got a huge lake out there; and whenever you would exceed all -- All these are man-made substances. Whenever you would exceed these values, that's cause for concern. I wouldn't want to put a burden on someone to have to go out four times, probably in a chartered boat, to try to find the same location they were at the first time out there in the middle of the Lake and to take at least four samples. So to answer your question, it's part -- it is partly due to convenience.

MR. SMITH: But in terms of what the GLI is trying to accomplish by having the four, a standard is based on an averaging period, that that is no less protective than what you're proposing here in this Subtable C?

MR. MOSHER: I guess I don't understand what you mean by "no less protected."

MR. SMITH: I guess -- it seems like we're trying to mix apples and oranges because what GLI is trying to do is have their average of a series of samples over a period of days to provide some protection for human health or drinking water. And what we're doing here is we're having basically the standard applied as an instantaneous -- any single sample would need to comply with these numbers, and yet the numbers are the same numbers that the GLI has based on an average exposure.

And it seems to me that if the GLI felt that that was protective, then what we're doing here is we're going beyond what the GLI requires. And that's what I'm a little confused about.

MR. MOSHER: You're correct. The GLI proposed them that way. But again, I look at the vastness of Lake Michigan. If we were today to charter a boat and go 10 miles out and dip up a sample, and if it violated -- that single sample violated any of these standards, I would have great cause for concern. And to require our Agency, or anyone who wishes to go out and take samples, to go back to

that spot three more times to have a confirmation that something is wrong, I think, is asking a little too much.

MR. SMITH: And the reason why Table D, the human health standards are allowed to be averaged over a four-day period, four-consecutive-day period for the human health standard, is that because, in essence, it's more convenient to get the samples over a four-day period and average them?

MR. MOSHER: The substances in Table D apply everywhere --

MR. SMITH: Right.

MR. MOSHER: -- and a lot -- anywhere else in the Lake or its watershed is going to be a lot easier to come up with a sample. Also those aren't necessarily water supplies so my other reason for using a single sample isn't necessarily present for Table D.

MR. SMITH: Well, Table D deals with PCBs. So in a sense, we're allowing an averaging for the BCCs to be human health whereas the non-BCCs in Table C we're applying on an acute basis so, in essence, it seems like we're being more protected with non-BCCs than BCCs in Table D.

MR. MOSHER: Of course, Table D has four different categories of standards instead of just one. So there is -- there is some provision in Table D for looking at just one sample if it were an acute standard. But you're quite correct.

Again, I'll have to fall back on my reasoning in the testimony.

MR. COHEN: Mr. Mosher, I had one quick follow-up question to your testimony. What is it about Lake Michigan and the Agency's view that makes it different from the other four Great Lakes in the context of our current discussion?

MR. MOSHER: Lake Michigan, of course, is unique for Illinois. It isn't any different from the other Great Lakes. My personal opinion and the way this petition came out was that if you're protecting a public water supply and we are in Lake Michigan, the open waters, we shouldn't have -- have to average samples to detect a violation.

MS. TIPSORD: Before we -- Mr. Warrington, when you refer to Table D and Table C -- there was some conversation -- you're actually referring to the tables that appear in Subsection (d), not a separate Table D, correct?

MR. SMITH: That's correct.

MR. WARRINGTON: That's right.

MS. TIPSORD: Mr. Warrington?

MR. WARRINGTON: Perhaps I could try to clarify it.

Bob, I believe you testified about the compounds benzene, chlorobenzene and so on in the table in Subsection (c). Would you expect much variation in the sample results from four different samples, assuming that they managed to find the same location in the Lake?

MR. MOSHER: No, you wouldn't. Given the volume of water out there, you wouldn't expect the kind of variability we might see in a river, for instance. That's why I say when you get one sample that surpasses these limits, some degree of concern arises immediately. And averaging that sample with three others, I think, is just kind of a waste of -- a waste of effort.

MR. WARRINGTON: And another question is in distinguishing Lake Michigan from the other Great Lakes, isn't it true that Lake Michigan doesn't really have any flow through the Lake as opposed to the other Great Lakes?

MR. MOSHER: Correct. We're on a portion of the Lake that isn't a constricted -- a constricted area where there is -- there is flow in the lakes, but in our portion of the Lake, it's very diffused and it's not constricted in one spot like some of the other places.

MR. WARRINGTON: Thank you.

MS. TIPSORD: Dr. Flemal?

DR. FLEMAL: I was going to explore that same question, Dick. What data do we have that would enlighten us on the spatial or temporal variability of any of these parameters in Lake Michigan?

MR. MOSHER: Well, we've got a sample program in Lake Michigan that goes way, way back and if you look at parameters like phosphorus and ammonia that have been sampled for years and years, there is very little variability out in the open waters.

DR. FLEMAL: Would you believe that for the organic parameters you've got listed here, that same conclusion could be reached?

MR. MOSHER: Yes, I would, especially given the fact that there are no mixing zones out there, that I know of at least, that would cause a concentration grading of any kind.

DR. FLEMAL: Are the waters in Lake Michigan today anywhere near the concentrations of the various organic parameters?

MR. MOSHER: I would have to say no. I haven't examined lots of data for all of those things, but I would certainly think that we'd be much lower than those out in the open Lake.

DR. FLEMAL: Benzene, for example, if I were to go out in the Lake, I would likely expect a concentration well below the 12 micrograms per liter that you're proposing as a standard?

MR. MOSHER: I think you'd probably not be able to detect benzene.

DR. FLEMAL: If I did detect something over 12, what conclusion would one reach from the occurrence of that one sample?

MR. MOSHER: I would conclude that we either had some kind of a laboratory error, some kind of a sampling error, or we have just detected some kind of a spill because there's no known source.

DR. FLEMAL: In terms of our need to react, it would certainly have to be a spill if you found any of these parameters being exceeded in the Lake?

MR. MOSHER: That would be my conclusion,

yes.

DR. FLEMAL: Would it help to go out and sample on four consecutive days if one were, in fact, attempting to document the existence of a spill?

MR. MOSHER: Well, the only thing that would do is track the dispersal of the spill. But in my mind, once we have that one sample, we have all the proof we need.

DR. FLEMAL: Going back to the same place to document the spill might, in fact, cause you to miss it if it had moved?

MR. MOSHER: Right. Given the vast expanse out there, that's correct.

DR. FLEMAL: That's all.

MR. RAO: I have a few questions on Section 504. You describe the standards under Subsection (c) came from GLI and which came from Subpart F. Could you please for the record just go through Subsections (a), (b), and (d) also and tell us which standards are coming from GLI and which are being carried over from Subpart F?

MR. MOSHER: It might take us a little while to think about it. But we can do that.

MR. RAO: If you want to, you can also respond to this in writing if you think it will take a lot of time. It was just that we didn't see much of it in the testimony. You know, so we get something on record.

MR. MOSHER: We have notes. We can do it orally if you'd rather --

MR. RAO: Okay.

MR. MOSHER: Subpart A on page 10 of the original petition, we have a lead standard proposed, both acute and chronic, and that is related to GLI, but it is not a part of the GLI notice in the Federal Register. The states that had been working on GLI continued to collect lead toxicity data, and very recently enough was obtained to calculate a Tier I acute and chronic standard. So that's where our -- our lead proposed standards come from. They are not a part of GLI officially, but in the process of GLI, everybody realized a lead standard was needed and data was collected and the calculations were made, and we obtained these from USEPA about a month ago.

The other part of A that is not from GLI is the TRC standard on page 11. That is the

General Use standard moved over to cover Lake Michigan.

MR. RAO: What does "TRC" stand for?

MR. MOSHER: Total residual chlorine, and that's defined elsewhere in the Board's regs. So out of Subpart A, everything else that I didn't specifically mention is from GLI.

MR. RAO: Regarding the standard for lead, would it be possible for you to provide the Board with any other technical support material that you used?

MR. MOSHER: Yes, we can do that. We can come up with a list of species that had toxicity data contribute to the calculation, and that ought to -- That's traditionally how we describe that. We can provide that.

MR. RAO: Okay.

MR. MOSHER: Subsection (b), I believe, are all from the General Use standards that have been moved over and now are duplicated in the Lake Michigan Basin standards.

Subpart C, I think we already have been through that. Subpart D -- I'm sorry -- Subsection (d) --

MR. RAO: Subsection.

MR. MOSHER: -- those are all GLI criteria that we are proposing as standards. I did note in my testimony that mercury and PCBs are currently in a state of flux, and we had promised to report back when the GLI has decided on what those standards should be, whether that will be within this proceeding or we will have to start a new proceeding, if it takes too long for them to do that.

MR. RAO: As proposed under Subsection (b), the standard for PCBs, could you tell us, you know, whether GLI final document is the source of these standards?

MR. MOSHER: Yes, the Federal Register notice is the source. And our numbers should be identical to what was published in the Federal Register. It's just that there was a --

MR. RAO: Actually we took a look at the numbers in the Federal Register and they were not the same for PCBs.

MR. WARRINGTON: I think we were referring to --

MR. RAO: We were referring to page number

15392 in Federal Register notice, Volume 16, Number 56, March 23rd, 1995, Table --

MR. WARRINGTON: I believe that we based it on final revisions for -- final revisions to the polychlorinated biphenyl criteria for human health and wildlife for the Water Quality Guidance for the Great Lakes systems, 62 Federal Register 11724, March 12, 1997. And those were included as Exhibit P to the original proposal.

MS. TIPSORD: Before you move on, I have a general question about all of the tables in this subsection. The -- how -- the organization of them is not alphabetical. We have a mixture of milligrams per liter and micrograms per liter and nanograms per liters.

MR. WARRINGTON: And I think there's a picogram in there too.

MS. TIPSORD: Yes, so my question is, is there a reason for the organization? Are they of more concern?

MR. MOSHER: Well, Subsection (d), for example, lists the single metal that is involved first, which is mercury. And then I believe it's alphabetical for the organic substances. And

that's -- there's nothing sacred about how we did that. We can -- we can strictly alphabetize the whole thing, if that's what you'd like to see.

MS. TIPSORD: It just seemed odd to me that we had the mixture of the milligrams, nanograms, and all of that. And that makes the numbers look strange at times. Sometimes they jump out at you.

I guess I'd just ask you to take a look at that and see if we can't --

MR. FREVERT: Are you asking for a way that by just looking at this table you can visually describe the relative toxicity of one substance versus another?

MS. TIPSORD: Yes, I guess.

MR. POLLS: I think she's confused because they're all different units, but you can convert them to whatever unit you want. Would it help if all of them were in the same --

MS. TIPSORD: Could you identify yourself?

MR. POLLS: Irwin Polls from Metropolitan Water Reclamation District of Greater Chicago.

MS. TIPSORD: Let me just say my concern is, having recently dealt with the Drug Committee on Administrative Unit on Underground Storage Tanks,

especially since they're not alphabetized, this is the kind of question they will ask me. Whether they asking me to do anything different, I'm not sure.

But I need to have something on the record, if they ask me the question, I can give them an explanation for why it was done this way and that there's a scientific or logical reason. If it is, it's because we tossed them in the hat and that's the way they came up, I think my question then is, is there a logical or a scientific order that we can put them in?

MR. MOSHER: Yes, that's the -- the answer to that is really diverse. C, for example, we had standards that came from three different sources so we kept the sources segregated. And maybe once we're beyond this stage of understanding those sources, we can go and just simply alphabetize them.

DR. FLEMAL: I think historically what we've done is we've attempted in our tables to have the inorganic constituents first in a separate alphabetized list and then followed with the organic. And I think we have that in every case

except Table C or Subsection (c). And maybe just alphabetizing that first part would bring us back to the convention of the sequence.

DR. OLSON: Excuse me. In 302.304, the Public Water standards, the Board already has the listing that's done that way with inorganics first and then organics segregated.

DR. FLEMAL: Maybe if we aligned the decimal places and the concentrations, that would help a little bit.

MR. FREVERT: I just comment. We certainly would like to work with you and do it any way you want it, you know. Any recommendations you have to make this more user friendly to the lay public or even the professional people working with it, we'll take any suggestions you have. We did this in what we thought was a rational, convenient way, but we're not weighted to that at all.

DR. OLSON: I just want to point out that there are vast orders of magnitude. We're talking about what it's -- it's like ten orders of magnitude. It's an awful lot of zeros.

MR. WARRINGTON: What he means is if we reduced it to a common unit of measurements, there

are going to be lots of zeros that people will have to count to compare them.

MS. TIPSORD: And I don't think that's as necessary -- because you have done a very good job that this is milligrams, this is picograms. Like I say, it just seemed a little confusing to me, as a completely lay person.

DR. FLEMAL: Have we ever attempted to set a standard of femtograms on this?

DR. OLSON: No.

DR. FLEMAL: I assume we can do the femtograms of dioxin?

DR. OLSON: I don't know what dioxin --

MR. FREVERT: There is a procedure to specifically deal with substances that are believed to be toxic or at unsafe levels below detection limits. So we indeed anticipate that we could encounter a substance where there's a standard set below our ability to detect and measure. Don't assume everything in here or everything that will come out of this can be measured with today's technology.

MR. RAO: Mr. Mosher, in your testimony at page 4 you explained how standards proposed under

Section 302.504.A must be met outside the zone of initial dilution and chronic standards would be met outside the mixing zone established. I didn't see those requirements in the proposed rules. Can you explain how the rules work?

MR. MOSHER: Well, I thought they were in the rule.

MR. FREVERT: Aren't they in the existing mixing rule, 302.102?

MR. RAO: Well, it doesn't get into where an acute standard applies and where a chronic standard applies. I think that requirement is under 302.208 so maybe a cite for 302.208 might --

MR. FREVERT: We'd be happy to look into that. That's a good point if we've overlooked that. We are attempting to preserve the same concept, same place. If we need to adjust the wording to accomplish that, we'd be happy to.

MR. RAO: And I have one last question on 302.504. Under Subsection (a), the last sentence you say, "The samples used to demonstrate compliance with the CS or HHS must be collected in a manner which assures an average representative of the sampling period."

Could you explain what you mean by "average representative of the sampling period"?

MR. MOSHER: Well, the chronic standards and human health standards are to be assessed based on at least four samples so it is an average that we're comparing to the standard. We want to collect those four or more samples in a manner that's fair and logical.

In other words, we want to -- if we're going to have a four-day period and collect four samples, we should have one sample a day for four days and not three samples within an hour's period of time and then one -- the fourth sample four days later. That's what we mean by "representative." We want a fair collection period with the samples spaced out more or less evenly over that collection period.

MR. RAO: Are there any specific sampling protocols published by ASTM or internationally recognized that say how we do this?

MR. MOSHER: Not that I know. This concept is based on what we -- the Board adopted back in 1990. It's -- that language is taken directly out of 302.208 as how we are to assess chronic versus

acute standards.

MR. RAO: Thanks.

MS. TIPSORD: By way of typos also --

MR. RAO: Oh, just one.

MS. TIPSORD: Okay. For the errata sheet, you used periods and colons -- under subsections you have periods, like at the end of Subsection (a) and (b), and then semicolon -- or colon after Subsection (c). Check into it and let me know which one you prefer.

MR. WARRINGTON: Okay.

MR. RAO: And there's one more which may be a typographical oversight. Under 302.504(a) for standard for cadmium, acute standard, you have expression with two constants, A and B, and the value of B is given as 1.128. And we were looking at the Federal Register dated March 23rd, 1995, and the value of Constant B in the Federal Register is .128.

So could you please take a look at that and tell us which is the correct value to the constant?

MR. MOSHER: Okay. We'll do that.

MR. RAO: Thank you.

DR. FLEMAL: Throughout this section -- and I believe in several other sections as well -- you use the term "open waters of Lake Michigan" and capitalize the "open" and the "waters." Is there any reason for making that capital?

MR. MOSHER: Well, we added some language to Section 303, didn't we?

MR. WARRINGTON: That's right.

MR. MOSHER: Is that toward the end or --

MR. WARRINGTON: Page 55.

MR. MOSHER: Yes, on page 55 of the petition is where we're proposing change to the text of 303.443 which used to define what Lake Michigan waters were and now defines what Lake Michigan Basin waters are. And we distinguished between open waters, the harbors, and tributaries and waters within breakwaters. So we capitalized the "open waters" there, and I don't know if we have a good reason for that or not.

DR. FLEMAL: I think this is to indicate that this is a special term of art that is elsewhere somewhere defined. Is that the purpose of the capitalization?

Let me ask the question another way.

We're attempting to define "open waters over Lake Michigan" for the first time back here in part 303; is that correct?

MR. MOSHER: Yes.

DR. FLEMAL: Would it be useful and more user friendly if we designed "open waters" in Part 302 itself so that a person looking for water quality standards for Lake Michigan in Part 302 would be able to determine what are open waters as opposed to the waters more generally which they supply?

MR. FREVERT: My understanding is that deviates from the existing structures where all open waters are designated in Part 302. That's why it's the way it is. We went into that part of the existing rules that delineates and designates -- uses designations and what rules apply to them. That's where we chose to house the definition. But Bob is correct. The purpose of this is to specify. When we say "open waters," we mean those waters that fall under 303.443 (a).

DR. FLEMAL: Perhaps one of the things that might be done for user friendly purposes is where that phrase "open waters of Lake Michigan" is first encountered in 302, to say "as defined as" or

something --

MR. FREVERT: As designated in Section --

DR. FLEMAL: Yes. I read through this and I ran across this term and it struck me first that it was capitalized, but I didn't know where it was going to be defined until I completed my entire look at 302.

MR. FREVERT: Good suggestion. We'll be happy to do that.

MS. TIPSORD: Yes.

MR. WARRINGTON: We can add a definition of the "open waters." It's at -- the Federal Register of March 23rd, 1995, which is the final GLI proposal. And it's at page 15389 and "open waters of the Great Lakes," the acronym is all capitalized, but they describe it as "The waters lakeward from a line drawn across the mouth of tributaries to the lakes, including all waters enclosed by constructed breakwaters, but not including the connecting channels. We can add that definition to clarify.

MR. RAO: What you just read now is from the federal document? Isn't that the same as --

MR. WARRINGTON: The Federal Register of

March 23rd.

MR. RAO: It's not the same as you have under 303.443 with regards to the waters enclosed within breakwaters. You may want to take a look at that and make it consistent.

MR. WARRINGTON: Okay. Noted.

MS. TIPSORD: Any further questions on 504? 505?

MS. ROSEN: Before we proceed, can I just ask a clarification of what just transpired?

MS. TIPSORD: Sure.

MS. ROSEN: Were you, Rich, agreeing that the Agency wanted to change the definition of "Lake Michigan Basin" as it's outlined in 303.443 to the language that was in the Federal Register notice?

MR. WARRINGTON: I believe we are. Now exactly how we got it the other way, I'm not sure.

MR. COHEN: If I may, I believe Mr. Mosher's testimony addressed that issue that the breakwaters were specifically excluded because of the difficulty in achieving certain standards in that area.

MR. SMITH: That's correct.

MR. COHEN: There are other differences that

are unique to Lake Michigan. If I may suggest, could we not just incorporate a reference to the definition of Section 443 in the definition section of Part 302?

MR. RAO: That begs the question of what you have in 443 is GLI. It's something you may want to address.

MR. FREVERT: We'd be happy to address that here. I just want to state we're not prepared to change anything substantive in what we proposed. We consciously designed this the way we did for a specific purpose. And we'd be happy to do whatever it takes to clarify our intent, but we're not rethinking our intent here.

DR. FLEMAL: And just to make sure we understand that intent, Toby, open waters of the Lake do not include waters within breakwaters as far as this proposal is concerned?

MR. FREVERT: That's what we're proposing.

DR. FLEMAL: Even though the GLI has it contrary to that?

MR. FREVERT: We've been in communication with USEPA, and we've yet to be advised that they have any problem with that so we're standing pat.

MS. TIPSORD: Okay. Let's move on then.

505?

507?

MR. COHEN: A quick question. I think it's for Mr. Frevert. Could you state what was the Agency's intent in making the single change to Section 507?

MR. FREVERT: I believe there -- Oh, yes. That is one of the perhaps two areas where we undertook some cleanup and that that is a requirement that has long since been met and is defunct. We thought there was no need to clutter the Board's regulations with that any longer.

MS. TIPSORD: How about 508?

MR. COHEN: Mr. Frevert, I have exactly the same question with respect to 508.

MR. FREVERT: Section 508, that primarily refers to some condense or maintenance operations of facilities discharging to Lake Michigan. The toxicity limitations for chemical maintenance approaches refer to outdated technology that's been totally superseded by the new -- the new state of toxicology and water quality derivation. In that regard, we feel there's no need for paragraph (g)

anymore.

The other component of that, the first sentence I read as a mandate that condensers be cleaned with a mechanical device. Unfortunately, I have not researched the development of that particular reference. But I believe that's again a 20-year-old artifact of the Board's original regulations. Our concern today is not to tell people how they do their cleaning or whatever, but to make sure the result is that we meet these protective numbers for any toxic substances coming out of there. And that's the reason we're recommending the deletion of that requirement.

MS. TIPSORD: Anything further?

302.510.

MS. ROSEN: This is just by means of clarification. Regarding this definition section in total, to what specific sections or parts do these definitions apply? Would that just be set forth somewhere? Do you understand?

The terms that are defined here, are they to modify everything within Section 302 or do they also apply to later at -- the revisions we made to 303 and 304? Do you understand my question?

MR. WARRINGTON: I see. The scope of --

MS. ROSEN: Yes, just the scope of the consultant.

MR. WARRINGTON: The original intent was to apply to this subpart and be limited to the Lake Michigan regulations. And we can -- we can add a clarifying reference to that.

MS. ROSEN: Thank you.

MR. RAO: Just following on the question, are most of these -- or all of these definitions drawn from the GLI document? When I say that, Exhibit C.

DR. OLSON: Two definitely aren't. Particular organic carbon and dissolved organic carbon were ones that I had to add because I felt the GLI was insufficient on those points. They're not really routine procedures. And if these are implemented, that would be something new. Most of the rest were taken from the GLI, but I can't say that it's 100 percent. Those two are definitely different.

MR. RAO: The reason I ask this, there was no statement in the statement of reasons or in the testimony regarding this section so I just wanted to get something on the record where these definitions were coming from.

DR. OLSON: They're derived from technical support documents, some paper, but I could supply some more documentation for that.

MS. TIPSORD: I also have a question, the phrase "in a place of conflicting definitions" at 35 Ill. Adm. Code 302.100. Which definitions conflict with 302.100?

MR. WARRINGTON: We'd have to get back to you on that. My recollection is that the definition used in the existing 302/Subpart F, it's slightly different wording for some of the effects that are stated, probably not substantially differently than the GLI proposal.

MS. TIPSORD: Could you let us know where there might be this conflict? I think if we have a clarifying statement that these apply to -- these definitions apply to Subpart E, that will also help clear up that question.

Anybody else on 510? Whitney, did you have something?

MS. ROSEN: Yes I'd like to make a statement. Mr. Warrington in his -- in the opening discussion made a reference to the bioaccumulative chemicals of concern and the Agency's interest in continuing

discussions in this area as to how they would be developed and implemented and the participation and notice that will be provided to the public on this issue.

I would just like to note on the record IERG's interest in continuing those discussions and possibly proposing language which addressed them during the next hearing.

MS. TIPSORD: Yes.

MR. FREVERT: Can I respond to that?

MS. TIPSORD: Sure.

MR. FREVERT: Our concern is that Lake Michigan and all the Great Lakes essentially are a valued resource that has been specifically identified for special protection for bioaccumulative substance and that that's not restricted just to those chemicals that are currently known to be BCCs but also those that behave like BCCs through a bioaccumulation factor greater than 1,000.

If, in fact, we ever encounter another substance that behaves that way, we feel it is important that it be treated with the same degree of seriousness and have the special BCC limitations

such as mixing zone phaseouts and antidegradation, but that we certainly understand and are fully committed to working with the regulating communities so if that ever happens, they will know as early as possible that that substance is subject to BCC protection.

In that regard, we're actually in agreement with the industrial community that they're entitled to know if indeed science identifies another substance that should be treated that way. But that, we don't feel, would be appropriate to disregard until we went through a separate rulemaking to add it to that list. And with that in mind, we are working with industry to try to find a way to accomplish that.

MS. TIPSORD: Mr. Rao and I were just looking again at the bioaccumulation chemical concern definition that exists in here. This is a definition section in the rule. The definition seems to have almost criteria in it, and we'd like while you're looking at this, continuing to look at this, perhaps you might consider putting this in its own section or in a section other than just the definition section to make it a more firm rule than

just a definition.

MR. FREVERT: I'm not sure I understand what you're recommending.

MS. TIPSORD: You define it but you also give criteria on what it takes to become a BCC. And criteria within the definition section can sometimes cause problems. And that's why I suggest you might just take a look at it to see if there's a way to --

MR. RAO: It's almost look you have listing criteria here, then you add the language, you know, it's not limited to what you have listed. So it may help make the rules better --

MR. FREVERT: What we're trying say is a bioaccumulative chemical of concern is anything that has this bioaccumulative characteristic; and by the way, here's a handful of them that we already know behave that way. There may be others it's not intended to be a list. It's intended to be a definition based on its bioaccumulative characteristics.

Now, with that in mind, I'm still not sure I understand what you're recommending to us.

MR. RAO: Actually we're not recommending

something profound. It's more like we thought since it's an important part of the rule, it could have its own section if you think it's something you can do.

MR. FREVERT: My recollection is BCCs are dealt with specifically in the antidegradation provisions, the add-on provisions of .512, page 22, and also supplemental mixing provisions in 302.515.

Would you want us to make reference to that definition in both of those sections?

MR. RAO: That would help too.

MR. FREVERT: We aim to please.

MS. TIPSORD: Anything else on 510?

MR. WARRINGTON: In response to your earlier question about conflicting definitions between those in 35 Ill. Adm. Code 302.100, the conflicting definitions in our proposal are the definitions for "chronic toxicity" at page 20 of the proposal, the definitions for "acute toxicity" and "adverse effect" at page 18 of the proposal.

MS. TIPSORD: And those are conflicting from 302.100 because of the Great Lakes Initiative requirements?

MR. WARRINGTON: The proposed language controlling Great Lakes Initiative.

MS. TIPSORD: Thank you.

Are there any questions on Section 302.511?

Section 302.512 any questions?

MR. FREVERT: I might just restate once again for the record, this is the section we know there are two changes that we're going to recommend and we're adding, one to add the reference to Environment Protection Act Section 39(n), dredge and fill permits for Lake Michigan, and in paragraph (b), some mechanism to accomplish the notion that these exemptions have to be considered and awarded on a case-by-case basis rather than a blanket basis or wholesale basis.

MS. TIPSORD: I have a question in 512(a). It says, "unless it can be affirmatively demonstrated that such change is necessary to accommodate important economic or social development." The method by which a permittee would demonstrate this are the methods in subsections (1) through (5) and, more specifically, subsection (2)(C); is that correct? That's how

they would make their demonstrations?

MR. FREVERT: Yes, although there is more detail in the implementation procedures on how we would consider and evaluate whether this applied to the permit. One of the complications here is that I don't believe there is a standard stereotype case where you could anticipate this happening.

An antidegradation review is requested to support some operating mechanism to keep -- for instance, to keep an electric utility in operation if there were no other alternative. It's a whole lot different than an antidegradation based on a contaminated sediment cleanup where you had to use a dredging operation that isn't 100 percent efficient and you're going to lose some of the material in the dredging operation versus probably 20 other examples.

And I believe even the Guidance in some of these questions and answers that USEPA has issued on this subject matter indicates the need to really address -- thoroughly address antidegradation, the impacts, if there are options, the social and economic benefit kind of case by case, almost tailor and customize the analysis.

And I believe that's also one of the reasons that a very important and very critical component of this whole thing is the public involvement that is mandated.

There are going to be -- well, I don't know if there will ever be an application in Illinois, but somewhere in the Great Lakes presumably where someone entity asks for an increase in BCC loading. And I assume in that particular case the local officials and regulatory agency are going to have to more or less design or formulate a special study to address and quantify those things.

We've consciously refrained from specifying any pass/fail criteria like a 10 percent increase in employment or something of that as a satisfactory economic justification. Now, I don't know whether I clarified or further confused but --

MS. TIPSORD: Actually clarified quite a bit. Some of this implementation we're talking about is addressed in the Agency draft rules as well, correct?

MR. FREVERT: That's correct, yes.

MS. TIPSORD: So we're going to have rules on

how the Agency is going to do this and then we'll have "This is the standard" --

MR. FREVERT: This is the standard that we're have to judge whether it's been met if we ever get a request for increased load.

MS. TIPSORD: If the Agency denies that, is that appealable to the Board?

MR. FREVERT: Anything we do is appealable to the Board.

MS. TIPSORD: Thank you. I also have a question then on subsection (b). Along the same lines you talk about "short-term" and then "temporary (i.e. weeks or months)." Does the Agency have any qualification to that or could they qualify? I mean, 12 months? Six months?

MR. FREVERT: Quite honestly, we have struggled with that ourselves. That's language that we took as is from the Guidance. This is federal language. I think what we'll clarify it as, if we can find a way to apply this case by case application where there has to be some designation short-term, you know, almost any dredging project could be characterized as short-term. Construction activities, is short-term one week? Is it six

months? Is it a year and a half? I think that's probably another reason USEPA has clarified in their guidance the requirements that even these exceptions have to be consciously considered case by case whether or not they meet the intent. And I don't know.

The other thing I might -- as long as I'm speaking out and clarifying -- in addition to appeal rights, if we denied somebody's request to apply this antidegradation waiver through a demonstration, they not only have the option of appealing this, they also have the option of going directly to the Board with an adjusted standard and going to rulemaking and saying, "Well, maybe we don't comply with this rule, but there's a justification for us doing this so let's go to the rulemaking and do that." There are more than one escape routes if this creates an unworkable situation.

MS. TIPSORD: Thank you.

Anyone else? Moving on to 302.513?

302.515?

March 23rd, 1997. Do we have to use that date or can we use the effective date of the

rules? If we have to use March 23rd, 1997, could you explain why and explain why this is not a retroactive application of the rule?

MR. FREVERT: My recollection is this is a direct extraction from the Guidance. These dates were specified in the March 23, '95 publication.

If there's anyone out there that can agree with me or correct me, please speak up. That's my recollection. I'll be happy to confirm it.

MS. TIPSORD: Yes, we'll have to explain why this is not a retroactive application if we use those dates. This would appear to make the rule effective prior to the Board adopting that. And that will be a problem at other levels.

MR. FREVERT: And that's a good point. I think if we have to change that date, obviously to meet our Illinois regulatory process, then we'll have to have some communication with USEPA and find a way to make it all work because I am sure this number was the number imposed upon us.

MR. MOSHER: Excuse me. I think she's going to run out of paper.

MS. TIPSORD: Now might be a good time to take

a 10-minute break. Thanks.

(Recess from 2:08 p.m. until 2:23 p.m.)

MS. TIPSORD: Let's go back on record.

Before we proceed, due to some airline problems -- Mr. Frevert is going to have to leave in the next hour or so -- we also have -- I'm sorry. I've forgotten your name.

MS. KARNAUSKAS: Joan Karnauskas.

MS. TIPSORD: -- Joan Karnauskas who's here to provide testimony. So at this time what I think we'll do is let Ms. Karnauskas present her testimony and see if there are any questions for her, and then we will address the remaining questions to the Agency. If Mr. Frevert prefers that we wait to have answers at this time, we can do that except that I am going to ask that most of the questions -- we'll read questions into the record and we would like -- I would like to have them answered prior to the target June 19th date simply because some of these questions do need to be addressed before we can proceed. So we will read all questions from the Board members and the public into the record after that and get them on

the record.

Is that satisfactory to everyone?

MR. FREVERT: Appreciate it.

MR. WARRINGTON: Okay.

MR. FREVERT: Joan, come on up.

MS. KARNAUSKAS: Good afternoon. As has been indicated, my name is Joan Karnauskas.

MS. TIPSORD: You need to be sworn in first.

(The witness was sworn by the court reporter.)

MS. KARNAUSKAS: My name is Joan Karnauskas,, and I am the chief of the Standards and Applied Sciences Branch of the USEPA, Region V, Water Division. Thank you for the opportunity to speak this afternoon.

It is somewhat unusual for USEPA to participate in state proceedings such as this, but there is a matter of some urgency relating to this rulemaking of which I wish to make sure you are aware. That matter is the issue of timing. Under the Clean Water Act, states had until March 23rd, 1997 to adopt rules conforming to the Great Lakes Guidance which, as you know, was published on March 23rd, 1995. Absent state adoption by

March 23rd, 1997, the statute requires USEPA to promulgate the Guidance in that state.

There exists no statutory waiver to this requirement. The Agency is committed to working with the states toward adoption and promulgation of the Guidance, and it has been our hope that we would not have to promulgate for any of the states. However, we will promulgate in those situations where we find that the state proposals are significantly lacking in consistency or where there is unreasonable delay.

I encourage you to explore options for expediting this rulemaking process in order to minimize the likelihood of federal action.

Thank you.

MS. TIPSORD: Are there any questions?

MR. FREVERT: I have a question.

Ms. Karnauskas, is there any indication that the environmental community that's overseeing the Great Lakes Initiative has made gestures or indications that they might intercede with some kind of litigation on those states that are late in adopting the Guidance?

MS. KARNAUSKAS: Yes, the National Wildlife

Federation has filed a notice -- it was filed on March 24th -- of their intention to sue the Agency. We expect to see the complaint on May 24th.

MS. TIPSORD: Thank you very much. We really greatly appreciate your being here.

Then we will proceed with the questioning and I'll continue section by section and keep an eye on the time. And we're done with Section 515.

Are there any questions on 517?

518? There is no 518.

519.

I'm sorry. Go ahead. Whitney.

MS. ROSEN: Thank you. Does the Agency agree that the GLI Federal Guidance provides for the use of test species other than those referenced within proposed Section 302.519(b)(3)?

MR. MOSHER: Yes. There are a few other species that are provided for in the GLI.

MS. ROSEN: Will the Agency commit to including language which will allow for the use of other test species consistent with the GLI?

MR. MOSHER: I don't think we'd have a problem with that as long as we word that provision such that we can get the more common and widely used

species to be done also. And if someone chooses to use a third or a fourth species that is on that GLI list, we wouldn't have a problem with that.

MS. ROSEN: So you are committing to possibly continuing discussions during the interim prior to the next hearing and work out language on that issue?

MR. FREVERT: It's our intent to modify the language of this -- I believe it's Section 302.519(b)(3). It's our intent to -- and perhaps paragraph (c) as well -- it's our intent to draft some supplemental language and have it available for the Board at the earliest time possible.

MS. TIPSORD: Mr. Frevert, there's no paragraph (3). Is that the hanging part?

MR. WARRINGTON: That's the other part of the errata list.

MR. FREVERT: There will be a (b)(3).

MS. TIPSORD: That was one of my other questions.

MS. ROSEN: That was what I was referencing. Thank you.

MS. TIPSORD: Can we back up to 517?

Dr. Girard, you had a question?

DR. GIRARD: I had a question. It went by me very quickly. If you can look at 302.517(c), we've got several equations down there; and in the first equation where "U" is the concentration of un-ionized ammonia in the denominator there, there's a bracket at the beginning of that, but I don't see a bracket ending.

DR. OLSON: Um-hum.

DR. GIRARD: And I just wonder if you could clarify that in your comments back to us if there's supposed to be an ending bracket.

And also look down at the equation for "N" right below that, same thing. We have a beginning bracket after "U" and I don't see an end bracket in that equation. So if you could just take a look at that and get back to us and tell us how that should be.

MR. MOSHER: I think we can solve that right now. There should be a closing bracket. In the "U equals" equation there should be a closing bracket after the "0.0559." And the same is true for the "N equals" equation. And that, of course, isn't a new proposal. That's just a -- well, I guess it is -- it's -- it should be identical to what exists

in 302.212, and we'll get those brackets on there.

MR. POLLS: Could I ask a question on that 302.517? With regard to the standards that are in this proposal, are those identical to the standards that were in the recent regulatory hearing on ammonia that was brought before the Board?

MR. MOSHER: Yes, they are.

MS. TIPSORD: Going back to 519, Subsection (f). Can you refer to the procedure of this subpart set for the minimum data requirements? Is that indeed for the subpart or just to the section -- the subsection?

MR. WARRINGTON: It's referral to all of Subpart E.

MS. TIPSORD: Then in view of that, I'd ask you to take a look at this Subsection (g) and (h) as well and consider the possibility of putting them in a separate section. We have -- Subsection (g) and (h) then also don't seem to relate to what's in (a) through (e), and (h) does refer to (a) through (e), but then gives some sort of exception as far as when they don't apply.

And it's just been pointed out to me that a change that Jay Carr asked for in TACO, on page 28

you have (g) starred out with no -- (g)(1) is the first part of it. They have asked that something be inserted in (g) before you get to (1.)

MR. WARRINGTON: That should have a narrative before you go to the letter?

MS. TIPSORD: Yes. Which is new to TACO. They asked us to do it in TACO, particularly with Subsection (f). Since it refers to the entire subpart, it's kind of buried in this. So I just ask you to take a look at the organization.

And finally the phrase "proof and persuasion" in (g)(3) talks about "in an action where alleged violation of the toxicity water quality standard is based on alleged excursion of a criterion or value, the person bringing such action shall have the burdens of going forward with proof and persuasion." That seemed to be different.

MR. WARRINGTON: It may be, but I think that was taken from the existing Board rules.

MS. TIPSORD: Could be. It just seemed to be a different phraseology.

Then I have a note here. You talk about challenging the validity and correctness of the criterion, and you have to do it the first time

it's given to you in an NPDES permit. If you don't do it in an NPDES permit, you seem to waive the ability to challenge that later.

Would that be true if, for example, permittees' circumstances changed in some manner that would affect that criterion?

MR. WARRINGTON: The intent was to make the procedure parallel the existing Subpart F procedures. And off the top of my head, I can't give you an opinion as to whether change in circumstance would change that binding effect of the application. That's one we'll have to get back to you on.

MR. FREVERT: Again, what specific paragraph is that cited in?

MS. TIPSORD: (G)(1), I think. Yes, it's in (g)(1), talks about waiver.

Does anyone else have questions on 519?

523?

525?

The question I have here is to basically the entire second sentence. It may be because it's so long. "To the extent available, and to the extent not otherwise specified, testing

procedures," et cetera, "must be according to methods published by USEPA or nationally recognized standards organizations."

What exactly does that mean? That you can use any testing procedures that are published?

MR. WARRINGTON: Once again, 302.525 is taken from the existing Board rules in Subpart F. Off the top of my head, I've not been able to review it as to what the scope of methods is that we've accepted over the years in applying Subpart F, but it is intended to be consistent with that.

MR. FREVERT: My recollection, even back from those original tox exchanges, was the intent to bring in things like ASTM standards, other people that are in the business of publishing scientifically-recognized and testing and even sample collection procedures.

Why that was the language to accomplish that that was selected in R88-21, I don't know. But my recollection is saying you're not limited to just UA published procedures, but it needs to be something that's undergone some peer-reviewed adoption like American Standards for Testing Materials, I believe, is what "ASTM" stands for.

Those kinds of recognized testing procedures.

MS. TIPSORD: This is intended to give the regulative community a variety of places to check --

MR. FREVERT: Access to those other procedures, yes.

MS. TIPSORD: Thank you.

MR. RAO: A follow-up question. With regard to the standards adopted by nationally-recognized institutions, under Part 301, 301.106 incorporates by reference, we have a whole list of documents that we incorporated published by ASTM, NTIS and, I guess, USEPA.

Are those documents in any way related to what you're proposing here under 302.525?

MR. FREVERT: Yes, I would assume so, yes. It may not be all-encompassing, but this language is intended to capture and accommodate those kinds of things, yes.

MS. TIPSORD: 527?

MR. RAO: I have a question which relates to what we were talking about just now. With regards to analytical testing, you say the testing should be done in accordance or consistent with the

USEPA's current manual of practice. Is there a specific document that you're referring to?

MR. FREVERT: Yes, I think it is, but these gentlemen may work with it more on a day-to-day basis than I do.

MR. RAO: Mr. Mosher?

MR. MOSHER: We can't remember where that came from, but we'll get back to you.

MR. RAO: Can you take a look at it and, if there's a document, perhaps incorporate it by reference?

MR. FREVERT: There may even be more than one document. It's not at all unusual for USEPA to publish analytical methods manuals for, you know, certain specialized areas of analysis.

MS. TIPSORD: 529?

I would just point out that 302.529 is identical to 302.101.

MR. WARRINGTON: Okay.

MS. TIPSORD: I'm not sure you need it both places. You might want to take a look at that.

MR. WARRINGTON: Okay.

MS. TIPSORD: Then 531?

MR. RAO: I have a question on 531. Under the

section you have incorporated a whole bunch of documents, mostly federal regulations, plus some specific testing protocols. Would it be possible for you to provide a brief discussion as to the relevance of these documents while you're incorporating these documents in the rule? You can do that in writing if you think that would be easier.

MR. MOSHER: Okay. We'll put something together on that one too.

MR. RAO: That would help us a lot. We had a lot of questions on recent rules that had a whole bunch of incorporations.

Another question on incorporation by reference is under Subsection (a) you have a list of abbreviations. Are these abbreviations used in the proposal or in the documents that we have incorporated by reference?

MR. WARRINGTON: I believe they're used in both. I believe we also just copied that simply from the existing Board regulations just to --

MS. TIPSORD: Would it be possible -- some of these really should be in the definitions section. "USEPA" should be in the definitions section if

it's not already. Ask I don't think you need to repeat it here. I think the point Anand is getting at is with this section, you don't use "ASTM," "GPO" or "NTIS" or "standard methods." So if you do use them elsewhere, they should also be in the definitions section rather than being here.

MR. WARRINGTON: Okay.

MS. TIPSORD: And I have also a question. I did not find a copy of the American Public Health Association document in the proposal. Did I overlook it? If I did, I apologize. If not, can we get a copy of that either --?

MR. WARRINGTON: I can't recall it either. But we can supply you with a copy.

MS. TIPSORD: That would be good.

MR. RAO: Actually we have in the Board library the Standard Methods.

MS. TIPSORD: We don't need it then. Thank you.

533? Any questions?

MR. RAO: I have a clarification question. Under Subsection (b), you say "Minimal data requirements." Should it be "minimum" or is that just "minimal"?

DR. OLSON: "Minimum" is a noun, I believe, and "minimal" is an adjective.

Any grammarians present?

MR. FREVERT: Not me.

MR. COHEN: I'll weigh in. I think it is a noun, but I think it should be used as a noun. It's a double noun, "minimum" and "data." That's my vote.

MR. FREVERT: You're going to have to be sworn in. No.

MS. TIPSORD: Anything else?

535?

540?

542?

Clarification point. I assume that the entire table in Subsection (b) is new? It should all be underlined, correct? 542(b)? That is all new?

MR. MOSHER: I think our copy has it all underlined.

MS. TIPSORD: The "4" is not underlined in my copy.

DR. OLSON: It's all new.

MS. TIPSORD: 545?

550?

Let's maybe make this easier. Does anybody have any other questions on 302?

MS. ROSEN: Thank you.

Regarding Section 302.560(b)(2)(A) and (B), does the Agency agree that the GLI Guidance provides for the use of other data than those referenced within those subdivisions, (A) and (B)?

DR. OLSON: That's something I talked about with Eric a little bit.

Madam Hearing Officer, we have a problem in this wording. For Tier II, if you only have BAFs determined by these methods, then that makes it a Tier II. But the criterion depends on two factors. It depends on the toxicity factor in the numerator and it depends on the BAF factor in the denominator. If either one of those is deficient, it has to be a Tier II.

So I had -- it was pointed out to me that that wasn't worded very well, and the substance is all I care about. If we can get -- if we can find some wording for that -- wording I added -- IERG gave us some wording that unfortunately was not adequate at all --

MS. ROSEN: That's fine.

DR. OLSON: -- under Tier II -- so this is our page 46, Section 302.560(b)(2), Tier II, letter (A) "For organic chemicals with a BAF of greater than 125, at least a BAF derived from a measured BCF or calculated BCF is required" would do it. I don't know whether the lawyers would like that.

MR. FREVERT: We'll continue to work on this and get you revised language along with the other revisions.

MS. TIPSORD: Okay.

MR. FREVERT: But our intent is to capture apparently more than these words capture.

MS. ROSEN: So just to kind of restate, you are committed to continuing discussions on this issue?

MR. FREVERT: Yes, I think -- I think generally we're in agreement on what we're trying to accomplish. We're just trying to find the right words to accomplish it.

MS. ROSEN: Thank you.

MR. COHEN: One quick question. I'm sorry to skip back to 302.355 -- part 55 -- 302.555. Addressing your attention to the introductory

paragraph, the last sentence, I wanted to ask Dr. Olson or Mr. Frevert, how would this possible selection of different target species for non-BCCs be implemented?

DR. OLSON: Well, this would be done in the permit process, and we really don't have any idea what -- how this would be done at this point because this is a very brand new area. But in any permit discussion over the use of criteria, all these issues can be brought to the floor.

And we're saying that this is up for discussion for non-BCCs that if we can decide that some other target species are adequate or superior, those should be used. That's all we're saying. But we don't really have any idea how that can be done at this point.

MR. FREVERT: I guess the only thing I'd supplement that -- and stating from a practical matter -- we think there are very few, if any, circumstances where we're going to be able to apply wildlife criteria with the data set that's available now. But we believe if somewhere there is a methodology and a procedure down the road to allow that, there may be the need to apply it.

I believe in the seven years that we've had Subpart F on the books, we've derived wildlife criteria no times?

MR. WARRINGTON: That's correct.

MR. FREVERT: If there's a circumstance where there is a wildlife community that's in danger, presumably we are capable of responding if there's scientific data that suggests what our response is. But lacking that data, there's really nothing we can do. And our experience has been we've yet to find that wildlife community at risk here in Illinois anyway.

MS. TIPSORD: Any other questions to Part 302?

Let's move along to Part 303. Are there any additional questions of Part 303? Only Section 443 is being amended. Are there any questions?

MR. FREVERT: May I point out there was some testimony earlier this morning.

MS. TIPSORD: How about Part 304?

Seeing none, can we go off the record for just a second?

(Discussion off the record.)

MS. TIPSORD: Seeing no additional questions at this time, I think we'll --

Let's go off the record for just a minute.

(Discussion off the record.)

MS. TIPSORD: Let's go back on the record.

Let me first say that we will -- I'll put out a hearing officer order to follow this up, but we will require prefiling testimony for the July 28th hearing to be filed on July 14th, 1997. I will also ask that the Agency get any written comments in as soon as practicable so that we can incorporate them in any opinion and order the Board does --

MR. WARRINGTON: First notice. Glad to.

MS. TIPSORD: -- for the targeted June 19th date.

MR. WARRINGTON: And if the Board has any additional questions that arise after this hearing, please feel free to copy me or Toby on them. It goes to the public too. If there's any questions or comments that they'd like the Agency to consider prior to your target date, we'll do our best.

MS. TIPSORD: Dr. Gerard?

DR. GIRARD: Thank you.

I'd just like to give a special thanks to

Joan Karnauskas of the USEPA for stopping by our hearing, and I think all the participants here have heard the USEPA's plea for expediency in this rulemaking, and we do understand why you make that plea. And we have targeted a completion date sometime in November of this year for this rulemaking, and I'm sure I can speak on behalf of the Board and the Illinois EPA and the industrial representatives here that everyone is working toward making that target date. And so you can take that back to your Agency. But we will work very diligently to meet that, and it will be done in a timely fashion. But thank you for coming.

MS. TIPSORD: I echo Dr. Girard's thanks. We greatly appreciate your being here.

And I thank all of you for your time and attention here today. I think we're well on our way to developing a good record, and I look forward to seeing all of you in July in Waukegan. Thank you very much.

This hearing's closed.

(Whereupon, at 2:55 p.m., the hearing was adjourned.)

STATE OF ILLINOIS)
) SS.
COUNTY OF DU PAGE)

I, KIMBERLY A. SMITH, Certified Shorthand Reporter No. 84-1483, Certified Realtime Reporter, Registered Diplomate Reporter, and Notary Public in and for the County of DuPage, State of Illinois, do hereby certify that I caused to be reported in shorthand and thereafter transcribed the foregoing transcript of proceedings.

I further certify that the foregoing is a true, accurate, and complete transcript of my shorthand notes so taken as aforesaid; and further, that I am not counsel for nor in any way related to any of the parties to this action, nor am I in any way interested in the outcome thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my notarial seal this 22nd day of May, 1997.

_____
Kimberly A. Smith, CSR, CRR, RDR
Notary Public, DuPage County, Illinois

My Commission Expires
September 3, 1997.