BEFORE THE POLLUTION CONTROL BOARD

OF THE STATE OF ILLINOIS

In the Matter of:	:	
	:	
BF GOODRICH CORPORATION,	:	
Petitioner,	:	
	:	
vs.	:	No. PCB 91-17
	:	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	:	
Respondent.	:	

REPORT OF PROCEEDINGS in the above entitled cause commencing at the hour of 10:00 a.m., at the Marshall County Courthouse, 122 North Perry Street, Lacon, Illinois, on Tuesday, the 19th day of November, A.D., 1991,

BEFORE:

RICHARD T. SIKES,
ARBITRATOR,
11 South LaSalle Street
Chicago, Illinois 60603

PRESENT:

RICHARD J. KISSEL, ESQ.
LISA ANDERSON, ATTORNEY
Gardner, Carton & Douglas
321 North Clark Street
Chicago, Illinois 60610-4795
for the Petitioner;

LISA E. MORENO
Assistant Counsel
Water Pollution Control
2200 Churchill Road
Springfield, Illinois 62794-9276
for the Respondent.

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E X H I B I T S

P R O C E E D I N G S

10:00 A.M.

HEARING OFFICER SIKES: Let the record reflect that this is the hearing in the case of BF Goodrich versus the Illinois Environmental Protection Agency before the Illinois Pollution Control Board in case number PCB 91 - 17. My name is Richard T. Sikes and I am the duly appointed hearing officer by the Board to conduct this hearing. This is a petition for permit appeal filed by BF Goodrich against the Illinois Environmental Protection Agency. Would you please identify yourselves for the record, counsel?

MR. KISSEL: My name is Richard J. Kissel of the firm Gardner, Carton and Douglas and with me is Lisa Anderson of the same firm. We represent BF Goodrich in this matter.

HEARING OFFICER SIKES: And on behalf of the Illinois EPA?

MS. MORENO: My name is Lisa Moreno and I am assistant counsel in the department of legal counsel. And I have sitting with me, Mr. Rick Pinneo who's in the permit section and he is going to act as my technical advisor.

HEARING OFFICER SIKES: Are there any preliminary motions that ought to be made at this time, anybody wish to make any at this time?

MR. KISSEL: None.

HEARING OFFICER SIKES: Miss Moreno?

MS. MORENO: No.

HEARING OFFICER SIKES: Mr. Kissel, on behalf of the petitioners, you do you wish to make any opening statement for the record?

MR. KISSEL: We do, yes. Thank you, Mr. Sikes. You have properly characterized this as a NPDES permit appeal brought by the BF Goodrich Company as a

result of the certain conditions imposed in a NPDES permit which was issued by the Illinois EPA on December 28, 1990. Basically, we have raised in this appeal four issues.

The first issue we will raise is the applicability of section 304.122 B to the discharge from the Henry facility which is the subject of the NPDES permit. The essence of that rule, if applied, would require the limitation of ammonia nitrogen in the discharge from the Henry plant. We believe that the Board should find that the rule is not applicable to BF Goodrich for two reasons pleaded or stated in the alternative. The first is that the rule itself initially characterized rule 406 of the Board's chapter three rules, was adopted and by the Board, promulgated in 1973, and has remained in effect in the same exact identical language since that date to date. We believe the testimony will show that the agency was well aware of the discharge of ammonia by the Henry facility, beginning in the early seventies through this entire period while the rule was in effect; that it was aware that the amount of ammonia coming from the facility would have made it subject to the rule in part, and that

the Henry facility can be computed on a population equivalent basis equivalent that for or comparable to that for municipal waste treatment facilities. If that is true and we believe that the testimony will so show, we believe that the rule therefore is not applicable to it.

The second area or second issue on appeal is the condition -- I believe it's special condition six, -- requiring certain bio monitoring and toxicity studies. We believe that the testimony will show that this section is totally premature as well, because the ammonia standard is not applicable to the Henry facility.

The third issue we have raised is the question of separation of outfalls in the 1990 permit which is the subject of this appeal. The Agency characterized two outfalls: Outfall 001 and outfall 001 A. We believe, that first of all, physically it is only one outfall. And secondly, even if they could be separated and they shouldn't be because they are part of an entire treatment system and that entire treatment system by either the Agency's own admission or by testimony, will show that there is being applied to that

it had made a conscious decision not to include that, not to apply that rule to the Henry discharge. That decision remained in effect from 1973 until 1990 -- some 17 years.

In addition to this, not applying the rule, to the Agency not applying the rule, the fact is that Henry, the Henry facility itself relied on the fact that the Agency did not apply the rule and in fact constructed facilities at the Henry plant because that rule was deemed not applicable. Furthermore, the testimony, we believe will show, that the rule is based on a dissolved oxygen requirement or standard and that we will show that the Henry discharge does not have any impact on the dissolved oxygen of the Illinois River.

Therefore, our first argument as to the applicability or lack thereof is that we believe the Agency by law, is estopped to apply the rule to the Henry facility at this point.

Secondly, we believe that argument is persuasive and the Board should find in our favor at that point; however, looking at the language of the rule itself, we do not believe it is applicable because we believe that the, that the Henry, that the waste from

stream, those streams, the best degree of treatment as that term is used in the Illinois regulations. Therefore, the outfalls can be combined and measured as one.

The fourth issue of appeal, is the OCPSF guidelines -- and let me just -- if I can get the exact character of what that means -- -- these are the Organic Chemicals, Plastics, and Synthetic Fiber guidelines which were promulgated by United States EPA and in part are applicable to the Henry facility. We believe that the Agency has mistakenly done two things in the application of those rules to the Henry discharge.

First, it used a monthly average flow to calculate the daily maximum mass limitation. We believe that is an error in using the wrong flow number.

Second, we believe the Agency was in error in imposing concentration limits for the various parameters under that guideline, because the entire basis and sole basis of the OCPSF guidelines is a mass limitation.

So, these are the four areas. Obviously, the testimony will be in much more details

than what I am giving you but I thought I would give the Board some flavor and the Hearing Officer some flavor of what we're intending to show. We intend do call four witnesses during this proceeding. First will be Kenneth Willings; he is an employee of BF Goodrich, currently operating out of Brecksville, Ohio, but has had eleven years' of experience at the BF Goodrich, Henry facility. Second will be Dr. James Patterson who's a recognized expert before the Pollution Control Board not only in general effluent matters but also specifically in ammonia treatment technology. The last two witnesses are both employees of the Illinois EPA, Mr. Tim Kluge and Mr. Rick Pinneo.

With that, I have just one other point to make and not as opening remarks, but as we indicated prior to the opening of this hearing, we have been advised that Dr. Patterson will not be available for today or tomorrow. Because of a -- hopefully, it's not too serious, but it certainly is debilitating now, -- an illness to his eyes. He's been advised by his physician to basically not read or subject himself to light for at least five days. I have discussed this

matter with Lisa Moreno and so we will ask this Hearing Officer at the close of today's hearing to postpone this matter to a date certain, at which time, Dr. Patterson will be made available. With that, I am finished with my opening remarks.

HEARING OFFICER SIKES: Ms. Moreno, on behalf of the Agency, do you wish to make any opening statement?

MS. MORENO: I'd like to reserve my opening statement.

HEARING OFFICER SIKES: You may. We will take up the matter of Dr. Patterson at the conclusion of today's hearing. Okay. You may proceed with your witnesses, Mr. Kissel.

KENNETH WILLINGS,

a witness called by the Petitioner, being first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

HEARING OFFICER SIKES: State your name and spell your last name.

A. My name is Kenneth J. Willings, W-I-L-L-I-N-G-S.

HEARING OFFICER SIKES: Excuse me, before we start, I am obliged to inform the witness and any witness that might testify that one of the discretionary things that the Hearing Officer has is a right to comment upon the credibility of witnesses and I do so in my report to the Board. Every witness should know that I will be making a comment on his or her credibility. Thank you. You may proceed, Mr. Kissel.

EXAMINATION (Continued)

BY MR. KISSEL:

Q. All right. Mr. Willings, what is your

current address?

A. Currently, I live at 700 Berkshire Drive, Medina, Ohio.

Q. Can you briefly describe your educational background for the Board?

A. I have a BS ED in education. With specializing in math and sciences.

Q. From what school?

A. Illinois State University.

Q. And what year did you graduate?

A. 1976.

Q. Other than that, have you received any advanced degrees?

A. I have not received any advanced degrees. I have taken graduate courses.

Q. Okay. Can you describe what those are, please?

A. I have had courses in business administration and engineering, industrial engineering. In addition, I have taken various seminars put on by USEPA on the water pollution control federal regulations and other seminars put on by industry.

Q. Can you, sir, can you describe, can you

describe the substance of some of those conferences and seminars?

A. Yes. The seminars I attended, a number of them were technical seminars, specifically dealing with ground water regulations, RCRA water pollution pollution control dealing with bio toxicity and the organic chemical guidelines and the OCPSF guidelines.

Q. Were any of the seminars or courses dealing with wastewater treatment?

A. Yes. A number of those seminars, the OCPSF seminar, deals with the organic chemical manufacturing industry and the treatment. And in addition to that, I took a college course related to wastewater treatment. And the courses I took, the technical courses I took with the water pollution control federation, were technically oriented toward wastewater treatment.

Q. After graduating from Illinois State, where were you employed?

A. From 1976 to 1977 I was employed at the Peoria School District as a math teacher.

Q. And?

A. In Peoria, Illinois. And from 1977 to 1979, I was employed at the Princeton School District as a math and reading teacher.

Q. Okay. After being at the Princeton Educational District, where did you work?

A. I was employed by the BF Goodrich Company at the Henry, Illinois plant in 1979. And I was a chemical operator, I believe is what the exact title is.

Q. Can you tell us what your responsibilities were in that position?

A. Initially when I started in that position I was in the laboratory, conducting testing analyses, dealing with industrial hygiene and environmental control tests. Specifically, analytical work dealing with the condensation of vinyl chloride in the products that are being produced, and personal exposure of monitoring and also in wastewater after stripping. In addition, I performed other industrial hygiene analytical tests. And various tests in the laboratory.

Q. Did you have anything to do with product packaging?

A. Yes, I spent a short time in the laboratory running those tests and then then I was involved in

product packaging following that until 1980, '81.

Q. Were you involved in any way with OSHA requirements?

A. The industrial hygiene requirements, or the industrial hygiene tests that I analyzed were used for OSHA compliance purposes.

Q. How long were you a chemical operator?

A. For fourteen months.

Q. And so that would take you to what date?

A. January of 1981.

Q. And at that point, did you get a new position within the company?

A. I was, I accepted a position as an associate environmental engineer at the BF Goodrich Henry, Illinois plant.

Q. Can you tell us what the responsibilities of that position were?

A. In that position, I was responsible for the industrial hygiene compliance for the specialty polymers and chemicals area. I supervised and was responsible for compliance with RCRA and solid waste compliance for the entire facility. And in addition to that, I was responsible for -- particularly in

the specialty polymers and chemicals areas, the air pollution control. And was involved in the wastewater treatment area, from a -- not from a day-to-day standpoint but on an as-needed basis assisting the wastewater treatment operator, and involved in discussions in that area.

Q. During that period beginning in January of 1981, while you maintained or had the job as associate environmental engineer, did you become familiar with the operations at the wastewater treatment plant?

A. At that time that's when I started learning what the wastewater treatment plant did at our facility and what it consisted of -- that was part of the learning process in that associate environmental engineer's position.

Q. Did you have any contact then with the operation of the facility?

A. Yes.

Q. And can you tell us in some detail what that was?

A. The certified operator was in the environmental department. And he and I would discuss issues on a technical basis and also, on an operational

basis of what was going on day-to-day at the wastewater treatment facility. And in these discussions when problems occurred, we would sit down and discuss what the issues were and work our way through them from that side.

Q. Okay. How long did you remain as associate environmental engineer?

A. Until 1983.

Q. And what happened at that time?

A. I was promoted to an environmental engineer.

Q. Can you tell us what the responsibilities of that position were?

A. I was responsible for the industrial hygiene compliance at this time for the polymer vinyl chloride operations and I was responsible for the air pollution control of the poly-vinyl chloride areas, in addition to other facility projects that would come up I would be responsible for. I was responsible at that time or took over the responsibility of providing technical input into the wastewater treatment area. In addition, I prepared construction permits, for the wastewater treatment processes. And also, reviewed compliance or oversaw compliance with the NPDES permit at that time.

Q. During that period beginning in 1983 as an environmental engineer, is that when you first became involved with the drafting of actual drafting of and involvement in the permit process for the wastewater treatment plant?

A. Yes. Yes. When I was in that position -- I am not sure if it was exactly in 1983.

Q. Okay. Were you ever involved in the coal boiler project during that time?

A. Yes. I was involved in the permitting of the fluidized circulating bed coal boiler. And applied for the permit prepared and applied the permits for the wastewater treatment treatment of that coal boiler and other necessary permits.

Q. Did that necessitate your involvement with the waste treatment plant on a daily basis?

A. In that position, yes, yes.

Q. Okay. How long did you remain in that position?

A. Until 198 -- '85.

Q. And what was, what happened in 1985?

A. In 1985 I was promoted to senior environmental engineer.

Q. I take it, -- I didn't ask the question -- but I take it, all these jobs were promotions and not demotions?

A. Yes. They were all promotions.

Q. We ought to tell the Board that, I suppose. What was your position then in 1985?

A. I was the senior environmental engineer and I was responsible for supervising all industrial hygiene lines and all environmental affairs for air, water and waste for the entire facility.

Q. What specifically was your relationship to the wastewater treatment facility?

A. I was to provide technical consultation to the operating unit that operated the wastewater treatment facility and I also oversaw the compliance of the wastewater treatment facility. In addition, I prepared construction permits and evaluated the NPDES permit for the facility.

Q. What was your role at that time in determining what standards were applicable to the wastewater treatment facility?

A. It was my responsibility to review the regulations either the federal regulation or the state

regulations, and to determine with the operations that we had at the site what regulations were applicable to the site and determine whether they were in compliance with those regulations. And if a new regulation was coming out, or a change, to analyze that regulation and to bring that to the attention of upper management.

Q. Okay. And how long did you remain as senior environmental engineer?

A. Until 1987.

Q. And in 1987, what happened?

A. I was promoted to senior health safety and environmental engineer.

Q. And how long did you have that position?

A. For two years.

Q. And then what happened?

A. And then I was promoted to manager of health safety and environmental affairs.

Q. Can you describe to the Board, what your responsibilities were as senior health safety and environmental engineering between 1987 and 1989?

A. My responsibilities included, included all compliance for environmental affairs. Air, water waste, overseeing the facility, supervising the environmental

group. Which I did prior to that as a senior engineer but in addition, I picked up the responsibilities of overseeing the health and safety affairs and dealing with OSHA and other regulatory agencies involved in health and safety for the entire facility. And the safety department reported to me at that time.

Q. Can this be characterized as the environmental person in the BF Goodrich facility at Henry?

A. I am sorry?

Q. I mean, the number one environmental person; you were the one who was handling the environmental area?

A. Yes.

Q. How did that change when you were promoted to manager of health, safety and environmental?

A. That, when I, with that promotion, I was reporting directly to the plant manager.

Q. Okay. So, that was from 1989 until 1991?

A. Correct.

Q. Did your duties change at all between the job from '89 -- '87 to '89 and '89 and '91?

A. Basically, it was administrative duties that

changed.

Q. During that four-year period from 1987 to 1991, what was your involvement with the wastewater treatment plant at the Henry facility?

A. My involvement was to oversee all -- all compliance for the facility, provide technical direction for the facility. My group, my environmental group and myself prepared the NPDES permits, either the construction or the re-application for the NPDES permit discharge. And to oversee regulatory issues that may be emerging.

Q. What was your contact with the operations at the wastewater treatment process in terms of time during that period?

A. Very close to daily contact.

Q. Okay. And, what happened in January of 1991 with regard to BF Goodrich?

A. At that time I was promoted or accepted a promotion to -- to become the senior manager of health, safety and environmental for the specialty polymers and chemicals division of BF Goodrich.

Q. And can you describe what that position is?

A. In this position I am responsible for

directing the affairs for the health, safety and environmental compliance for the specialty polymers and chemicals division which includes twelve domestic facilities. And as part of that direction, it involves providing technical consultation and regulatory oversight for those facilities. Specially, some of the issues that we get into with the wastewater treatment area are providing or evaluating new technology for use at our facilities.

Q. As part of that, are you involved in any speciality organizations?

A. Yes. I am involved in a number of trade associations. Professional organizations such as the Water Pollution Control Federation, and in addition I sit in particularly -- I sit on the chemical, excuse me, the biological and and chemical division of the hazardous waste management research center, part of a -- part of the New Jersey Institute of Technology and provide direction concerning new technologies in biological and chemical treatment.

Q. Can you just describe what that biological chemical treatment division, what its purpose is and what you do on a regular basis?

A. The purpose, the purpose of that division is to evaluate new technology or new methods for solving wastewater and waste issues by using chemical or biological treatment systems. I sit on the Board with other industries. We fund this organization as part of our research and development, and I sit on a board that evaluates the projects that are proposed and we make decisions on whether to go ahead with these projects or not.

Q. And what is your input into that?

A. My input into it is basically on a reasonableness of the project, and a technical need for the project.

Q. Do you evaluate those projects from a technical and reasonable standpoint then?

A. Yes.

Q. How many members of this group are there? Approximately?

A. Approximately, 25.

Q. And you meet on a regular basis?

A. Yes.

Q. How often?

A. At a minimum annually, to review the

projects, but right now it's an annual meeting. The review goes on during the year.

Q. So, you do it on a regular basis, it's just that you may only meet once a year?

A. Right, right.

Q. But comments are more often than that?

A. Yes.

Q. Mr. Willings, from what I heard you say, you have been at the Henry plant eleven out of the last twelve years, is that correct?

A. That's correct.

Q. At that time, have you gained a working knowledge of the facility and the waste treatment, the wastewater treatment operations?

A. Yes.

Q. Can you first describe a bit, where the Henry facility is and so forth, and some background about it?

A. Yes. The Henry plant is located on the west bank of the Illinois River in Marshall County. To the north of the city of Henry. It's a chemical manufacturing facility that produces poly vinyl chloride, resins and compounds of poly-vinyl chloride

and in addition produces rubber accelerates used in the vulcanizing industries and plastic and anti-oxidants.

(Whereupon the document was marked
Petitioner's Exhibit No. 1
for identification.)

Q. Mr. Willings, I show you has been marked as Petitioner's exhibit number one and ask you to identify that, please?

A. This is a fax sheet prepared by the BF Goodrich Henry, Illinois plant that covers some general topics of economics as far as salaries, total salaries for the facility, taxes, a plant profile showing enrollment and a brief history and description of the facility.

Q. All right. What is that fax sheet used for?

A. This fax sheet is used generally for public relations to give to the media, or to interested parties as far as what is the Henry facility.

Q. Okay. Is that document used by the Henry facility in the ordinary course of its business?

A. The factors that are in here, -- the answer

is yes.

Q. I move the for the admission of exhibit number one.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 1 was admitted in evidence.)

EXAMINATION (Continued)

BY MR. KISSEL:

Q. Can you now describe in a bit more detail the manufacturing operations at the Henry plant?

A. Yes. There are two manufacturing divisions of the BF Goodrich Company at the Henry, Illinois plant. The first division is the geon vinyl division which is the manufacture of poly-vinyl chloride resins and compounds. Generally, this process starts with a reaction where ingredients are added to a reactor and these ingredients are vinyl chloride, water and other additives.

Q. This would be in a vessel of some kind?

A. This would be a vessel. In this vessel, the reaction occurs where the vinyl chloride is placed in a prelimirizer and becomes poly-vinyl chloride. This material is now in a slurry form. It is transferred to or is stripped in the prelimirizer or transferred out of the prelimirizer, but it is of the residual, the poly-vinyl chloride in the slurry.

Once this step is complete, the slurry is transferred to dryers which in it turn, drys it from a slurry into a resin. The resin is then either packaged for sale or is transferred to a compounding unit that adds addtiional ingredients to the resin to make -- the meet customer specifications.

The end purpose of these products, a large portion of the resin that is sold as resin is used in the medical industry for things such as blood bags and other types of medical equipment. The compounded material is used in the construction industry for house siding or vertical blinds, blind applications.

Q. Can you give us some idea of the size of that facility?

A. As far as --

Q. Amount of compounds you produce or something that gives the Board some idea of --

A. I need to stop a second. I don't have that exact number right now. I have lost that number -- what it is.

Q. If you want me come back to that, I will.

All right. We'll get back to that. All right. You talked about the geon vinyl division?

A. Yes.

Q. You said there was a second area or part of the facility?

A. Yes.

Q. What is that?

A. That is the specialty polymers and chemicals division. In that division we manufacture two general groups of products. One is the rubber accelerators that are used in the vulcanizing process or the tire curing process for the tire industry. The other portion is the plastic and rubber anti-oxidant business wherein we produce an additive that is used in plastics such as polyethelene or used in polyethelene to prevent the degradation from light or heat of that material.

Q. Okay. Can you describe of those two general operations, -- what the manufacturing process is for each?

A. As these are batch operations. For the rubber accelerants, the process is basically a vessel which is a reactor. Ingredients are added into it. These ingredients are -- two key ingredients are an amine-based or an organic amine and a sulfumanide or a sulfur-bearing compound -- is introduced to the reactor with the other ingredients.

Following the reaction, the material is then transferred to a dryer. And it is dried and then prepared for packaging.

The anti-oxidants are very similar to this, but don't have the same ingredients. Again, they are placed in a reactor. A chemical reaction occurs and the material is taken from the reacting step and taken to a drying step and then packaged for final sale. Some of the products in this -- that for this business --

Q. When you say this business, you mean?

A. For the specialty polymers and chemicals. The accelerators, of course, are used in the tire

industry. The anti-oxidants are used in things such as FDA-approved additives for polyethelene or even, in one case, the additive is used in baby bottle nipples. So, these are types of various purposes for these materials.

Q. Is ammonia used in any part of that process as an initial ingredient, either the speciality polymers and chemicals or the geon vinyl?

A. As an initial ingredient in one process, a very small process, in the anti-oxidant business, it is used. But it's a very low production rate. Most of the ammonia used at the facility is either used in the ammonia coolers or used as an ingredient to make an emulsifier for the PVC business. But it does not exist as ammonia at that point.

Q. Where then -- as long as we are in the process now, -- where does, where is ammonia generated in the process or how do we find it in the discharge or why do we find it in the discharge?

A. Ammonia, the major source of ammonia for the plant showing up in the effluent is generated from the destruction of the amine compounds, the organic amines in the biological system and the degradation of these

materials yields ammonia as the product of that process.

So, the majority is coming in the wastewater treatment system not as ammonia. It is as a nitrogen compound and amine-based compound going to the waste treatment system.

Q. So, as I understand it, it's, -- when you say biological treatment, you mean, -- strike that.

When you say biological process, what do you mean by that?

A. I mean the secondary treatment step which is an activated sludge system at the wastewater treatment facility.

Q. Okay. Have you finished your explanation as to how ammonia is generated; is there anything else you'd like to say?

A. No.

Q. Okay. Does the BF Goodrich facility use water in its various processes in the plant?

A. Yes. Water at the plant is pumped-in ground water into the plant and is either used as potable water or sanitary water. And what water is not used for that is used for process water. And process water is either

an ingredient for a specific chemical process or used in the cooling process and the cooling towers or in the boilers. For the water -- there are certain specifications for the process water.

The water could be softened and/or demineralized. And that depends on what process it's going to be used for or the application of that water.

Q. I may have missed this -- what is the source of the water at the Henry facility?

A. The ground water. It is pumped from ground water.

Q. All right. And if it is to be used for either sanitary or potable, is there any treatment provided the water at all?

A. No, there is no treatment provided to the potable or sanitary water.

Q. And the processed water, does that include non-contact cooling water as well?

A. Yes.

Q. So, all the processed water, is that then subjected to the same treatment or different treatment, or what?

A. Any process waters that are used as

ingredients are subjected to treatment. There will be different levels of treatment, depending on the process. Some of it will only be softened, some of it will be all the way to being demineralized.

Q. And the non-contact cooling water?

A. The non-contact cooling water would not be demineralized. It would be softened.

Q. Okay. You indicated in your earlier testimony that you have been involved with the waste treatment process at the Henry plant since 1983 or 1981?

A. Yes.

Q. Can you describe that process for us?

A. The wastewater treatment process, going back to the processes that would be discharging wastewater, the first step of wastewater treatment is -- there are a number of pre treatment steps depending on the processes. For the boiler area, there is a pre utilization step prior to going to wastewater treatment. For the vinyl, for the poly-vinyl chloride area, wastewater being discharged goes through a wastewater stripper prior to being discharged.

Also, in the proposal vinyl chloride area, the blending resin wastewater,

-- at a particular production line there, it goes through a pre treatment step of coagulation and solids removal prior to going to the wastewater treatment area. And in the Cure-Rite 18, the accelerator and rubber accelerator process, its water is pre treated with hydrogen peroxide prior to going to the wastewater treatment area.

Now, after these pre-treatment steps are done --

Q. Let me stop you. Can you just tell us what this Cure-Rite 18 is?

A. Cure-Rite, what the -- ?

Q. What the process is?

A. What the process is? It is a rubber accelerator business in which it is an organic amine with a sulfur-bearing compound that are mixed in a reactor. A chemical reaction occurs and the water from this process is discharged to the wastewater treatment system. But prior to that going to that, it goes to a pre-treatment system.

Q. Okay. In the four processes or pre-treatment processes you talked about, what kind of things are being removed?

A. In the poly-vinyl chloride area, the wastewater stripper removes vinyl chloride and reuses the vinyl chloride.

The blending resin process pre treatment system removes solids and soaps, emulsifiers from the system. In the Cure-Rite 18 accelerator process, it's more of a treatment to make the material more degradable in the biological system.

Q. And in the boiler house?

A. And at the boiler house, it is a utilization step, a pH adjustment process.

Q. Okay. What is the next step in explaining the wastewater treatment processes in Henry, what is the next thing?

A. The next step is for all the processed waters and I am talking about the processed waters of the manufacturing areas, are collected in equalization tanks, and these tanks are to equalize the wastes prior to going to the pre-treatment or the primary treatment step. After equalization, these are fed at specific rates into the primary treatment process which is pH adjustment, the additional coagulants, the formation of a flok or a larger coagulant material, coagulated

material. And, then a settling process which we call the primary clarifier. The effluent -- after the coagulants are added and have had a chance to form a flok, they go to the primary clarifier which allows the wastewater to settle the solids to the base of that and the effluent coming off of this clarifier goes to -- to the secondary treatment step. The solids that have settled in the clarifier are pumped to a collection tank and then go through a filter press. They are de-watered there. The water is recycled back in the treatment system. The solids go to an off-site landfill. The effluent that came off of the primary clarifier then goes to the biological treaters. Three biotreaters that are in parallel.

Q. What is a biotreater?

A. It is a, what we call a biotreater is a tank, a vessel, of about four hundred and thirty gallons, four hundred and thirty thousand gallons in size, in capacity. That the activated sludge or the biomass is in. And the organic, the organics that are contained -- that the wastewater go into this system and will be degraded by the biological mass.

Q. That's done that?

A. Yes, in addition to having the mass in these tanks, air is pumped into the or blown into these tanks and this allows for agitation and it also provides the biomass with oxygen.

Q. How many biotreaters do you have there?

A. Three.

Q. Three? Okay. What happens after, what happens at the biotreater then? What happens next?

A. Okay. At the biotreaters, the organics are degraded by the biological mass. Or destructed. And the effluent from the biotreaters flows into the secondary clarifier and this, this clarifier as the effluent is coming in, coagulants are added to it to again coagulate the material, the solids and allow them to settle to the bottom of the clarifier. And the solids that settled are recycled back to the biotreaters, because this is actually the biological mass that you want to maintain. The effluent from the secondary clarifier then goes to a treshury (phonetic) treatment or a polishing sand filter.

Q. Can you describe what that sand filter is?

A. Okay. The sand filuter, it is what's known as a traveling bridge sand filter. It's a bed of sand

where the water flrows through and suspended solids are removed or solids are removed as it passes through. The effluent from this filter goes to the concrete trench that goes to the outfall. The backwash from this sand filter when it is cleaned, it goes back into the primary treatment system.

Q. Okay. You have described how the process wastewaters are treated. Before going on, approximately what is the flow through the process wastewater treatment system?

A. The process wastewater treatment, this will vary but it's approximately six hundred and fifty gallons a minute. Somewhere in that range.

Q. What is its permitted capacity?

A. To -- ?

Q. What is its permitted capacity?

A. The permitted capacity is about a thousand gallons per minute.

Q. Okay. Now on to the non-process wastes. Am I stating that correctly?

A. Yes.

Q. What are those?

A. Those are waters from the

regeneration in the boiler house of the demineralizer and also the non-contact cooling waters and storm water. We collect storm water around the facility.

Q. Okay. And is there a treatment system for those wastes?

A. Yes, there is. These waters are collected in two basins -- what are called the storm water basins and from there they are either pumped back to the primary treatment system to equalize hydrolic flow in the main plant or they are pumped to a sand filter and run through the sand filter and then they go to the trench where the polishing sand filter also discharges prior to going to the outfall.

Q. And what does the sand filter do in that regard?

A. The sand filter is removing suspended solids and other solids from it.

Q. What is the flow through the non-process wastewater treatment system?

A. The maximum flow through that is a hundred and twenty-five gallons a minute. It varies because it depends on the amount of rainfall. These are basically

the largest quantity of flow is storm water.

Q. Okay. I believe in going through your work experience at the Henry facility, you indicated that you had been involved in permit drafting from about 1983, is that correct?

A. That's correct.

Q. As part of your position with BF Goodrich, were you required to become familiar with the permits and the permit history of the facility for the wastewater treatment plant?

A. Yes.

Q. How did you do that?

A. By reviewing the historical files at the plant, the permit files and in addition, with working with the wastewater treatment operator and discussing the, -- with other people there at the facility, of the operations and what the previous permitting was.

Q. The records you used, are they records kept in the ordinary course of business by BF Goodrich?

A. Yes.

Q. Were they kept by your predecessors?

A. Yes.

Q. And in their jobs?

A. Yes.

Q. And are some of those people still around?

A. Yes.

Q. Okay. Did you have occasion to talk with them by any chance?

A. On a rare occasion, yes.

Q. I'd like you to look at exhibit number two.

(Whereupon the document was marked
Petitioner's Exhibit No. 2
for identification.)

Q. I show you what's been marked as Petitioner's exhibit number two and ask you what that is?

A. This is the final NPDES permit for the Henry plant, from -- dated June 20, 1978, -- what we call the 1978 NPDES permit for the facility.

Q. Have you seen that before?

A. Yes, I have.

Q. Did you operate under its terms and conditions?

A. Yes.

Q. You did? Okay. I move for the admission of

Petitioner's exhibit number two.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 2 was admitted in evidence.)

Q. Mr. Willings, can you tell me whether or not Petitioner's exhibit number two contains any reference to ammonia nitrogen?

A. There is a reference in this permit to ammonia nitrogen. It is special condition -- special condition number one. It requires the monitoring for ammonia nitrogen once every six months.

(Whereupon the document was marked Petitioner's Exhibit No. 3 for identification.)

Q. I show you what's been marked as, -- there's no objection to two?

HEARING OFFICER SIKES: It's in.

Q. I show you what's been marked as Petitioner's exhibit number three. Are you familiar with that?

A. Yes.

Q. What is it?

A. It is the 1981 NPDES permit renewal for the BF Goodrich Company Henry, Illinois plant.

Q. How did you become familiar with that document?

A. In my position at Henry, I reviewed this document in preparing for, for, in preparing for construction applications and also, I reviewed it when a final permit was issued under this application.

Q. So, did you deal with that document in the ordinary course of your business?

A. Yes.

Q. At the Henry facility?

A. Yes.

Q. I move for the admission of that document.

MS. MORENO: Let me take a look at it.

HEARING OFFICER SIKES: Do you want to see it?

MS. MORENO: Yes.

HEARING OFFICER SIKES: Show it to her.

Q. I move for the admission of Petitioner's exhibit number three.

HEARING OFFICER SIKES: All right. Is there any objection?

MS. MORENO: No, no objection.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 3 was admitted in evidence.)

(Whereupon the document was marked

Petitioner's Exhibit No. 4

for identification.)

Q. I show you, Mr. Willings, what's been marked as Petitioner's exhibit number four, can you tell me what that is?

A. That was the final NPDES permit, the, issued in 1985 for the Henry plant. It was the permit in response to the re-application in 1981.

Q. Okay. How did you become familiar with that document?

A. This document was the working document for providing off-site to the wastewater treatment system. I reviewed this to determine our compliance in response to the permit, and in addition, it was utilized for the preparation of other permits and other activities at the plant.

Q. Okay.

HEARING OFFICER SIKES: Excuse me, Mr. Willings, can you tell me generally what this is?

A. This is the 1985 NPDES permit.

HEARING OFFICER SIKES: Thank you.

Q. I move for the admission of Petitioner's exhibit number four.

MS. MORENO: No objection.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 4 was admitted in evidence.)

Q. Mr. Willings, is there any mention of ammonia nitrogen in Petitioner's exhibit number four?

A. This is no mention of ammonia nitrogen in this permit.

Q. Is there a requirement for monitoring of ammonia nitrogen?

A. There is no requirement for monitoring.

Q. Thank you.

(Whereupon the document was marked

Petitioner's Exhibit No. 5

for identification.)

Q. I show you what's been marked as Petitioner's exhibit number five and could you tell me what that is?

A. This was a modified final permit, it's the 1986 NPDES permit for the BF Goodrich Company Henry, Illinois plant.

Q. How did you become familiar with that document?

A. I was familiar with this document because the permit that was received in 1985, the BF Goodrich Company filed appeal.

Q. You're referring to Petitioner's exhibit number four?

A. Correct. We filed appeal. And I was, I negotiated for BF Goodrich or represented BF Goodrich in the negotiations involving that appeal. And this permit was the result of our negotiations with the Illinois EPA.

Q. So, between the time that Petitioner's exhibit number four was issued and the time Petitioner's exhibit number five was issued, you had substantial

discussions with the Agency?

A. Yes.

Q. Concerning that permit?

A. Yes.

Q. I move for the admission of Petitioner's exhibit number five.

MS. MORENO: No objections.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 5 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 6 for identification.)

Q. I show you what's been marked as as Petitioner's exhibit number six and ask you to identify that, please?

A. This is the re-application for the NPDES permit for the Henry plant.

Q. And did you prepare that document?

A. Yes, I did.

Q. And how did you have occasion to do that?

A. It was my responsibility to prepare it, this document.

Q. Okay. And is all the information contained therein true and correct, to the best of your knowledge and belief?

A. Yes.

Q. I move for the admission of Petitioner's exhibit number six.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 6 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 7 for identification.)

Q. I show what's been marked as Petitioner's

exhibit number seven and ask you to identify that, please?

A. This is a copy of the draft permit in response to the 1989 application. It was dated February 23, 1990. But it was a draft permit to the NPDES permit.

Q. And how did you have occasion, have you seen that before?

A. Yes.

Q. And how did you have occasion to see that?

A. In my responsibility for reviewing compliance, this permit was sent to me to review.

Q. This is a draft, is it not?

A. This is a draft, yes.

Q. Okay. And is it true and correct to the best of your knowledge and belief?

A. Yes.

Q. I move for the admission of Petitioner's exhibit number seven.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 7 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 8 for identification.)

Q. I show you what's been marked as Petitioner's exhibit number eight. Can you tell us what that is?

A. This is a -- this is also a draft, a new draft dated November 19, 1990 of the NPDES permit.

Q. And have you seen that before?

A. Yes.

Q. And what occasion did you see that?

A. As part of my responsibilities at the Henry plant I was required to review these permits and this draft.

Q. And is it a true and correct copy of the draft that you saw?

A. Yes.

Q. I move the admission of Petitioner's exhibit

number eight.

HEARING OFFICER SIKES: Any objections?

MS. MORENO: No objections.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 8 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 9 for identification.)

Q. I show you what's been marked as Petitioner's exhibit number nine and can you tell me what that is?

A. This is the December 1990 final NPDES permit for the Henry plant.

Q. Is that the plant or, that the permit which is the subject of this appeal?

A. Yes, this is, yes.

Q. And you are familiar with its terms and conditions?

A. Yes, I am.

Q. Is that a true and correct copy of the December 28, 1990 issued NPDES permit by the Agency?

A. Yes, sir.

Q. I move for the admission of Petitioner's Exhibit number nine.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 9 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 10 for identification.)

Q. Mr. Willings, I show you what's been marked as Petitioner's exhibit number ten and ask you to tell me what that is?

A. This is a revision to the NPDES permit renewal. The renewal was submitted in 1981, this revision was done in 1982 to show a change in the schematics of the wastewater treatment system. It added the sludge dewatering or the filter press in the, in the permit application -- re-application.

Q. The filter press, sludge water would be at what point in the process?

A. This would be after primary treatment where the solids are taken off the primary clarifier and then are dewatered -- the solids going to a landfill, the water going back into the treatment system.

Q. So, this has to do with the treatment of the primary clarifier sludge?

A. Yes.

Q. Okay. Are you familiar with that document?

A. Yes.

Q. And how did you become familiar with that document?

A. In my reviewing the historical files as part of my responsibilities, I have read this document.

Q. I move the admission of Petitioner's exhibit number ten.

MS. MORENO: No objection.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 10 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 11 for identification.)

Q. I show you what's been marked as Petitioner's exhibit number eleven. Can you tell me what that is?

A. Yes. It is a revision to the NPDES permit, submitted in 1984. I prepared this submittal. It was for the coal boiler, with the installation of the new coal boiler, is for the collection of the coal pile runoff during storm water conditions.

Q. And you prepared that document?

A. Yes.

Q. Was that done in the ordinary course of your

business?

A. Yes.

Q. And was that a part of your responsibility?

A. Yes.

Q. Is that document a true and correct, to the best of your knowledge and belief?

A. Yes.

Q. I move the admission of Petitioner's exhibit number eleven.

MS. MORENO: No objection.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 11 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 12 for identification.)

Q. I show you, Mr. Willings, what has been

marked as Petitioner's exhibit number twelve and would you tell me what that is?

A. This is a construction permit for the -- what we would call the modernization or the construction of a new wastewater treatment system at the Henry, Illinois facility.

Q. Can you tell me what that involved?

A. Basically, this involved the installation of the three biotreaters, which were installed in tanks. It installed the installation of equalization tanks. And in addition --

Q. Which equalization tanks were involved?

A. The speciality polymers and chemicals waste, process waste equalization tank and the poly-vinyl chloride areas equalization tank was installed.

Q. Okay.

A. And a number of pieces of ancilliary equipment such as blowers. In addition, this included some pre-treatment systems for the deminiralization and regeneration waters and, the P C V blending resin pre-treatment system and also, the sand filter for the storm water or non-contact being, non-contaminated storm water runoff.

Q. This document consists of a number of pages, what is attached, the first page is water and what is the rest of it?

A. The first page of this document is the approval by the Agency by the Illinois EPA. Or the permit for construction. The following pages are the application for construction of this facility.

Q. All right. Did you prepare the application what you have just referred to which is part of Petitioner's exhibit number eleven?

A. Yes, I did.

Q. Or is that twelve, I am sorry -- ?

A. It's twelve.

Q. I am sorry, it's twelve. I move the admision of Petitioner's exhibit number twelve.

MS. MORENO: Could I see what it is?

Q. Sure.

MS. MORENO: Thank you.

HEARING OFFICER SIKES: Any objection?

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 12 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 13 for identification.)

Q. Mr. Willings, I show you what's been marked as Petitioner's exhibit number 13; can you tell me what that entire document is? There's a number of pages?

A. Okay. The first page is the water pollution control construction permit approved by the Illinois EPA. The actual permit covers the construction of a, or allows the construction of a bio reactor. An additional bio reactor. In addition, it requires a submittal of a construction, a supplemental permit for construction of a sand filter and, attached to it, to that cover page, is the application to that was submitted.

Q. Did you prepare that application?

A. Yes, I did.

Q. That additional biotreater; where does that fit in the process?

A. That would fit in the secondary treatment system. It was at the original construction, as stated in exhibit twelve, under that construction permit we prepared the waste treatment system we would have two biological treaters. It was determined that was not enough to successfully run the wastewater treatment system, so we needed to construct a third bio reactor for that would go in the secondary treatment unit.

Q. And the sand filter was which waste treatment facility, which part?

A. This would be after the secondary clarifier. To be used a polishing filter.

Q. This is in the processes waste treatment?

A. In the processed waste treatment, yes.

Q. I move for the admission of Petitioner's number 13.

MS. MORENO: No objection.

HEARING OFFICER SIKES: It will be admitted.

(Whereupon Petitioner's Exhibit No. 13 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 14 for identification.)

Q. I show you what's been marked as Petitioner's exhibit number 14, and can you identify that?

A. This was a permit to construct approved by the Illinois EPA in 1989 for the traveling bridge sand filter. Which is the polishing filter on the, at the end of the secondary clarifier or the processed wastewater system and it includes not just the approval on the first page but the actual application.

Q. What inovlvement did you have in the permit application?

A. I prepared this application.

Q. Okay. Are those documents true and correct?

A. Yes. I correct myself. I assisted in the

preparation of this document.

Q. Was it done under your supervision and control?

A. Yes. Yes.

Q. Are those pages, those pages and documents complete, and are they true and accurate?

A. Yes.

Q. I move for the admission of Petitioner's exhibit number 14.

MS. MORENO: Let me just see it. All right. No objection.

HEARING OFFICER SIKES: Fourteen is being offered, it will be admitted.

MS. MORENO: No objection.

(Whereupon Petitioner's Exhibit No. 14 was admitted in evidence.)

(Whereupon the document was marked Petitioner's Exhibit No. 15

for identification.)

Q. Mr. Willings, I show you now is being marked as Petitioner's exhibit number 15; can you tell me what that is?

A. That was the or this is the construction permit issued to the BF Goodrich, Henry, Illinois plant by the Illinois EPA for construction the Cure-Rite 18 process wastewater pre-treatment system.

Q. Is that the Cure-Rite process you referred to earlier in your testimony?

A. Yes, it is.

Q. Okay. And is that, what that total document or those series of pages consist of?

A. The first page is the approval from the Illinois EPA. And the following pages are the application that was submitted to Illinois EPA.

Q. What involvement did you have in preparing that application?

A. I prepared this document.

Q. Okay.

A. Or the application.

Q. And are those documents true and correct to

the best of your knowledge and belief?

A. Yes.

Q. Move for the admission of Petitioner's exhibit number 15.

MS. MORENO: No objection.

HEARING OFFICER SIKES: Admitted.

(Whereupon Petitioner's Exhibit No. 15 was admitted in evidence.)

Q. We are through that process for a moment. Probably could have been by agreement but -- Mr. Willings, does the 1990 permit issued by the Illinois EPA which has been identified and introduced as Petitioner's exhibit number nine contain any effluent limitation for ammonia?

A. Yes, it does.

HEARING OFFICER SIKES: Maybe this is a good point to take a little break here.

(Whereupon a short recess was taken.)

(Whereupon a short recess was taken.)

Q. Can you tell us what that limitation is and which condition it is? Or tell us what condition it is in there?

A. It is identified as special condition number four.

Q. Mr. Willings, based upon your review of the NPDES permits that have been introduced into evidence here as exhibits two, three, -- excuse me, -- two, four, five, -- two, four, and five, was there ever any effluent limitation for ammonia nitrogen in an NPDES permit for the BF Goodrich facility?

A. No.

Q. Prior to Petitioner's exhibit nine?

A. No.

Q. Based upon your review -- strike that.

Did you have occasion, Mr. Willings, to in addition to your looking at the NPDES permit files to look at the monitoring and reporting records for the wastewater treatment process prior to 1981?

A. Yes.

Q. And how did you do that; were there records involved or did you talk to people, how did you know about what the discharge was?

A. You will have to repeat that --

Q. Let me put it another way. Are you familiar with the characteristics of the wastewater discharge of the wastewater treatment process since 1978?

A. Yes.

Q. And how did you become so familiar prior to your taking the position that you have?

A. From discussions with the wastewater treatment operator and reviewing records.

Q. Okay. Has the discharge from the BF Goodrich facility always discharged more than a hundred pounds per day of ammonia nitrogen?

A. Yes.

Q. Since 1978?

A. To the best of my knowledge, since 1978, yes.

Q. Mr. Willings, are you familiar with the process within BF Goodrich on how new chemical processes or new operations are sited at various plants?

A. Yes.

Q. How are you involved in that or how were you involved in that?

A. Well, the siting process for either new utility services or new processes at BF Goodrich is a very complicated process but some of the components that are contained or are the elements --

Q. What's your involvement in it?

A. Okay. My involvement is to review these processes or utilities that are going to be added to a facility. And to evaluate them from a health, safety and environmental standpoint.

Q. Okay. Can you describe the siting process within BF Goodrich?

A. Yes.

Q. Please do so?

A. From, are you asking from the perspective of health, safety and environmental?

Q. Generally?

A. Generally. When a new process and I will use a process, manufacturing process is to be installed, once the process has been developed, a search for what location would best fit this process is done.

Q. Does that -- to interrupt -- does that, what

does that mean, that a search is done?

A. That means that these processes, the processes are not designed with a specific location in mind. It is, the processes is designed and then a location is picked. In many, many times this, -- and I should say that in most cases, sometimes there is a modification to a process that already exists. In -- particular to a new process, it will be designed and then a location will be or locations will be evaluated to decide which one it should go to of the many facilities that BF Goodrich has.

Q. In that context -- to put it in the vernacular, -- do plants then compete for these processes -- is that what they do?

A. Yes, yes.

Q. Okay.

A. As part of the elements that are looked at, the economics as far as the cost of actually constructing the project. The utility services provided there such as electrical, steam generation, cooling capacities are evaluated. The location as far as to suppliers and and to customers is evaluated and the work force is evaluated. In addition to that, a health,

safety and environmental impact or review is done. Looking at the aspects of this production from a health and safety standpoint, the safety of the employees and the public is evaluated. And, an environmental review is conducted to evaluate the environmental impacts of this facility and a regulatory review is also conducted at that time.

Q. What is that regulatory or environmental review intended to do?

A. The first part of that review is to determine that this process would meet the local and federal regulations when it is developed and installed. And also, that, in this review, the emissions from this air waste or water emissions are evaluated to see whether these emissions -- particularly for wastewater would have an impact on the wastewater treatment facility that they would be discharged to and whether they would upset the facility. And the third part is whether they would help the facility to maintain its compliance with its permits.

Q. Anything else considered in that siting process?

A. Future regulations are also considered

during the siting process -- the regulatory siting process to evaluate whether this process will have additional costs added to it for controls in the near future.

Q. In this process, do you consider the, in the wastewater treatment area, the limitations imposed in the NPDES permit that is currently in force?

A. Yes.

Q. Mr. Willings, since 1978 or since you have been at the Henry facility, have you actually participated in the siting of new processes at the Henry plant?

A. Yes.

Q. Which processes were those?

A. Specifically, the processes that I can quickly remember are the installation of the new fluidized circulating bed coal boiler. I was involved in the Cure-Rite 18 or what we call the accelerator expansion. And there were other capital projects that I was involved in -- in addition to the wastewater treatment modernization project that occurred in 1987, 1988.

Q. What is the wastewater treatment

modification you talked about; is that what we have construction permits for and you testified about?

A. Yes.

Q. And if I can just make sure we have got this, is that Petitioner's exhibit number twelve?

A. Yes.

Q. And number 13?

A. Yes.

Q. Okay. Thank you. And the Cure-Rite process that you referred to, this is again the same Cure-Rite process that you have talked about a couple times before today?

A. Yes.

Q. And is that what was sought after in Petitioner's exhibit 15?

A. This exhibit dealt with after the operation was up and running.

Q. Okay. But that's the Cure-Rite process?

A. But that is the Cure-Rite process that's identified here.

Q. Okay. Thank you. Do you know whether the Cure-Rite process siting was considered?

A. The siting was, the first consideration was

in 1979.

The project was delayed and reconsidered in 1984, I believe was the date of the actual, starting of re-consideration of the project. And that went into 1985.

Q. And when was it actually constructed and in operation?

A. Approximately 1985. Started operation. Excuse me -- I think construction started in 1986. Started operation in 1987, '86 time frame.

Q. That is all prior prior to 1990, was it not?

A. All prior to 1990 -- yes.

Q. Were there other plants that were being considered by BF Goodrich for the Cure-Rite 18 process?

A. Prior to this process coming, it was actually being a, it was actually being produced in another state and the decision was made not to upgrade that facility and bring that, make that process -- if you will, a full project there but instead to bring it to the Henry facility instead.

Q. Do you recall the, in general terms, the capital costs of the Cure-Rite process?

A. It was approximately twelve to fourteen

million dollars.

Q. Mr. Willings, in the siting of the Cure-Rite process at the Henry facility, were ammonia nitrogen effluent limitations considered by the siting process?

A. In all siting processes?

Q. No, on the Cure-Rite process itself?

A. Yes, it was.

Q. Can you explain to the Board how that was considered?

A. When it was first considered in 1979, it was reviewed that there would be an increase in the ammonia nitrogen discharge above the present plant level but that due to the permits that had been issued and the activities, that it was not an issue with the Illinois EPA versus BF Goodrich.

Q. What do you mean by that?

A. That it would not come up as permit limitation.

Q. Ammonia?

A. Ammonia.

Q. Did you rely on the fact that there was no ammonia nitrogen limit in the permits in siting the Cure-Rite process?

A. Yes.

Q. At the Henry facility?

A. Yes.

Q. Mr. Willings, moving on to another area, has BF Goodrich evaluated any modification or additions to its current control technology or otherwise to reduce ammonia concentration in its influent or effluent?

A. Yes, it has.

Q. Can you describe those facilities?

A. The, specifically, in response to the 1990 draft permit when it was received we initiated a review of how to reduce or eliminate the ammonia to meet the permit condition that was put in the draft permit. And this focus going back to the source of ammonia at the facility, is the degradation of the organic amines is the main source of ammonia. The first step was to look at the processes and say, and to evaluate whether we could eliminate the use of these amines in the processes. And that would mean that basically these products would not be made so that was not evaluated any further other than it wasn't acceptable because it would mean the end of these businesses.

The second step was to look at could

we recover and recycle the precursors to ammonia and take those back into the processes and reuse them. The next step was could we do pre treatment or was to evaluate pre treatment of the processes that give precursors in the wastewater discharge.

And then the last step or the last fourth approach to this was to, was to look at post treatment since ammonia being generated at the wastewater treatment facility, could we do some type of post treatment at the wastewater treatment facility and either through nitrofication, remove the ammonia.

Q. Pre treatment in your third step, means before its discharge to the wastewater treatment facility?

A. Yes.

Q. And post treatment means after the final effluent from the sand filter from the wastewater treatment facility?

A. That is correct.

Q. Okay. Can you describe these, in some detail or identify the projects?

A. Yes. The going to the recover and recycle, two projects were evaluated -- two particular processes

had, appeared to have an opportunity that we may be able to recover and recycle this material. This was done as a research and development step with BF Goodrich corporate research and development people to evaluate whether we could accomplish this. The first process we looked at was the OBTS accelerator business.

Q. Can you tell us what OBTS is?

A. It is a sulfamide accelerator used in the vulcanizing process for tires.

Q. For tires?

A. For tires.

Q. Go ahead.

A. In this process, an organic, an organic amine, morpholine, is used. We looked at a method or a technique that potentially could recover morpholine and reuse it to the process.
This required us to install a number of pieces of equipment that would basically chlorinate the morpholine, separate it from the wastewater. Strip it from the solution that it was now segregated in and recycle this material back to the reactor for reuse.

Q. Reuse of the morpholine?

A. Reuse the morpholine. A number of

difficulties showed up. First of all, the material that we would be producing, the intermediate step of getting the morpholine back is unstable and presented a severe safety issue to the operations and the personnel there.

Q. What is the problem?

A. Potentially explosive if not handled properly.

The next step of concern was the fact that as we separated this material out for recycle we would be generating a solid waste in this process that probably would be a hazardous waste.

And then the third part of this was this was strictly a laboratory paperwork research effort and there was no guarantee that we would actually make the same product or the same quality of material that we had made prior to recycling.

Q. By material, you mean what?

A. The OBTS, the actual manufactured product.

Q. So, that the reused morpholine may affect the quality control problems or may affect the quality of the ultimate product, the OBTS?

A. Yes. So, that was the first project that was evaluated.

The second project was looking at the same thing, or -- excuse me -- was looking at again morpholine recovery from the Cure-Rite 18 process and it followed the same basic steps of, of making an intermediate of the morpholine and remove it from that solution that it's made in as an intermediate, take that solution and remove the solids from it -- which again presented us with an issue of hazardous waste and again we had the same issue with the intermedial being a position of being unstalbe material from the safety aspect.

Q. Meaning, explosive?

A. Potentially explosive, yes.

Q. Go ahead.

A. This was only done through a paperwork effort. No laboratory tests were done because they were similar to the OBTS effort. Again, the same issue here was we weren't sure we'd be taking the same product or the same quality of material with the final product with the recycled material. In light of these two efforts, which would reduce the amount of ammonia but we could not even remove all of the ammonia produced by these processes in the wastewater.

We looked at a third or the next effort was, let's do pre treatment. And we evaluated a a process that is under patent to another company and we strictly had done a research review. This was the only technology that we found available in research through our research and development personnel that potentially could take these wastewaters, from all the accelerator businesses, and remove the precursors to ammonia, the amine organics. In reviewing this process, this was a proprietary technology, -- can we have questioning off the record --

(Discussion off the record.)

A. In the literature there are basically two extraction techniques that are used. One is a, a liquid, liquid extraction where two liquids would pass counter current to each other and the material coming overhead, from this stripping process, goes to a stripping column, where the material is removed and basically we come up out with a solid waste or a liquid hazardous waste is what we suspect we will generate. There is no recovery to this process. It is strictly

the matter of removing the organics from the wastewater by a stripping technique.

Q. Those three -- I don't know if you call them processes -- three things you just described, what levels of ammonia would be affected by each of those?

A. By each of those, the pre treatment step would be the most significant. It would probably reduce it in the neighborhood of 80 percent reduction.

MS. MORENO: Excuse me, just a minute -- I have no objection to him looking at things. Is it just your personal notes, -- that's okay.

A. Yes.

Q. Okay.

A. The first process that we evaluated, the OBTS morpholine recovery reduced it approximately 40 percent. The, pardon me -- it reduced it 80 percent of what would be generated from that process. In addition, the morpholine recovery from the Cure-Rite 18 process was also approximately 80 percent recovery of these precursors.

In all of these cases, we still would have

been in excess of the hundred pounds limitation or the limitation that is put upon us in the permit.

Q. Are these processes proven technologies?

A. The first, the OBTS and the Cure-Rite 18 technologies are not proven technologies. The patented technology that I mentioned for pre treatment is used for one wastewater process in Europe. And it's only at one location to our knowledge and has never been transferred anywhere else.

Q. Did we make assessment of any kind as to whether it would be usable here at Henry?

A. We did -- we did not complete any assessment along those lines.

Q. What other treatment processes did you or BF Goodrich consider or other technologies for reducing ammonia?

A. We reviewed a number of post treatment options following these steps. And we looked at -- with a consultant, filter -- we evaluated that and also have had discussions with our research and development people.

Q. How did you participate?

A. I participated in the technical evaluation

of these processes.

Q. Okay. Go ahead.

A. We looked at reverse osmosis and evaporation were the first two and I isolate those because they were -- looked totally feasible or technically, from the initial review, they would not work for our break stream.

We looked at break point chlorination and ion exchange. The break point chlorination was again basically a paper review. It was, it would reduce a portion of the ammonia effluent approximately 40 percent, I believe was the estimate. But there was a serious issue -- the amount of chlorine that was going to be needed and other environmental factors that are concerned with the use of chlorine there were issues.

Q. What is that latter point?

A. Excuse me?

Q. What is that latter point, what are the chlorine issues -- ?

A. Chlorinated species can present certain environmental hazards. There is an unknown -- we know that chlorinating certain organic materials

can cause other environmental issues.

We looked at ion exchange. Where this was actually done as a batch test or a laboratory test. And again, we only saw approximately a 40 percent reduction in the amount of ammonia at the effluent. We looked also at single stage nitrofication using the secondary treatment system, the biological treatment system as, this can occur at certain low, certain waste treatment facilities. A laboratory test was conducted where nitro fires, biological mass nitro fires were added to a batch test, to see if nitrofication would occur which would eliminate this, the ammonia. This did not occur. This was taken to another stage of adding powder-activated carbon to see if it could be initiated. And there was some initiation but again, it wasn't much reduction. Around the 40 percent level, I believe. Then, air stripping was evaluated whether the ammonia could be air stripped. Again, this stayed in the 30 to 60 percent range of reduction.

And then, a separate stage biological system was evaluated such as beyond the secondary entire area treatment we have today, taking

that effluent to another biological system, and nitrofication to occur in that system and this was showed again, somewhere in the 50 percent range of reduction.

So, those were the systems that we evaluated for post treatment.

Q. Were any of these alternatives, when installed either alone or in combination, determined that they would meet the, that BF Goodrich would meet the effluent limits of special condition four of its NPDES permit?

A. Would you repeat that?

Q. Would any of those processes, treatment processes or whatever, either alone or in combination, when installed, allow the BF Goodrich effluent to meet the limitations of special condition four of its permit?

A. No. None of those would allow us to meet it -- either alone or in combination.

Q. Is there any technology that you are aware of that was presented to you or within BF Goodrich that would have accomplished that task of allowing the effluent to meet the terms of special condition four?

A. There is no proven technology that we are

aware of that will allow us to meet that condition.

Q. Mr. Willings, prior to the 1990 NPDES permit which I think is exhibit number nine, Petitioner's exhibit number nine, how many actual outfalls were there in the permit

A. In 19 -- when?

Q. Prior to 1990?

A. Oh, prior to '90. There was only one outfall.

Q. In the '85 permit?

A. In the '85 permit.

Q. Okay. How many actual outfalls are there from the Henry facility?

A. In the NPDES discharge there is only one outfall.

Q. Physically?

A. Physically one outfall.

Q. One point to the river?

A. Yes.

Q. Can you describe it for us, how it -- ? How it looks?

A. The outfall discharging from the wastewater treatment facility is a pipe that runs from the

wastewater treatment plant.

Q. From the process wastewater plant?

A. From process wastewater treatment plant which runs from a trench which runs to a pipe which travels approximately a thousand yards downstream before turning and going into the Illinois River for discharge. That is the actual description of that discharge.

Q. The Agency has characterized discharge 001 and 001 A in the 1990 NPDES permit. Are those actually separate discharges to the Illinois River?

A. They are not separate discharges to the Illinois River.

Q. Are they combined at some point before discharging?

A. They, they combine in the trench that goes to the pipe that is the outfall.

Q. Okay. We have talked earlier about what has been identified as the OCPSF guidelines -- or treatment regulations; are you familiar with those?

A. Yes, I am.

Q. What are they?

A. They are the guidelines that were published by the -- or promulgated by USEPA involving the organic

chemical manufacturers, certain SIC codes were selected and specific guidelines were developed for developing mass limitations for direct dischargers and indirect dischargers.

Q. How did you become familiar with those guidelines?

A. I became familiar with those guidelines in 1983 as they were starting to be to be proposed and developed by USEPA. In addition, to working with trade association on the comments to those, I also attended a seminar put on by USEPA for covering these guidelines.

Q. Was BF Goodrich involved in the commenting and so forth with regard to those guidelines?

A. We were involved through our trade associations and the chemical and manufacturers' associations.

Q. Were you personally involved in that as well?

A. I was aware of them but I did not prepare the comments.

Q. How are the guidelines, describe what they are and how they are expressed?

A. The guidelines are expressed

utilizing the categorizing of the chemical industry and there are specific sub parts that are developed based upon whether you're providing pre treatment or should be providing pre treatment or whether you're a direct discharger. And the limitations that are developed, the mass limitations are developed for either toxic pollutants or the conventional pollutants such as suspended solids, BOD 5 and pH. The, they are policed by concentration, but to get to your mass limitations, a calculation has to be done. So you would go to the appropriate section, look at the concentration list, determine the process flow for that specific process, and using a factor, you would determine a mass limitation for that process by multiplying those together.

Q. Was that the intent of the OCPSF guidelines?

A. My understanding of it was to to develop mass limitations for dischargers.

Q. Does the BF Goodrich permit which is exhibit number Petitioner's exhibit number nine admitted into evidence, contain standards based upon OCPSF regulations or guidelines?

A. Yes, yes.

Q. Where does that appear?

A. That appears in the -- what is called page two, or starts on page two, which is the actual effluent limitations and monitoring requirements and extends to page --

Q. What is the parameters?

A. Five.

Q. That is included in that or where it starts?

A. It starts with chromium. And goes through, to --

Q. The next page -- the next page and ends on page five of the permit?

A. Yes.

Q. With vinyl chloride?

A. Yes.

Q. All right. Have you reviewed those effluent standards?

A. Yes.

Q. Have you deterimined, based upon your review, how they have been calculated?

A. Yes.

Q. Okay. Can you then, could you tell us how they got there again just for purposes of the record,

how would you get to the mass number?

A. Okay.

Q. Let's take a paramater carbon tetrachloride, for example, which appears on page two?

A. Okay. To determine the 30-day average number or the way the 30-day average number was determined was --

Q. It is under load limits, or mass limits?

A. Under the load limits, yes.

Q. Okay.

A. The concentration limit for the 30-day average for carbon tetrachloride was taken as a multiplier times the number, the excuse me, the flow -- the process flow, times the factor of 8.34.

Q. And 8.34, is what?

A. The number of pounds per gallon of water. And this is to give you a pounds per day limitation. Then you take -- the flow factor is stated in millions of gallons of water per day.

Q. Based upon your review of this, what flow was used to determine the 30-day average mass limit for carbon tetrachloride in specific, and the OCPSF standards in general?

A. Okay. The flow that was used for the 30-day average was a 30-day average flow submitted by BF Goodrich to the Agency.

Q. Okay. What flow was used to calculate the daily maximum load limit for those parameters?

A. The 30-day average flow was used for the daily maximum flow.

Q. Did you submit to the Agency the daily maximum flow?

A. We submitted a daily maximum flow, yes.

Q. Was it higher than the 30-day average flow?

A. Yes.

Q. That's all I have.

HEARING OFFICER SIKES: Cross?

MS. MORENO: Mr. Hearing Officer, could we take a break?

HEARING OFFICER SIKES: How long do you think your cross will be?

MS. MORENO: I have some substantial

things.

HEARING OFFICER SIKES: Why don't we break now and you can start cross when we resume and we will come back, it's now 12:15 -- say, at 1:30.

(Whereupon a lunch recess was taken.)

HEARING OFFICER SIKES: Mr. Willings, resume the stand, please.

HEARING OFFICER SIKES: We are back on the record. You can start cross.

MR. KISSEL: I have a couple of questions.

HEARING OFFICER SIKES: All right.

DIRECT EXAMINATION (Continued)

BY MR. KISSEL:

Q. Mr. Willings, have you had a chance to refresh your recollection about the size of the

facilities and the geon vinyl and specialty polymers and chemical group?

A. Yes, I have.

Q. Can you give the Board of some idea of the size of those operations, if you will?

A. The geon vinyl resin manufacturing area is approximately or approximately manufactures 16 million pounds of product monthly. The compounding resin area, the additional step in the PCV process is somewhere around three million pounds monthly. And the specialty polymers and production and finished product is in the neighborhood of three million to four million pounds per month.

Q. Okay. One other area of questions. In your positions -- your various positions with BF Goodrich at the Henry facility, did you have occasion to deal with Illinois Environmental Protection Agency personnel as they visited the site?

A. Yes.

Q. When did that start, your involvement with them?

A. I believe my first involvement would have been in 1984. Dealing with an inspection by the

regional office of the Illinois EPA.

Q. Was that done on a regular basis?

A. Yes.

Q. About how many times per year would the Illinois EPA personnel be at the facility, on the average?

A. At least one annual, what I would term as a full inspection. Involving physical review and record review.

Q. And just briefly describe what that inspection would entail?

A. That inspection would entail a review of the wastewater treatment processes, or steps of treatment. And actually physically looking at the equipment and walking the process systems. It would involve a review of the laboratory procedures, and testing and the records maintained concerning the wastewater treatment operation.

Q. Did the Illinois EPA personnel during those visits or others, sample the effluent or split sample with you, split samples with you?

A. During some of the annual inspections, they would split samples with us.

Q. And did they tell you what parameters they were monitoring for?

A. We, either we found out that day what parameters they specifically monitored for or we always requested or they sent us the analytical results which showed us what paramaters they were actually monitored for.

Q. Are you familiar with site inspections by the Agency prior to 1984?

A. Yes.

Q. And how did you become so familiar?

A. I -- we obtained a copy of those inspection files and I have reviewed those.

Q. All right. Based upon your review of the files and based upon your knowledge and discussions with agency personnel, do you know whether during either the site inspections or otherwise if the Agency personnel sampled the effluent for ammonia nitrogen?

A. They did sample for ammonia nitrogen.

Q. About how often, do you know?

A. Between what time again?

Q. 1980 and today?

A. Oh.

Q. Or 1990?

A. Let me explain a little bit about their sampling -- they not only did an annual split sample but they had a -- what they call a sampling person who comes in on a frequency of, I would say, every three weeks, comes in and takes a sample. And for a, a compliance check. Some of those that were done with this sampler were the ammonia nitrogen parameters, and some were not. So I can't say exactly how many but, I saw at least ten different analytical results.

Q. Over that time period?

A. Yes, yes.

Q. That's all I have.

HEARING OFFICER SIKES: Cross?

MS. MORENO: Yes. If I could have just a minute?

CROSS EXAMINATION

BY MS. MORENO:

Q. Now, Mr. Willings, you testified on direct examination that you became familiar with the historical records of the plant; I'd like to, did your examinations

go back into the '60s and and the '70s, are you familiar with any of those records; did you look at any of those?

A. The only records that I can remember in the '60s and '70s, I looked at some of the corp permits, the old applications. And the Army Corp of Engineer permitting.

Q. Okay. I'd like to hand you what's been marked respondent's exhibit number one.

(Whereupon the document was marked
Respondent's Exhibit No. 1
for identification.)

Q. For identification. Have you ever seen this in your examinations of the records?

A. I know -- I know there's some communications to the Sanitary Water Board but I, I don't remember this exact document.

Q. Do you know what this is?

A. This was the application to operate to the Sanitation Water Board.

Q. Okay.

A. At that time.

Q. And the application of BF Goodrich, is that correct?

A. Yes.

Q. Okay. Could you take a couple of minutes to familiarize yourself with it?

A. Certainly.

A. I think I have two copies.

Q. Oh, you do?

A. Yeah. Well -- oh 002 -- I am sorry, yes. Okay.

HEARING OFFICER SIKES: He's indicated he has reviewed it.

Q. You have reviewed it? Okay. How many outfalls is this permit for, is this application for?

A. This application identifies three outfalls.

Q. Okay.

MR. KISSEL: Mr. Hearing Officer, if I might, before we get into substantive testimony on this, I don't know if the foundation has been laid as to whether this witness is familiar with this document or

not.

HEARING OFFICER SIKES: The document is not in evidence and it's not proper to read from it at the moment and I'll sustain -- if there's an objection being made --

MR. MORENO: You have an objection to this?

MR. KISSEL: Yes.

HEARING OFFICER SIKES: Unless there is a foundation that's going to be placed in later, subject to foundation, --

MS. MORENO: Okay. So basically, well -- that's fine. I was under the impression that he had reviewed -- as the person who was involved in the plant operations, that he testified that he had looked at historical documents.

MR. KISSEL: That's correct.

EXAMINATION (Continued)

BY MS. MORENO:

Q. So you didn't look at anything before 19, I'm sorry, Petitioner's exhibit --

HEARING OFFICER SIKES: He said he didn't exactly remember seeing this document. But he recalls it.

A. I --

HEARING OFFICER SIKES: It was a vague identification, Miss Moreno, as best I can characterize it.

Q. So, you have never seen this before?

A. No, I don't know, -- we have quite a file particularly during the corp time and the Sanitary Water Board time and, you know, I have gone through those files but, I, I don't remember that particular document in detail. Of what's in there.

Q. Okay. Did -- I believe that -- Petitioner's

exhibit number three, would you have a look at this, please?

HEARING OFFICER SIKES: Are the exhibits present, Mr. Kissel, to allow cross examination?

MR. KISSEL: I know which ones they are. That's okay. That's the application -- 1981.

Q. Yeah.

MR. KISSEL: Yes, I have an extra copy.

Q. Would you turn to the page V I of that application?

A. This -- the page. I don't see a number.

Q. Which has part A, pollutant?

A. Yeah.

Q. What is the maximum daily value for ammonia?

A. In this, in this application.

Q. In this application?

A. Two hundred and 28.4 pounds.

Q. And what is the maximum daily concentration?

A. 34.0 milligrams per liter.

Q. Okay. I'd like you to have a look at Petitioner's exhibit number six, that is the most recent application. Could you turn to, I think it's page V -- 1?

A. Uh-huh.

Q. Okay. Could you read the maximum daily value in pounds?

A. One thousand nine hundred and thirty-three.

Q. And the maximum daily value in concentration?

A. Two hundred and thirty.

Q. Okay. Can you based on your knowledge of plant operations, can you provide any explanation as to why there was such an increase in ammonia in your effluent?

A. There are --

Q. Between those two applications?

A. There's, there's two attributable factors. The first one being the addition of some accelerator processes. Particularly, the Cure-Rite 18 process adds ammonia precursors to the system -- that would be one

point.

The other thing that I can directly relate to this or potentially relate to this is that with the changeover of the treatment system that we conducted in, that we put in play, our system actually became more efficient than it did before, the biological system. And this efficiency, that we have found relates to lower bio BOD demand. But at the same time we have seen the ammonia go up.

Q. In installing your treatment system, weren't you trying to make it more efficient, in fact?

A. To remove the biological, the BOD, yes. We we were trying to make it more efficient in removing the organic wastes, degrading.

Q. But knowing that the consequences would be, would likely be increased ammonia effluent?

A. I, I think our focus was, was directly to insuring compliance with BOD and TSS as our main focus because that's where we had had difficulties with compliance in the past.

Q. But isn't it the case that one of the results of the upgrading of your treatment process made your degradation of the amines more efficient and led to

an increase in ammonia nitrogen? -- I am sorry, ammonia in your effluent?

A. That, that is what I believe panned out, yes, I believe that's a fact.

Q. Okay. You mentioned that the Cure-Rite added ammonia; how much -- well here, let me ask you. Look at exhibit 15. Did the, isn't is it true that the Cure-Rite treatment system added ammonia through the pre treatment process?

A. No, that's not correct.

Q. That's not correct?

A. It, it, the pre treatment process made it more degradable. All right. So I can explain that and then it went to the biological system with the ammonia.

Q. Okay. So, so, that it didn't add any ammonia into the influent of the treatment plant, is that what you're saying?

A. It didn't add ammonia as ammonia. But -- the process itself doesn't utilize ammonia.

Q. Okay. Do you know how much of the increase in the ammonia concentration of your effluent after, I mean, as reflected in the 1990 permit application is attributable to the Cure-Rite?

A. We -- we have done some estimates. And I -- I am not a hundred percent sure exactly what that percentage is. I mean --

Q. Well, a lot of it, not very much?

A. Somewhere around 30 to 50 percent would be my rough estimate.

Q. Okay. Could you look at page twelve of the application to construct which is Petitioner's exhibit number 15. Now, there is an entry on waste characteristics, ammonia nitrogen, one hundred milligrams per liter treated effluent average. Could you explain what that is?

A. This is -- this was the amount of ammonia that we estimated would be leaving the effluent at the outfall.

Q. The --

A. Not --

Q. The total?

A. Not as --

Q. Amount that would be leaving at the outfall, the total amount of ammonia?

A. Yes. Out of 001 outfall.

Q. Okay. While we are on the subject of the

Cure-Rite, when did this, when did this process actually go on line?

A. This pre treatment process?

Q. No, the Cure-Rite, this new process, I understood you testified that this was a new process on line?

A. Yeah, yeah. New from the standpoint that it was, you know, within the last five years. I believe it went on line in 1986. I believe that's the time or the year that it went on line.

Q. Okay. And this application was filed when?

A. In 1989. We filed it in September of 1989.

MR. KISSEL: Which application are you referring to?

A. I am referring to exhibit 15, the pre conditioning of wastewater for the Cure-Rite 18 process.

Q. Was this the first application to your recollection, that, to the IEPA that included the Cure-Rite process? I mean, did you file for a PPD modification?

A. Yeah, we did file a modification because

of the metaline chloride usage and sent an amendment to the NPDES application. I don't have that file in front of me but I believe we filed an amended because of the metaline chloride usage and another process that we were potentially going to add to the site that would be using nitro, but we did not go through with that project.

Q. So, that you were concerned, your focus was on a very low nitro concern when you submitted the application to the Agency?

A. Our focus was this, was the constituent of concern at that time, yes.

Q. Okay. Thank you.

I believe you testified that this was -- the Cure-Rite 18 was one of the projects that you were considering different sites for?

A. Uh-huh.

Q. And finally chose the Illinois site, is that correct?

A. Yes, that is correct.

Q. Where else, where was the plant located at the time that dealt with the Cure-Rite?

A. The, the plant that was actually producing

Cure-Rite was our Akron, Ohio facility.

Q. Okay. And why did you decide to move everything to Illinois?

A. The decision was based on, it fit into the polymer chemical or the specialty polymers and chemicals framework that we had two choices. We could keep it at the Akron, Ohio site or we could move it to the Henry facility. Henry facility is a newer facility. When reviewing all the infra structure needs, the utilities, et cetera, it fit better here than it did at Akron. I mean, there are a number of factors, economics that I, I am not that knowledgeable of all the economic factors that went into it.

Q. Were there any environmental factors that went into it?

A. There was no negative factors that said, in that review, that said this site versus this site. It was pretty much equal at that time.

Q. The separation of outfalls issue that's been characterized by Mr. Kissel, could you, do you know if any information was ever submitted to the Agency about the characteristics of the wastewater that was going to go through the sand filter?

MR. KISSEL: Just a matter of clarification -- there are two sand filters involved, one for each process. Are you talking about the process water process or the storm water?

Q. I am talking about the storm water.

MR. KISSEL: Okay. Thank you.

A. I think probably the only information that was transferred was the one that was contained in the construction permit for the wastewater treatment modernization. Now, I don't remember in that package whether we specifically spelled out what was going through that sand filter.

Q. Okay. So you didn't provide any analysis, for example, of the storm water specifically?

A. I don't believe there was any, no.

Q. Did you provide any analysis for the blow down?

A. I don't believe there was any in that package.

Q. Did you provide any analysis for the non-contact cooling water?

A. No.

Q. And I assume then that you didn't provide any for the demineralization and regeneration?

A. No, I don't believe there was any characterization in that construction project.

Q. Do you know if there was any characterization of those wastes in the NPDES permit application for the renewal application?

A. I need to --

Q. Would you like to take a look at it?

A. Yeah.

Q. Do you have it?

A. I think so.

Q. This is six. Do you have it?

A. Yes, I have it here, right here.

Q. Could you look at that and see?

A. I don't believe we, I was looking specifically at the flow sheet to see if we had characterized anything. I don't believe we characterized anything for that.

Q. All right. During his examination, Mr.

Kissel went through a number of treatment options that you had looked at. Did you look at a combination of pre treatment and post treatment in order to meet the ammonia limits of your permit?

A. A combination of pre treatment and post treatment?

Q. Yes.

A. No. We did not put those two options together.

Q. Was there any particular reason for that?

A. The reasoning was the options that we looked at along the pre treatment side -- particularly the recycle and reuse, we didn't feel that any more than we had done there that we probably were going to be very succcessful in those processes, just from the research and development side. And our focus was to see how we could best achieve compliance with this limitation if it was possible in a short period of time.

Q. Okay. I just have a couple more things. I'd like you to hand you Petitioner's Exhibit number two which is the 1978 permit; in familiarizing yourself with the various permits and whatever that have been submitted by your company to the IEPA, did you have have

occasion to look at the application that supported that permit?

A. The 1978 permit?

Q. Yes. Have you ever seen the 1977 application, did you ever see it? Do you know?

A. I don't know if I reviewed that application.

Q. Okay. Does this look familiar? It's an 1977 ap.

MR. KISSEL: Do you have an extra copy?

Q. Sure.

A. It looks familiar, I --

MR. KISSEL: I have no problem in stipulating, if you will represent to the Board that this is the application, I have not seen it before but, with that representation, Lisa, I have no problem.

Q. Okay. This is the application and --

HEARING OFFICER SIKES: Why don't you

mark it as an exhibit?

Q. Yes, I would just like to do that. Respondent's number two.

(Whereupon the document was marked Respondent's Exhibit No. 2 for identification.)

HEARING OFFICER SIKES: Respondent's two -- or have you got another two?

MS. MORENO: Respondent's two. Okay.

Q. Could you turn to the provisions in that application that contain the characteristics for discharge 001?

A. Are you talking about the basic discharge description?

Q. The constituents?

A. The constituents, okay. Yeah.

Q. Do you see ammonia there?

A. Are you talking this -- this page?

MR. KISSEL: Paragraph 17, I think.

Q. It's page 11 -- 7.

MR. KISSEL: Yes, it gets hard to see on this one but it's 11 -- 7.

Q. Yes.

A. Okay, yes.

Q. Okay. What is the maximum daily, let's see the maximum, the daily average for ammonia?

A. 39.7. I am not sure what the label is on that, whether that --, supposed to be milligrams per liter or what -- It says 39.77.

Q. That's -- okay. And the maximum value observed or expected during discharge activity?

A. It says 70. Or 70.0.

Q. Did you notice how many outfalls there were on this application?

A. No, I did not. The way this is written, I only see one outfall.

Q. Okay.

A. Because of the corresponding number.

Q. Okay. So, there's only 001 outfall on this?

A. Yes, yes.

Q. Okay. And besides -- well, strike that. I think that is all I have.

HEARING OFFICER SIKES: Redirect?

REDIRECT EXAMINATION

BY MR. KISSEL:

Q. Mr. Willings, Ms. Moreno asked you some questions about the increase in ammonia nitrogen that's shown in the 1989 permit application; based on upon your knowledge, has the facility been discharging at the levels that are shown in that application?

A. At, with the 1989 application?

Q. Yes.

A. I am not sure, over what time period are we --

Q. From then until now?

A. From 1989 to date, yes, somewhere in that range. I mean, there's two values there, there's a maximum and there's an average.

Q. Okay. You indicated that one of the reasons

that the, there was an increase in ammonia in the effluent in addition to the Cure-Rite process was the changeover of the treatment system, is that correct?

A. That's correct.

Q. All right. We talked about siting and things like that earlier in your testimony; did you consider the ammonia effluent or did you consider ammonia nitrogen at all in the changeover of your system?

A. It was -- no.

Q. Why not?

A. It was not a permanent limitation nor one that we thought was going to be applicable to the site.

Q. So, that one of the bases for you changing over the system was to meet, in addition to meeting the BOD and suspended solids, was that there was no ammonia nitrogen limit?

A. That was considered in the basis, yes.

Q. In some of the questions that Ms. Moreno asked you about the Cure-Rite process and the siting factors, she asked you about environmental factors. Did you consider ammonia nitrogen at all in the siting of the Cure-Rite process?

A. Yes.

Q. And how did you consider it?

A. It was evaluated that there would be an increase in the ammonia nitrogen going out of the effluent. But this increase, since there was no permanent limitation, had been reviewed at the last permit, with the Agency which was the '78 permit, that there was going to be no requirements to add additional treatment for ammonia nitrogen; therefore, it was acceptable for the project to go ahead with no additional cost at Henry.

Q. Did that fact make Akron and Henry equal?

A. Yes.

Q. And had ammonia nitrogen treatment been required at Henry, would they have been equal?

A. No.

Q. Why not?

A. The, the Henry plant discharged, discharges to a treatment system that does not have ammonia limitations. And none are predicted. For, for this site.

Q. What if there were, is my point?

A. What if there were -- the Henry?

Q. Yes?

A. If it -- there would have been an ammonia nitrogen limitation at Henry, the project would have had to incorporate something to provide treatment. If this was part of this project evaluation at that time when it was done and the cost of that project would have prohibited that project from going into the Henry facility.

Q. Cost of the treatment?

A. Cost of the treatment.

Q. Okay. Miss Moreno asked you to look at Petitioner's exhibit number six and I believe she asked you whether or not that application characterized separately the waste from the, what we will call the storm water treatment system. Did she ask you that?

A. Yes.

Q. And it does not?

A. It does not characterize it.

Q. But does it characterize the combined wastes of the storm water system and the process water system?

A. Yes.

Q. And in that context then, it does characterize that waste, does it not?

A. Yes.

Q. Okay. That's all I have. Hold on. Excuse me. One more. Respondent's exhibit two, looking at respondent's exhibit number two, Mr. Willings, which is the 1977 application by BF Goodrich for a wastewater discharge permit, you have just looked at those ammonia limits on page what -- ?

A. Roman numeral II VII.

Q. II VII -- okay. And you see what the limits are for daily maximum and daily average for ammonia?

A. Yes.

Q. Multiplied out in general terms, would that have, based upon the flow of the plant that's shown in that application, would the ammonia for Henry's effluent have been greater than one hundred pounds per day for daily maximum and for daily average?

A. It would have been greater than a hundred pounds for both. That it would have worked out in excess of a hundred pounds.

Q. In each case, it would have been over a hundred pounds?

A. In each case.

Q. Thank you. That's all I have.

HEARING OFFICER SIKES: Recross?

RECROSS EXAMINATION

BY MS. MORENO:

Q. One question. If you had decided to put the Cure-Rite process into Akron, instead of here, would under Ohio law or the law that was in effect in Ohio at that time, would you have had to provide extra treatment for the ammonia effluent?

A. The Akron facility -- the answer to that question is no.

Q. Okay.

MR. KISSEL: I have nothing.

HEARING OFFICER SIKES: You may step down, Mr. Willings.

(Witness excused.)

MR. KISSEL: We call Mr. Kluge.

TIMOTHY KLUGE,

a witness called by the Petitioner, being first duly sworn, was examined and testified as follows:

CROSS EXAMINATION

BY MR. KISSEL:

HEARING OFFICER SIKES: State your name for the court reporter and spell your last name.

A. My name is Timothy R. Kluge, K-L-U-G-E.

Q. Mr. Kissel, what is your address or home address?

A. Rural route 2, box 257, Rochester, Illinois.

Q. By whom are you currently employed?

A. The Illinois Environmental Protection Agency.

Q. And what title do you hold with the Agency?

A. I am manager of the industrial permit unit in the division of water pollution control.

Q. And the division of water pollution control is one of the many divisions that are segregated in the Agency by media basically, is that correct?

A. Yes.

Q. And what is just the general responsibility of the division?

A. The general responsibility is to enforce the Board regulations concerning water pollution, to issue permits which reflect those regulations.

Q. And is there, there is a head of the water pollution division, division of water control who's Mr. Park, is that right?

A. That's right.

Q. And is the permit section directly under him?

A. Yes.

Q. And who's the head of that?

A. Tom McSwiggen. (phonetic spelling)

Q. And what are his responsibilites? Tom's?

A. He is in charge of all of the permit programs of the division.

Q. And that issues permits, is that right?

A. That's right.

Q. Okay. And you report to him as manager of the industrial unit?

A. Yes.

Q. And what are your responsibilities?

A. My responsibilities include reviewing and overseeing the review of NPDES permits, construction permits, operating permits which are issued to industrial dischargers in Illinois and overseeing the pre treatment program.

Q. And as a part of that job or responsibility, is it part of your obligation to review and interpret the regulations on water pollution control for the State of Illinois?

A. Yes.

Q. And do you do that on a regular basis?

A. Yes, along with other people within the Agency, yes.

Q. Are there, -- strike that.

In implementing your responsibilities of interpreting the Board's regulations or the regulations on water pollution control, is there any internal guidance documents that are published by the Agency or do you rely solely on the language of the regulations themselves?

A. There are guidance memoranda regarding certain portions of the regulations which are available

-- for certain portions we rely entirely on the regulations.

Q. Okay. You are familiar with the four areas that we have appealed here in this, from the NPDES permit?

A. Yes.

Q. Are there any guidance documents that are available in interpreting any of the Board's regulations for any of those issues?

A. Regarding the ammonia nitrogen limit, there is a memorandum from Toby Frevert, regarding application of the Board ammonia rules to BF Goodrich.

Q. I am sorry, I missed that last part? Do you have memoranda regarding that?

A. Yes.

Q. Anything else?

A. Not regarding ammonia.

Q. These documents that you are referring to were specific to BF Goodrich and after the -- basically after the application was filed, is that not correct in 1989?

A. I believe that the memo from

Toby Frevert to Jim Kamula (phonetic spelling) predated the 1989 application.

Q. By how much, by how much -- a year or so?

A. A year or less.

Q. Are you familiar with the term population equivalent?

A. Yes.

Q. Is there any guidance document telling us what a population equivalent is?

A. Specific agency guidance document, no, not that I am aware of.

Q. So that, to determine what a population equivalent is one must look to the Board's regulations?

A. Yes.

Q. Okay. Are you familiar with the constituency of the effluent and influent, effluent from and the influent to the BF Goodrich wastewater treatment plant?

A. Somewhat familiar, yes.

Q. All right. Can a population equivalent be calculated for the BF Goodrich influent and effluent?

A. Yes. The basic calculation can be performed. The numbers are available to perform that

calculation.

Q. Are you familiar with rule 304.122 B?

A. Yes.

Q. Is there an internal agency guidance document which interprets the term "population equivalent basis comparable to that used for municipal waste treatment plants"?

A. Not that I am aware of.

Q. So that if, so to determine the applicability of that rule, as a person in the Agency that does that, you would look directly at the language and only the language of that rule?

A. Yes.

Q. Okay. Mr. Kissel, you are familiar -- strike that.

Are you familiar with the ammonia nitrogen effluent limitation imposed in the 1990 NPDES permit issued to BF Goodrich?

A. Yes.

Q. Did you make any determination as to whether there was any technology available for BF Goodrich to achieve that limitation?

A. No, the Agency did not make any independent

determinations. We reviewed some information provided by BF Goodrich and had some discussions with them regarding technology that they investigated but we did not investigate any.

Q. Do you have an opinion or did you have an opinion at the time the permit was issued whether BF Goodrich could meet the limitations of the ammonia nitrogen effluent limitation in its 1990 NPDES permit?

A. With the existing treatment technology at the plant, no, it could not.

Q. With any add-on treatment technology or pre treatment technology?

A. I don't think that we had enough information to make that judgment.

Q. So, you did not make a judgment in that regard?

A. No.

Q. All right. At the time of the issuance of the NPDES permit, did the Agency make any determination as to whether the discharge of ammonia nitrogen from the BF Goodrich facility was having any impact on the Illinois River?

A. I did not -- I did not make any

determination myself. There were some reviews of, of some toxicity data that were done by other people within the Agency.

Q. Rule 304.122 B, is it not, basically a dissolved oxygen oriented rule, is it not?

A. It discusses ammonia specifically. It doesn't refer to dissolved objection generally.

Q. Wasn't the rule, the basis of the rule when it was established in 1973, the affect of ammonia, if any, on the dissolved oxygen of the Illinois River?

A. It's my understanding that that was a consideration. I haven't reviewed the Board's record.

Q. Are you familiar, Mr. Kluge, with the wastewater -- process wastewater treatment configuration for the BF Goodrich plant at Henry?

A. Yes.

Q. Do you know what the term best degree of treatment is? Where it comes from?

A. It comes from the Board regulations regarding dilution, which I believe is section 302.102.

Q. Okay. Are you called upon in your position to interpret that rule and to determine what best degree of treatment is from time to time?

A. Yes.

Q. Is the process water treatment system at the BF Goodrich facility the best degree of treatment as far as you're concerned -- you being the Agency?

A. Based on the information that we have, it represents the best degree of treatment for parameters other than ammonia.

Q. I show you what has been admitted into evidence as Petitioner's exhibit number nine. And direct your attention to special condition number six. Are you familiar with that?

A. Yes.

Q. Basically what, in sum, what does that provision state?

A. It requires that the permitee prepare a plan for bio monitoring and submit that plan to IEPA for review and approval. It outlines the specific tests and the testing frequency that are to be included in the plan. And includes some requirements for toxicity assessment in case the toxicity testing would indicate that's necessary.

Q. Do you believe that what is required in special condition six is needed if there is no ammonia

nitrogen limit in the effluent?

A. Yes.

Q. It is needed?

A. Yes.

Q. Even if ammonia is discharged?

A. Yes.

Q. Is the -- what I will call the TRE requirement, is that fair -- ?

A. Okay.

Q. Do you believe saying that or agreeing that the TRE requirement, as I refer to it, is premature if there is an ammonia discharge, do you ever recall making a statement like that?

A. Yes. And it's our feeling that the TRE requirement should be deferred until the ammonia limits in the permits are met.

Q. That's what I was getting to. As long as there are ammonia limits and ammonia discharges, you believe that the special condition six is premature?

A. I believe that doing the TRE would be premature.

Q. But you believe bio monitoring should continue to be done?

A. Well, sufficient bio monitoring has been done, I think, to indicate that at the current ammonia discharge levels, there is toxicity. And it was our intention in writing this special condition, to do bio monitoring after the ammonia limit was met and a TRE, if indicated at that time.

Q. So, if there was an ammonia discharge continued there for whatever reason, then that whole special condition four is premature?

A. The testing is premature, not necessarily the condition.

Q. Okay. Thank you. That's all I have.

HEARING OFFICER SIKES: Cross or direct -- were you examining him -- ?

MR. KISSEL: I didn't say that I was doing that, but these are cross.

HEARING OFFICER SIKES: So that you would have direct, or you may defer to your case in chief, whichever you want, Miss Moreno?

Thank you, sir, you're excused.

(Witness excused.)

HEARING OFFICER SIKES: Your next witness?

MR. KISSEL: Mr. Pinneo, please?

RICHARD PINNEO,

a witness called by the Petitioner, being first duly sworn, was examined and testified as follows:

CROSS EXAMINATION

BY MR. KISSEL:

HEARING OFFICER SIKES: State your name and spell your last name for the court reporter.

A. My name is Richard E. Pinneo, last name is spelled P-I-N-N-E-O.

Q. Could you give us your current address, please?

A. Current address is Rural Route 6, Box 198 D,

Springfield, Illinois.

Q. By whom are you currently employed?

A. Currently employed by the Illinois Environmental Protection Agency.
Division of water pollution control, industrial unit.

Q. And to whom do you report at the Agency?

A. Tim Kluge is my immediate supervisor.

Q. Can you describe for us your duties as -- you're an environmental engineer, is that correct?

A. That is correct.

Q. And in the industrial unit?

A. My duties include reviewing permit applications for construction of new equipment, NPDES permit applications for direct dischargers and operating permits for indirect dischargers.

Q. In the course of your responsibilities with or duties with the Agency, is it part of your job to interpret the regulations of the Pollution Control Board in water pollution?

A. Yes. And to determine their applicability.

Q. Okay. Are you familiar with the BF Goodrich facility in Henry, Illinois?

A. Yes.

Q. And are you the person who drafted the various permits after the 1989 application and ultimately the final permit?

A. Yes.

Q. Were you the engineer in the industrial unit assigned to the BF Goodrich facility?

A. Yes.

Q. When did you first, when was your first involvement with BF Goodrich?

A. Shortly after I started working with the Illinois EPA, I was assigned BF Goodrich as a major industrial facility for review purposes. That was sometime in, in late '84 or early '85.

Q. Were you involved in the drafting and issuance of the 1985 NPDES permit to BF Goodrich which is Petitioner's exhibit number four? Let me show it to you.

A. Yes, I was.

Q. Okay. Is this Petitioner's exhibit number four, is that the permit we are talking about?

A. This is the final issued permit in which I was involved in drafting this, yes.

Q. Are you familiar with the, as a result of

your involvement with the ammonia nitrogen effluent limitations that's contained in the 1990 NPDES permit issued to BF Goodrich?

A. Yes, I was involved with that.

Q. And where does that effluent limitation come from?

A. That effluent limitation is to be found in chapter one, regulations 304.122 B.

Q. So, your basis of including the effluent limitation which is special condition or -- excuse me -- the ammonia effluent limitation in the 1990 permit is 304.122 B?

A. Yes. That is correct.

Q. Did you have in your hands any guidance documents, memoranda, or other general documents which interpreted 304.122 B prior to issuing the first draft of the NPDES permit after the 1989 application?

A. The only document that I had at that time was the memoranda from Toby Frevert to Jim Kamula explaining the applicabilities of the rules to BF Goodrich.

Q. My question was whether there was a general memorandum saying this was -- something about how that

rule was to be interpreted?

A. No, there was not.

Q. Did you in the course of your involvement with BF Goodrich have occasion to review the permit history of the BF Goodrich facility with regard to NPDES permits and drafts?

A. Yes.

Q. Okay. Did you have occasion to review a draft permit issued in 1977 for the BF Goodrich facility?

A. Yes.

Q. Okay. Did you -- strike that.

Did that draft permit contain an effluent limitation for ammonia?

A. Did the draft permit contain?

Q. Yes. In 1977?

A. Yes, it did.

Q. And was that limitation in the draft permit based upon what is now rule 304.122 B?

A. I believe it was, yes.

Q. Did the 19, -- strike that.

Are you aware that in, you said in 1985, a permit was issued and you have that before you.

Did that permit as issued contain an ammonia effluent limitation for ammonia nitrogen?

A. No, it did not.

Q. Okay. Did the 1978 permit refer to ammonia nitrogen at all?

A. I believe there were some monitoring requirements.

Q. And did the 1985 permit refer to ammonia nitrogen at all?

A. It did not contain any monitoring or limitations.

Q. So, that the monitoring for ammonia nitrogen was eliminated in 1985?

A. Yes.

Q. At the time -- strike that.

Were you involved in the various construction permits that were introduced as evidence today by BF Goodrich?

A. Yes, I was.

Q. Okay. And that includes exhibits 11, 12, 13, 14, and 15?

A. I reviewed those applications for construction permit, yes.

Q. And you approved them or said that they would meet, if issued, would meet the regulations?

A. I reviewed those permit applications and made an initial assessment. That the treatment that that was being provided will, -- would have provided -- met general criteria in, as outlined in Illinois recommended standards. And therefore, made an initial assessment that it was capable of meeting certain parameters that are monitored and limited by permit.

Q. Did you make in 1990, when you made a determination as to the current permit for BF Goodrich, did you investigat or determine that BF Goodrich could achieve the ammonia nitrogen limit based upon any technology?

A. For the draft permit, did I make an initial determination?

Q. For all, for any of those permits, did you consider at any time prior to the issuance of the permit in 1990, as a part of your permit determine whether there was any technology BF Goodrich could install to achieve the ammonia nitrogen limit which was ultimately contained in the permit?

A. No, I did not.

Q. Do you believe based upon, do you believe that there is any technology available to BF Goodrich to achieve the 36 ammonia nitrogen effluent standard at the Henry plant?

A. Without doing further investigations, I cannot answer that question.

Q. When you talk about further investigations, what are you talking about?

A. Literature studies, studies of similar types of waste streams that have ammonia problems, things of that nature.

Q. Okay. Mr. Pinneo, in the process leading up to the issuance of the 1990 NPDES permit to the Henry facility, did you consider whether the current discharge of the Henry facility, Henry plant with regard to ammonia nitrogen has any impact on the Illinois River?

A. I did not personally make any kind of determinations.

Q. So, this was not a consideration on your part?

A. No, it was not.

Q. I think it's special condition four, is that the one that Mr. Kissel and I were talking about?

A. Special condition six.

Q. Is it six? That's the bio monitoring?

A. Bio monitoring.

Q. Yeah. You are familiar with special condition six in the 1990 NPDES permit?

A. Yes, I am.

Q. Okay. And if there's no ammonia nitrogen limitation, do you believe that condition has any merit?

A. Yes, it would.

Q. Why?

A. It would have merit because the assessment that is required would then actually be a basis as to whether BDT is capable at economic and reasonable practice. The bio monitoring itself probably would not be a necessity if ammonia was not limited.

A. And were, and were allowed to be discharged at its current level. Because we know that ammonia itself is toxic at those levels.

Q. Do you believe that the toxicity assessment called for in special condition six of the 1990 permit is effective if there is no ammonia reduction?

A. If that were allowed by the Board?

Q. Yes.

A. If it were allowed by the Board, then no, it would not. If no ammonia reduction were allowed by the Board, then it would not be an effective condition.

Q. Okay. Are you familiar with the term OCPSF?

A. Yes, I am.

Q. Can you tell me what that is?

A. Organic Chemical, Plastics and Synthetic Fiber, point source category.

Q. And is it applicable to parts of the Henry plant?

A. Yes, it is.

Q. Now, I show you an 1990 NPDES permit which is Petitioner's exhibit number nine, and show you a number of limitations which appear beginning on page two of the permit. Limitations and specific parameters. Can you tell me which of those parameters beginning on page two, are there as a result of the OCPSF guidelines?

A. Well, it probably starts with chromium.

Q. And goes through page three, is that right?

A. Yes.

Q. Page four?

A. Yes.

Q. Page five and ends at vinyl chloride?

A. That's correct, yes.

Q. Okay. Is the sole basis for the inclusion of those parameters in the permit the OCPSF guidelines?

A. That is correct, yes.

Q. Did you do the calculations to determine the mass limitations?

A. Yes, I did.

Q. Basically, how is that done?

A. That was done by a similar method that Ken Willings described earlier, in that a concentration number as provided in the OCPSF guidelines was used. And multiplied by the flow rate and a conversion factor of 8.34.

Q. And again, that's how the mass or loading limits were achieved or found here?

A. That is correct. We also used guidance documents that were supplied by USEPA, in determining which flow rates were to be used in making these calculations.

Q. Okay. What flow rate did you use to calculate the 30-day average?

A. We used the national monthly average flow rate as provided by BF Goodrich for their process

wastewater discharges.

Q. What flow rate did you use for the daily maximum load limit?

A. We used that same number.

Q. Was there available to you the daily maximum flow rate provided by BF Goodrich in its application?

A. It was in the application. But it was not available for use because USEPA guidance did not allow that. USEPA in developing the OCPSF regulations had already stipulated that the flow varies and increases due to maximum flows were taken into account in developing the regulation and therefore, only monthly average or long-term average flows could be used in deriving mass limits.

Q. Is that a publicly-available document?

A. Yes, it is.

Q. That is all I have.

MS. MORENO: Can we take a few minutes?

HEARING OFFICER SIKES: I have one question.

Mr. Pinneo, are you, you identified a document that was the basis for applying 304.122 B as a memo from somebody to somebody; would you identify those people?

A. Toby Frevert at that particular time was the manager of our planning section. They review limitation or not limitation, -- they review of the applicabilities of regulations and recommend to the industrial unit and municipal unit which limitations should apply to a particular discharges.

Jim Kamula, the other gentleman, was -- or is, the current field office manager of our Peoria regional office. He was the one that initially posed the question should ammonia be placed in BF Goodrich's permit.

HEARING OFFICER SIKES: Okay. I thank you. If you have any questions based on what I just asked?

MR. KISSEL: Let me just ask you.

EXAMINATION (Continued)

BY MR. KISSEL:

Q. When did that memo take place?

A. Probably three-quarters of a year before the permit application was received.

Q. Was that transmitted to BF Goodrich? Before its application was filed?

A. I could not say. I don't know.

Q. That's all.

HEARING OFFICER SIKES: We will take a ten minute recess.

(Whereupon a short recess was taken.)

HEARING OFFICER SIKES: Ready to go? All right. On the record then. During the recess, the Hearing Officer conferred with the parties concerning the progress of the case. And as I believe it's on record already that one of Mr. Kissel's very important witnesses -- at least, he says he is, is in a bad physical condition with an eye affliction and to that end, and that affliction just recently developed

and placed Mr. Kissel, I suppose, in a legally-embarrassing position, we have the parties through their counsel discussed with me this hearing and we have agreed that the hearing would continue on the 16th December, and we would -- because of the urgency of the situation, move the hearing to Chicago. Let the record further show that there has been no public participation and that all parties in attendance at this hearing have been associated either with the Pollution Control Board or with the Petitioner, BF Goodrich Corporation so that it does not appear that there is any public interest in the hearing, although notice has been published.

Secondly, the parties -- because of this situation -- have requested that I vary the otherwise applicable procedures and Mr. Kissel informs me that he has concluded his case in chief with the exception of Dr. Patterson, and Miss Moreno informs me that she can proceed with her case in chief and that with by agreement of the parties then, the petitioner would be able to re-open the petitioner's case at the hearing in Chicago. And I note that that hearing is now scheduled for December 16th at 10 a.m. at the conference room at

the Illinois Pollution Control Board, 100 West Randolph Street, Chicago. Did I miss anything? Either counsel have any further comments?

MR. KISSEL: Nothing.

MS. MORENO: Nothing.

HEARING OFFICER SIKES: Concerning the nature of the continued hearing? All right. Then, Mr. Kissel at this point, you have rested and you have leave to reopen your case upon resumption of the hearing in Chicago. And now, it's Miss Moreno's perogative on behalf of the respondent to proceed with whatever case in chief you wish to put on at this time. And you will have the opportunity following the testimony of Dr. Patterson to reopen the state's case in chief also.

MS. MORENO: Okay. Thank you, Mr. Hearing Officer. I would like to call Mr. Timothy Kluge.

TIMOTHY KLUGE,

a witness called by the Respondent, being previously sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. MORENO:

HEARING OFFICER SIKES: You understand, Mr. Kissel, you are still under oath from the previous swearing?

A. Yes.

HEARING OFFICER SIKES: Thank you.

Q. Would you remind us of your position, what division of water pollution control you hold?

A. I am manager of the industrial permit unit.

Q. Now, Mr. Kluge, as manager of the industrial permit unit, are you familiar with the general review of NPDES permits, permit applications?

A. Yes.

Q. Is a review of technology which the permit applicant could or could not use to meet standards part

of the Agency's review of a NPDES permit application?

A. No, normally it is not. The NPDES permit is intended to be a compilation of the standards and regulations that apply to a particular discharge. And the evaluation of different treatment technologies is considered when those standards or regulations are adopted.

Q. Generally speaking, does the Agency require specific types of technology for specific dischargers?

A. No.

Q. Is it the policy of the Agency to suggest specific treatment technologies for individual dischargers?

A. No, it's not.

Q. Okay. Thank you. In connection with your position as manager of the industrial unit, are you familiar with the Agency's policy towards the applicability of section 304.122 to industrial dischargers on the Illinois River?

A. Yes.

Q. Would you explain the Agency's present policy?

A. The question involves which part of section

304.122 applies to a particular discharge. Earlier I said that a population equivalent number could be calculated for any discharge because the information required to calculate that number is either a flow or a BOD concentration or a suspended solids concentration. That calculation can be done. The reason that that was not applied in the BF Goodrich permit was our determination that sub part B of that rule is the one that the Board intended to apply to dischargers like BF Goodrich. That is, to dischargers which are very different from municipal types of wastewater.

Q. In what way is the discharge from BF Goodrich different from a typical municipal discharge?

A. The ammonia concentration is much higher. The constituent of the BODs are different. They are derived from chemical manufacturing processes rather than the biological origins of domestic sewage.

Q. Now, to your knowledge, has the Agency considered the applicability of 304.122 B to any other companies besides BF Goodrich?

MR. KISSEL: I object on relevancy grounds.

HEARING OFFICER SIKES: Would you read the question?

(Record read.)

HEARING OFFICER SIKES: No, I will overrule it; he may answer.

A. Yes, we have.

Q. And could you, what companies have we assessed in light of 304.122 B?

A. The ones that I can recall include Borg Warner, Pekin Energy, and National Starch and Chemical Company. In some of those cases we have determined that the ammonia discharge is less than a hundred pounds per day. In other cases, we have placed an ammonia limit in the permit because the discharge is greater than one hundred pounds per day.

Q. Do you recall when the Agency and what time frame the Agency looked at the question as it applied to Borg Warner?

MR. KISSEL: I really am going to have to renew my objection. We are going to get into three

additional NPDES permit cases here.

HEARING OFFICER SIKES: Well, the reason I will allow that -- the answer in the first instance is you did make some references in your examination, sir, to general rules and application of 304.122 B, and I thought I would allow that original question to stand on that basis. However, I think the follow-up questions are going to go too far and I would sustain the objection at this point.

MS. MORENO: All right. Let me understand what your objection is, Dick?

MR. KISSEL: Well, we would, I'd have to go into the files to find out what they did with Borg Warner, what they did with Pekin Energy and what they did with National Starch. You're reiterating a whole series of hearings, we are expanding this hearing beyond its scope.

MS. MORENO: No, I am just asking, a lot of questions have been asked of this witness about his

knowledge of policies by Mr. Kissel relating -- it is not my intention to open this up to those other NPDES hearings. On the other hand, I would remind Mr. Kissel that under the Board's re-interpretation of the scope of an NPDES permit hearing, which he is fairly familiar with having litigated and won one of those cases, that the standard, the appellate court has expanded NPDES hearings to de novo hearings of information that is relevant, and this is certainly relevant to the Agency's policy towards the applicability of this standard. And to, consistently, in applicability.

HEARING OFFICER SIKES: Well, I think you have already got the answer that they have considered it in relation to other companies -- because, you're going to start to get into, I don't know -- we don't know why, and I am not going to allow it to get into why the other facilities have an ammonia discharge. And that's what you're ultimately getting to and that's getting into other lawsuits or other hearings.

MS. MORENO: Okay. That is not in fact where I was going but I certainly respect the ruling of

the Hearing Officer.

Q. Would you read my last question back?

(Record read.)

HEARING OFFICER SIKES: And I sustained an objection to the next question.

MS. MORENO: Fine.

HEARING OFFICER SIKES: You have got the answer already.

MS. MORENO: I wanted to see where I had been.

EXAMINATION (Continued)

BY MS. MORENO:

Q. The truth is, Mr. Hearing Officer, that is all I have of this witness.

HEARING OFFICER SIKES: Any cross?

MR. KISSEL: Just a couple.

CROSS EXAMINATION

BY MR. KISSEL:

Q. Mr. Kluge, you had indicated something about the Board's intent in establishing 304.122, did you not? You talked about the intent of the Pollution Control Board?

A. Our interpretation of the intent of the rule, yes.

Q. How did you determine the intent of the Pollution Control Board?

A. I guess from a reading of the rule and our, our thinking that if that were not the intent, then there's no purpose for that rule. If --

Q. No. My question is -- how did you determine that, did you look at the Board's opinions?

A. No.

Q. That's all I have.

HEARING OFFICER SIKES: Any redirect?

MS. MORENO: No.

HEARING OFFICER SIKES: You may step down, Mr. Kissel.

(Witness excused.)

HEARING OFFICER SIKES: Do you have another witness?

MS. MORENO: Not today, Mr. Hearing Officer.

HEARING OFFICER SIKES: Then it is my understanding that the parties will conclude, have concluded their testimony, their offered testimony for today -- ?

MS. MORENO: Yes, Mr. Hearing Officer.

HEARING OFFICER SIKES: Before we go into recess, I have one thing I want to put on. It's a change of the Hearing Officer scheduling order insofar as the submission of briefs is concerned. We can still stand with the decision due date of January 23rd, if you

wish. Otherwise, if you want to amend it, then we should, I will need a waiver. But if we stick to it, then your hearing will be on December 16th and probably you can have your brief written very shortly and I would set the date for filing your brief as December 20, and their reply brief December 27. And your reply brief to January 3rd.

MR. KISSEL: I think we have got to take some additional time. Our brief is -- we'll be working on it but, I think we would agree to extend the date.

HEARING OFFICER SIKES: Well, before I set any other schedule, I will take this schedule here. When you submit a waiver, Mr. Kissel, then I will revamp a scheduling order -- absent some argument or objection from the, if the state wishes to make some objection I will take that, I will make a consideration of the ruling.

MS. MORENO: No. To the contrary, Mr. Hearing Officer. That is a very tight schedule and there's difficulties even in getting the transcript,

frankly, sir.

HEARING OFFICER SIKES: Okay. Well, then because of the nature of the proceeding, -- Mr. Kissel, but I will stick to this absent any --

MR. KISSEL: We'll get back to you on that subject.

HEARING OFFICER SIKES: And then I will review it after you get back to me with it. With that, let the record further show then that there has been and there is no public attendance at this hearing being held in Lacon, Marshall County, this day. Thank you and we will stand in recess until December 16th at Chicago.

(WHICH WERE ALL OF THE PROCEEDINGS HAD AND EVIDENCE OFFERED IN THE HEARING OF THE ABOVE ENTITLED CAUSE, TO BE RESUMED AT A DATE AND TIME CERTAIN.)

STATE OF ILLINOIS :
: SS
COUNTY OF LASALLE :

I, Susan C. Osborne, a certified shorthand reporter in and for the County of LaSalle, State of Illinois, do hereby certify that the foregoing transcript of proceedings is true and correct to the best of my knowledge and belief.

That I am not related to any of the parties hereto by blood or marriage nor shall I benefit by the outcome of this matter financially or otherwise.

Susan C. Osborne

Susan C. Osborne, CSR.