BEFORE THE ILLINOIS POLLUTION CONTROL BOARD OF THE STATE OF ILLINOIS
July 1, 2005

IN THE MATTER OF:	)
	)
PROPOSED AMENDMENTS TO EXEMPTIONS FROM STATE PERMITTING REQUIREMENTS FOR PLASTIC INJECTION MOLDING OPERATIONS (35 ILL. ADM. CODE 201.146	) R05-20)(Rulemaking - Air))))

TRANSCRIPT OF PROCEEDINGS held in the hearing of the above-entitled matter, taken stenographically by Maria E. Shockey, CSR, before Amy C. Antoniolli, Hearing Officer, at the James R. Thompson Center, Room 8-032, Chicago, Illinois, on the 1st day of July, A.D., 2005, scheduled to commence at 11:00 a.m.

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

ILLINOIS POLLUTION CONTROL BOARD
James R. Thompson Center
100 West Randolph Street
Suite 11-500
Chicago, Illinois 60601
(312) 814-6983
BY: MS. AMY C. ANTONIOLLI, Hearing Officer
MR. ANAND RAO
MR. NICHOLAS J. MELAS
MS. ALISA LIU
MR. THOMAS E. JOHNSON

MAYER, BROWN, ROWE & MAW, L.L.P.,
71 South Wacker Drive
Chicago, Illinois 60606
(312) 782-0600
BY: MS. PATRICIA F. SHARKEY

Appeared on behalf of Chemical Industry Council of Illinois.

ALSO PRESENT:

MR. CHARLES E. MATOESIAN, ILLINOIS EPA
MR. KEN BROWN
MS. HEIDI HANSON

HEARING OFFICER ANTONIOLLI: Good morning and welcome to the Illinois Pollution Control Board. My name is Amy Antoniolli and I've been assigned as the hearing officer in this rulemaking. The Board has captioned this proceeding in the matter of Proposed Amendments to Exemptions from State Permitting Requirements for Plastic Injection Molding Operations, 35 Illinois Administrative Code 201.146, which the Board has docketed R05-20.

In this proceeding, the proponent, the Chemical Industry Council of Illinois or CICI, is seeking to add an exemption for plastic injection molding operations to the existing list of exemptions from state air permitting requirements in Section 201.146 of the Board's air rules.

This rulemaking was filed on April 19, 2005 by CICI. The Board accepted the proposal for hearing on May 5, 2005. Today is the first hearing, and a second hearing is scheduled for July 15, 2005 to take place at 10 a.m. in the Board's offices

in Springfield.

To my right is member Nicholas Melas, the Board member assigned to this matter. Seated to the right of member Melas is member Thomas Johnson. Also present today from the Board's technical unit is Mr. Anand Rao and Ms. Alisa Liu.

If you would like to testify today, please let me know. But for the record, I notice one member of the public, Ms. Heidi Hanson.

Today's proceeding is governed by the Board's procedural rules. All information that is relevant and not repetitious or privileged will be admitted into the record. I've also included at the back of the room a sign-up sheet for the service list and also for the notice list, a copy of the statement of reasons for this rulemaking and a notice of hearing sheets.

We will begin with the testimony of three witnesses that have prefiled testimony in this matter, Ms. Lisa Frede, Lynne Harris, and Patricia Sharkey, all three

on behalf of CICI, followed by any questions for those witnesses.

Please note that any questions posed by Board members or staff are designed to help develop a complete record for the Board's decision and do not reflect any bias. So we will now turn it over to the proponent for an opening statement. And I guess before we do that, I'll also note that Mr. Charles Matoesian is here on behalf of the Agency.

MR. MATOESIAN: Thank you.

MS. SHARKEY: Thank you, Madam Hearing Officer. Good morning Board members. My name is Patricia F. Sharkey. I am an attorney with the law firm of Mayer, Brown, Rowe & Maw and I am here today representing the Chemical Industry Council of Illinois.

We are here today to propose an exemption to the Board's rules that govern state permitting. As the Board is aware, we filed a statement of reasons in this proceeding in which we explained that the Board's regulations for state permitting require a construction and operating permit

for emission sources of any size.

And this rule in effect results in emission sources of very, very low emissions being regulated and required to obtain permits in Illinois. While there's another proceeding pending in front of the Board, which you're aware of in R05-19, which would create a de minimis exemption, it only applies to emissions sources that already have another requirement to obtain a state operating and construction permit.

This rulemaking is designed to be a categorical exemption -- would provide a categorical exemption for one category of emission sources of which we believe there are many in the state of Illinois, and you'll be hearing testimony on this, that do not otherwise require a state or operating or construction permit.

This would add simply one more categorical exemption to the list of categorical exemptions under Rule 201.146. We have been in conversation since we filed our statement of reasons with the Board and

since we filed our prefiled testimony with the Illinois EPA reviewing some of the language in our proposed -- for the proposed amendment and have made some changes to that or would like to propose some changes to it in an errata sheet that I would like to offer into evidence as CICI Exhibit 1.

HEARING OFFICER ANTONIOLLI: Okay. And does anyone have any objection to this Exhibit 1, which is entitled Chemical Industry Council of Illinois's first errata which I have before me?

(No response.)

There being no objections, I'll enter this as Exhibit 1.

MS. SHARKEY: Madam Hearing Officer, we are filing this morning electronically with the Clerk of the Board as well. What you will see in this is that we have basically one amendment to the -- that's being offered to the language of the rulemaking itself and one correction to the prefiled testimony of Lynne Harris, which we've discovered, frankly, just yesterday as

we were looking at our testimony again.

The language that -- I'd like to briefly explain what we're proposing to do with the language of the exemption itself. First of all, I'd like to note that we're using the Subsection HHH and we are aware that there's a proposed rule -- that a proposed Rule R05-19 there would be another HHH, so we are assuming that this would be fitted as appropriate in the Rule 201.446 exemption.

We have in conversations with the Illinois EPA been discussing the compression and transfer molding language that was in our original exemption. What I'd like to explain is that our original exemption was based on the language of the rule that the state of Michigan, the Department of Environmental Quality, has adopted exempting all three processes: Plastic injection molding, compression molding, and transfer molding.

Our concern at CICI has been with plastic injection molding. As we focused on this some more, we realized that while we're

not certain that there are not compression molders that transfer moldings out there that may very well qualify for an exemption. We were not prepared to be presenting testimony on that in this proceeding, so we've agreed that we're going to recommend deleting compression and transfer molding from this language.

The second change you'll see is that we've deleted the word handling and we've sort of unpacked that word to try to make it clearer of what kinds of processes and equipment can actually be covered in the concept of handling, so we've explained that that's loading, unloading, conveying, mixing.

We've eliminated the word granulating and replaced it with grinding because grinding is actually a more generic term for the same thing. What we found in talking to people in this business is that some people use the word granulating, some people use the word grinding, but it's intended to be the same thing, so we're using the more generic word.

The intent here is to cover all of the associated processes that involve the handling of resin materials in this exemption. In addition, we have added associated mold release agents. We have been in conversations with the Illinois EPA, and as we've been talking about this and talking with our experts, we have focused somewhat on the level of emissions involved with mold release agents.

We're not going to be presenting testimony on these particular handling activities or the mold release agents today, but as we have gone through and looked at more -- focused more precisely on these associated activities, we would like to present you with some testimony and we'll do so in prefiled testimony form for the next hearing.

So those are the changes to the proposed regulatory language. We've, in addition, discovered a slight error in the testimony that we filed for Mr. Harris, Page 5, Line 10 of that testimony, which we

will be submitting in the record when Mr. Harris testifies, has a reference to PM10.

That should have been a reference to total particulate and it's referred to throughout his testimony as PM. And that study that Mr. Harris is referring to looked at total particulate rather than PM10, so this would correct his testimony to clarify that.

With that, Madman Hearing Officer, I take it the exhibit is already in the record, but that is what the errata sheet would do, so the proposal has slightly changed that's before you.

HEARING OFFICER ANTONIOLLI: Okay.

MS. SHARKEY: The final thing I'd like to say is that our -- as a way of introduction to this hearing today is that we are not going to be providing you with information today on statewide emission levels. We are discussing that with the Illinois EPA because, as we've been working on in preparing for this hearing, it was

suggested that that would be useful information for the Board to have.

And so it's another level of work that the plastics -- the Society of the Plastics Industry and CICI are working on together to come up with numbers to give you a better sense of what the overall number of -- we know the number of plastic injectors in Illinois, but we are looking to try to give you some sense of what the volume of emissions are statewide. So that will be another item that we plan to present to you in our next hearing and with prefiled testimony on that.

In addition, we're looking at the question of whether or not it makes sense, depending on what we're finding with that, whether it makes sense to in fact include an upper limit that this -- of resin usage that this exemption would address and we've had conversations with Illinois EPA, and as we are looking at what is out there in the state, we expect to be able to focus on this in the next week.

I just wanted to give you that preview, and with that, I would like to present the testimony of our witnesses and introduce to you who they are. We have with us today Ms. Lisa Frede, who is the regulatory affairs director for the Chemical Industry Council of Illinois. Ms. Frede has been there for four years and has been in government and environmental roles prior to that.

And Mr. Lynne Harris, who is with the Society of the Plastics Industry, has been there, as you can see from his testimony, for a number of years, been involved in creating a number of -- involved in creating at least one of the studies and overseeing and involved with other studies and developing emission factors for the plastics industry and 25 years experience in the business.

The final piece of testimony would be my own on -- just a design to give the Board some perspective on what other states have done in terms of regulating or exempting

plastic injection molders. So with that brief overview, I would like to introduce Ms. Lisa Frede, who will be happy -- because we have really a very short presentation today, our thought had been to have her read this into the record just so that everyone can focus on it if we can indulge the Board in doing that.

HEARING OFFICER ANTONIOLLI: That's fine. And before you begin, I'll have the court reporter swear in your witnesses.

MS. SHARKEY: Very good. Thank you. What I was actually going to do in getting here is to actually introduce that testimony into the record as CICI Exhibit 2.

HEARING OFFICER ANTONIOLLI: We can do that then before you begin as well.

Is there any objection to entering the prefiled testimony of Lisa Frede on behalf of the Chemical Industry Council of Illinois into the record?

(No response.)

And seeing none, I'll enter it now as Exhibit 2.

(Witness sworn.)

MS. FREDE: Good morning. My name is Lisa Frede. I'm the director of regulatory affairs for the Chemical Industry Council of Illinois, also known as CICI, a not-for-profit Illinois corporation. CICI is pleased to be the proponent of this rulemaking proposal in this proceeding.

I would like to begin by giving you an overview of CICI and its membership and then briefly discuss the significance of this proposed rulemaking to our members. CICI is a statewide trade association representing the chemical industry in Illinois. CICI has offices in Des Plaines and in Springfield, Illinois.

We have 198 member companies with over 54,000 employees employed at 745 manufacturing facilities and 975 wholesale and distribution facilities in Illinois. One of CICI's functions is to represent its member companies in the formation of public policies and programs which are mutually beneficial to the citizens of Illinois and

the chemical industry.

In this capacity, CICI monitors statewide legislation and regulations in Illinois, including environmental permitting programs and provides information and makes recommendations to its membership. CICI also often advocates on behalf of its membership for more cost effective and efficient regulatory requirements.

Chemical manufacturers in Illinois produce a wide array of products from plastics, pesticides, and industrial chemicals to lifesaving medicines and household products. Workers directly employed in the chemical industry represent 7.3% of the state's manufacturing work force and have an average wage of over $60,000 per year.

The chemical industry generates an additional 296,000 jobs in Illinois at industry suppliers, manufacturers, transporters, trade and business services companies, and construction companies.

The proposal in this proceeding

will amend the Board's regulations governing state air pollution control permits to exempt plastic injection molding operations from the state construction and operation permitting procedures.

CICI is proposing this amendment to clarify the Board's regulations and achieve efficiencies and cost savings for its plastic injection molding company members in Illinois and for the state permitting program. As will be discussed by another witness in this proceeding, the emissions from plastic injection molding machines are extremely low, on the order of a few tenths of a ton of volatile organic emissions per year.

This is on the order of, and in fact less than, the 0.1 pounds per hour or 0.44 tons per year that defines an insignificant activity under the Board's major source regulations at 35 Illinois Amendment Code 201.210(a)(2) and (3).

These emission levels are also on the order of, or less than, the emissions

recognized to be associated with other categories of emission sources that are currently exempt from state permitting under Section 201.146.

In fact, the emission factors accepted by Illinois EPA and other regulators across the country for determining emissions from plastic injection molding operations are the same as those that are used for plastic extrusion, a process which is exempted from Illinois state permitting in Section 201.146(cc) and defined as an insignificant activity in Section 201.210(a)(5).

While many owners and operators believe that plastic injection molding is a form of extrusion covered under the existing categorical exemption, the adoption of the specific language proposed in this rulemaking is designed to resolve any question.

Here's what this amendment will do: It will appropriately regulate the insignificant levels of emissions generated by plastic injection molding operations by treating those operations in the same fashion

as other operations with similarly low levels of emissions.

It will reduce unwarranted permitting costs to plastic injection molding businesses across Illinois. It will also relieve owners and operators of plastic injection molding operations from the risk of enforcement actions based upon differences in interpretation of existing categorical exemptions.

Finally, it will allow Illinois EPA to allocate its permitting and enforcement resources to more significant emission resources.

What this amendment will not do: It will not relieve affected emission units from any applicable requirement other than state construction and operating permitting. Thus, for example, a plastic injection molder, like any other exempt emission source under Section 201.146, remains subject to the generic volatile organic matter emissions limit of eight pounds per hour found in the Board's rule at 35 Illinois Amendment Code

215.301.

It will not result in an increase in emissions and will not have an impact on air quality in Illinois. Because this is only an exemption from procedural requirements, it will not affect emissions to the environment.

Prior to proposing this regulatory amendment, CICI's executive director, Mark Biel, had several discussions with Don Sutton, the manager of the Illinois EPA permit section, about adding a categorical exemption to the list of existing categorical exemptions in 35 Illinois Amendment Code 201.146 for plastic injection molding and associated resin handling and storage activities.

Mr. Sutton, agreed that this is a category of insignificant emission sources for which a permit exemption is consistent with other categorical exemptions in Section 201.146. He also agreed that relieving the state of the burden of permitting these insignificant sources would

be beneficial to the state.

CICI believes that reducing the permitting burden on the Agency is in the interest of its members. Agency resources should be focused on significant emission sources. In the pending rulemaking proceeding, R05-19, Mr. Sutton testified that the Agency still hasn't issued 30 of the Title V major source permits that were due to be issued back in 1997. This can be found in the transcript on Pages 29 and 30, April 12, 2005 hearing, Illinois Pollution Control Docket R05-19.

In addition, CICI is aware that many of its members have Title V permit renewals and permit revisions that have been pending before the Agency for several years. Mr. Sutton testified that while IEPA issues roughly 1,900 air permits a year, it has at any time a backlog of 900 to 1,000 permit applications, yet the Agency is required to spend its resources on a host of construction and operating permits for very minor emission sources.

The transcript of the R05-19, April 12, 2005 hearing reveals that 70% of the Agency's construction permits are issued for modifications involving no emission increase or increases of less than one ton. At the same time, 95% of the actual emissions emitted in Illinois are emitted by the top 15% of the state's major sources.

Permitting very small emission sources, while large emission source applications are backlogged, isn't a good use of tax dollars, it isn't good for the environment, and it isn't good for regulated businesses. That burden will be significantly reduced when the rulemaking in R05-19 is adopted.

However, because that rulemaking only exempts insignificant emission sources at facilities with other significant or non-exempt emission sources, it does not relieve the Agency from permitting a plastic injection molding facility that has no other emission sources.

This is an anomaly with no

rationale in terms of emissions or the environment when it comes to plastic injection molding. Given the limitation in the proposals in R05-19, the adoption of a clear categorical exemption for plastic injection molding operations in this rulemaking proceeding will harmonize the Board's regulatory approach for a category recognized by all to emit at levels that do not warrant separate state permitting.

CICI would like to thank the Board for its consideration of this proposal, and I would be happy to answer any questions you may have.

MS. SHARKEY: Madam Hearing Officer, if I might -- we would like to ask that the questions be held until after all of the testimony has been taken, if that's all right, such that some of those questions may be answered by Mr. Harris or by --

HEARING OFFICER ANTONIOLLI: I agree. We can do questioning as a panel and we may have questions about the errata sheet as well. At that time, maybe the group would be

better prepared to answer those together.

MS. SHARKEY: Thank you.

HEARING OFFICER ANTONIOLLI: Okay. Thank you.

MS. SHARKEY: One other item I just wanted to mention in regard to Ms. Frede's testimony, she referred to Mr. Sutton -- conversations with Mr. Sutton that CICI has had, I conferred with Mr. Matoesian and he's confirmed that Mr. Sutton does plan to be available at the hearing in Springfield.

This date did not work out for him unfortunately, but you will have an opportunity to hear from Mr. Sutton at that time.

HEARING OFFICER ANTONIOLLI: Okay. Thank you.

MS. SHARKEY: I'm not saying he's necessarily going to put in testimony, but he'll be available for questions. Thank you.

At this time, I'd like to introduce Mr. Lynne Harris. As I mentioned, he's with the Society of the Plastics Industry, Inc., and his prefiled testimony

was included that you've received. We have talked off the record about handling his testimony as a group exhibit because there are some 11 exhibits behind his prefiled testimony.

I have a package in which we have the full prefiled testimony, which we can enter as CICI Exhibit 3 if you would like, and then I also have a package with the individual exhibits labeled as Harris Group Exhibits 1 through 11.

HEARING OFFICER ANTONIOLLI: Let's do it the latter way that you had because they're marked well and we can do it then. If there are 11 exhibits, we can make them -- instead of one group exhibit, we can just make them 3 through 13.

MS. SHARKEY: Okay.

HEARING OFFICER ANTONIOLLI: And that way they're easy to refer to in future citations; is that okay?

MS. SHARKEY: The only thing that I'm concerned about is that in Mr. Harris' prefiled testimony, they're referred to as

1 through 11, and I'm a little worried that in reading it, he may get -- in going through the testimony, there may be some confusion about that.

HEARING OFFICER ANTONIOLLI: So stick with the group exhibit format?

MS. SHARKEY: That had been our thought.

HEARING OFFICER ANTONIOLLI: Okay.

MS. SHARKEY: Is that all right?

HEARING OFFICER ANTONIOLLI: Uh-huh. And they're clearly marked as far as -- yeah.

MR. RAO: And also, you know, in the prefiled testimony, there are a bunch of footnotes, you know, references and they're also -- they are the exhibits, right, the attachments, are they what you're talking about, like attachment A --

MS. SHARKEY: We were not going to be actually referring to those today as exhibits, but you're correct, they are attachments, and they would be included in the prefiled testimony package but were not separately marked as exhibits here unless you

would like to refer to them, in which case we would be happy to do that or we could just simply --

HEARING OFFICER ANTONIOLLI: Since we have it part of the record already, let's keep it to the way that you've marked it and if you're willing to, we can enter that into the group exhibit.

MS. SHARKEY: Okay. So this would be entitled -- what we would be offering to then is Harris group exhibits, which would consist of prefiled testimony and Harris Exhibits 1 through 12 and attachments?

HEARING OFFICER ANTONIOLLI: Can we go off the record for one minute?

THE REPORTER: Sure.

(Whereupon, a discussion was had off the record.)

HEARING OFFICER ANTONIOLLI: And you can come around, Mr. Harris.

I have in front of me the prefiled testimony of Mr. Lynne Harris on behalf of the Society of Plastics Industry, Inc., as it was prefiled on June 16, 2005. If there's no

objection, I will enter this into the record as Group Exhibit 3, which includes the attachments and exhibits as they were prefiled.

Can you please swear in the witness?

THE REPORTER: Sure.

(Witness sworn.)

HEARING OFFICER ANTONIOLLI: Go ahead.

MR. HARRIS: Good morning. My name is Lynne Harris, and I am the vice-president, science and technology, for the Society of the Plastics Industry, Inc., SPI, a not-for-profit 501(c)(6) trade association headquartered in Washington, D.C., predominantly serving members across the United States.

I've been employed by SPI for over 14 years. My current work focuses on science and technology, environmental health and safety, and codes and standards for the plastics industry. My educational background includes a bachelor of science and a master's of engineering in chemical engineering.

My publications include co-authorship on a paper for the development of emission factors for the extrusion of processing polyethylene resin. I have worked in and around the plastics industry for over 25 years.

I've been asked by the Chemical Industry Council of Illinois, CICI, to provide an overview of the plastics injection molding industry, a description of the plastic injection molding process, and a discussion of the types and volumes of emissions generated during the plastic injection molding process for various resins.

Let me begin by describing SPI and the work it performs on behalf of its members. Founded in 1937, The Society of Plastics Industry, Inc., is the trade association representing one of the largest manufacturing industries in the United States.

SPI's members represent the entire plastics industry supply chain, including processors, machinery and equipment

manufacturers and raw materials suppliers. The U.S. plastics industry employs 1.4 million workers and provides more than $310 billion in annual shipments.

SPI represents the entire plastics industry and has more than 1,000 members. SPI has been involved in the development of state and federal environmental regulations affecting the plastics industry for decades.

As I will be discussing, SPI has also coordinated a number of studies of emissions generated by the extrusion processing of thermoplastics. My testimony today is focused on plastic injection molding, PIM, a category of plastic product manufacturing.

There are over 7,700 PIM facilities in the United States and approximately 500 operating in Illinois. These facilities range in size from small facilities with a few machines and less than 20 employees to larger facilities with dozens of machines employing over 100 employees.

The trade publication, Plastics

News, survey the PIM industry annually and publishes an annual listing of over 600 PIM companies in North America. That listing indicates the top PIM companies responding to the survey with annual sales ranging from approximately $100,000 to $1.5 billion with median annual sales on the order of $10 million.

The components produced in PIM processes are generally small plastic components used in a multitude of products. For example, PIM products include knobs and handles used in the automotive industry and hole plugs used in household appliances.

PIM products tend to be molded to meet specific needs in customized molds and made with resins meeting the temperature, strength, and durability specifications required for a specific use.

As a result, PIM machines are generally dedicated to molding specific component parts and cannot be used to produce other parts without physical modification of the equipment.

The PIM process essentially involves forcing molten plastic into a mold cavity; this takes place in several steps. A diagram of a standard PIM machine attached to my prefiled testimony depicts the components of the PIM process, Exhibit 1.

As can be seen from that diagram, the essential components are a hopper from which palletized resin is fed into the extruder screw, a heated extruder barrel which melts the resin as it is advanced by the extruder screw under pressure, and a die head through which the molten resin is injected into the mold cavity.

Note that the fundamental piece of equipment involved in this process is a heated screw extruder. The equipment that is required to extrude resin into molds in the PIM process is the same as that which is required to extrude resin into a continuous strand except that the resin is injected into an enclosed mold at the end of the process rather than simply conforming to the shape of the extrusion die.

A PIM machine is essentially a non-continuous extruder. As I will discuss later, this is why the emission factors developed for extrusion processes are appropriate for the PIM process. Plastic injection molding machines, like other types of extruders, vary in size.

A small PIM machine may have a throughput of ten pounds per hour, while a large machine may process as much as 200 pounds per hour. These numbers are derived based on a typical injection capacity of four to 100 ounces and typical tonnage of 50 to 600 tons.

Injection capacity can go to around 400 ounces and tonnage can go up to around 10,000 tons. These data are consistent with the product information compiled from several equipment manufacturers as illustrated in Exhibit 2.

Very large PIM machines can process over 1,000 pounds per hour. PIM machines of all sizes are used in Illinois and across the United States. However, the

most commonly used machines in the PIM industry have an average daily throughput of less than 100 pounds per hour.

The five most commonly used plastic resins in the PIM industry, according to the 2005 survey of North American injection molders by Plastics News, are polypropylene, PP; acrylonitrile butadiene styrene, ABS; polycarbonate, PC; high density polyethylene, HDPE; and nylon, polyamide, also called PA.

Until 1995, little quantitative information was publicly available regarding emissions from thermoplastic extrusion processes. While it was assumed that any volatile organic, particulate or hazardous air emissions were very low, emission factors simply did not exist.

To fill this gap, SPI sponsored a number of studies published between 1995 and 2002 to develop emissions factors for a range of plastic resins. The studies were intended to provide emission factors for processors who needed Title V permits under the U.S.

Environmental Protection Agency Clean Air Act Amendments of 1990.

The SPI-sponsored studies were conducted at an independent testing laboratory operated by Battelle in Columbus, Ohio. Studies were conducted using a strand extruder with a 1.5-inch single screw and fitted with an eight-strand die for commonly used resins.

Resins with basic additives were provided by a number of suppliers and tested as aggregates. The resins tested were PP, polypropylene; PC, polycarbonate; PE, polyethylene; PA, polyamide; and ethylene-vinyl acetate and ethylene-methyl acrylate copolymer or EVA, EMA.

The extruder system was chosen as the process likely to overestimate emissions. As a continuous system, it was anticipated to mimic extrusion processes and overestimate closed mold operation, such as injection molding. This assumption was supported by a two-year study that found extrusion processes generated a higher level of emissions than

injection molding.

Emissions from the die head of the extruder system were captured and analyzed for volatile organic compounds, VOCs, also known as VOMs here in Illinois; total particulate matter, PM; and a variety of hazardous air pollutants.

The SPI sponsored studies of the commonly used resins, PP, PS, PE, and PA are attached to my prefiled testimony as Exhibits 3 through 6. The EVA/EMA study, Exhibit 7, is provided for informational purposes only.

A study on ABS conducted at the same laboratory as the SPI studies is also provided for informational purposes as Exhibit 8. That study was not conducted under SPI auspices, and thus I have limited knowledge of the conditions under which it was performed.

The above-mentioned studies form the basis for the plastics industry's understanding of emissions from these processes and are recognized by industry and

regulatory authorities as defining emission factors for both simple extrusion and the extrusion process utilized in PIM.

What these studies demonstrate is that extrusion processing of different resins under various operating conditions produces different types and amounts of emissions. Exhibit 9, attached to my prefiled testimony, is a chart summarizing the emission factors developed in the SPI studies for each of the emissions of interest for the resins studied.

The information in this chart was compiled from information contained in each of the SPI studies to make it easier to review this data in this proceeding. As can be seen from this chart, the emissions of interest include VOM, PM, and a variety of HAPs.

The type and volume of emissions varies from a high of approximately .04 pounds of VOM per ton of resin processed to a low of approximately 0.1 pound per ton of resin processed. HAPs ranged from a high of approximately 0.3 pounds per ton of resin

processed to a low of approximately 0.02 pounds per thousand tons of resins processed.

Particulate emissions ranged from a high of approximately 0.5 PM per ton of resin processed to a low of approximately 0.02 pounds PM per ton of resin processed for the commonly used resins, which are in Exhibit 10.

Based on the emission factors developed in the SPI studies and the capacity of PIM machines across the range from small to large PIM machines discussed above, one can obtain an overview of the annual volume of emissions associated with PIM processes.

Exhibit 11 to my prefiled testimony is a chart showing the estimated volume of VOM, PM, and HAP emissions in tons per year associated with the various types of resins studied by SPI. As can be seen from this chart, the emissions range from a high of 0.2 tons per year of VOM to a low of 0.002 tons per year of VOM.

HAP emissions range from 0.1 tons per year to 0.0004 thousandths of a ton per

year. PM emissions range from 0.2 tons per year to 0.0004 tons per year.

That concludes my prefiled testimony describing the PIM industry, PIM process, and types and volumes of emissions associated with the processing of various resins.

I appreciate the opportunity to testify and I'm available to answer any questions the Board or other participants in this proceeding may have.

HEARING OFFICER ANTONIOLLI: Thank you, Mr. Harris.

MS. SHARKEY: Madam Hearing Officer, I have one additional exhibit that we thought might be helpful to the Board and I thought I might introduce this and just ask Mr. Harris if he could walk through it for you because we realized in looking at this later that it may not have been 100 percent clear.

We would offer -- it's a diagram of a plastic injection molding machine that actually shows you the mold, and what we realized is that in our prior diagram, which

was Exhibit 1 to Mr. Harris' testimony, you couldn't actually see the mold at the end of the die head.

THE WITNESS: Basically what happened here is that in this schematic, it was cut off over here (indicating), but this is mold cavity. And on this diagram, you can see --

MR. MELAS: A little clearer, yeah.

THE WITNESS: So we thought that this would be easier for you to understand how the process is configured.

HEARING OFFICER ANTONIOLLI: Okay. And now that we've a chance to briefly look at it, does anyone have an objection to entering the plastic injection molding machine sequence of operation diagram into the record as Exhibit 4?

(No response.)

And seeing none, this will be Exhibit 4 for this hearing record. And if you'd like to explain the exhibit, you can go ahead.

THE WITNESS: Well, there are three different sections here.

HEARING OFFICER ANTONIOLLI: It's pretty self-explanatory.

THE WITNESS: It's pretty self-explanatory.

HEARING OFFICER ANTONIOLLI: Okay. Any further exhibits or would you like to proceed?

MS. SHARKEY: We have nothing further at this point. And I'd like to proceed with my prefiled testimony, which we would like to enter in the record as CICI Exhibit 5 and that would be the testimony of Patricia F. Sharkey on behalf of the Chemical Industry Council of Illinois.

HEARING OFFICER ANTONIOLLI: Okay.

MS. SHARKEY: Madam Hearing Officer, would you like another copy of that?

HEARING OFFICER ANTONIOLLI: I would because my copy is marked up.

MS. SHARKEY: (Indicating.)

HEARING OFFICER ANTONIOLLI: What I have before me is the prefiled testimony of Patricia F. Sharkey, on behalf of the Chemical Industry Council of Illinois. If

there are no objections, we'll enter this into the record as Exhibit 5.

MS. SHARKEY: Madam Hearing Officer, I would be happy to read this, but I know the Board has heard a lot of read testimony this morning, and if -- it also involves simply legal research on work that we did looking at the question of what have other states done in terms of exempting plastic injection molders.

And I would be happy to summarize this for you and I would like it actually entered into the record, but if you would prefer, I would be happy to summarize what we found.

HEARING OFFICER ANTONIOLLI: Sure. Please feel free to summarize it.

MS. SHARKEY: Okay. Essentially CICI asked Mayer, Brown, Rowe and Maw to take a look at what some other states have done and what we did was look at -- we didn't try to do 50 states, it's a little difficult to walk through all of those regulations.

But what we did find were a number

of states that have exempted plastic injection molding. As I said earlier, we actually found Michigan's to be simple and clear and thought that it covered what we were concerned with.

I have attached to my testimony the language from the Michigan exemption, which simply reads -- it's Michigan DEQ Regulation R336.1286(b), which states that a permit to install does not apply to plastic injection, compression, and transfer molding equipment and associated plastic resin handling, storage, and drying equipment.

We also looked at another neighboring region five state and -- in Ohio, and the Ohio and regulation is, as you can see, is a bit more complicated. Basically Ohio has said there is a permit -- what they call a permanent exception for plastic injection molding as well as compression molding, by the way, for facilities that are processing a million pounds of resin or less annually.

They also provide another

exemption for those facilities that are processing under six million or less and are also using less than 1000 pounds of volatile organic compound as an external mold release, so they have sort of a two-tiered approach to it for the plastic injection molder with some upper limits in terms of what they were looking at.

Finally, the Texas administrative code was most interesting in that it was very simple and they simply have an exemption for equipment use for compression molding and injection molding of plastics and they have got that permitted by rule.

We noted also that Iowa, another neighboring state, while they haven't adopted an exemption right now, is looking at -- has announced that they are going to be looking at exempting plastic injection molding, and that's in Exhibit 4 to my prefiled testimony. So we don't know the contours of that exception, but we do know that they're looking at it.

So Illinois is certainly not alone

in looking at exempting this category of emission sources. And what we wanted to point out, in addition, in my testimony is that nobody of course is looking at exempting any facilities from regulation in Illinois.

And certainly plastic injection molding is -- to the extent that emissions are involved, a plastic injection molder is required to meet all of the general requirements, such as process weight rate, such as visible emissions, opacity, general requirements that are out there which, of course, would apply whether one has a permit or not.

Also, just to point out that there is no exception from any requirement here, it's an exemption from a procedure, which is permitting, but no exemption from being required to properly control emissions per the Board's regulations and no new emissions that are going to be generated by virtue of this exception.

When we're talking about emissions in Mr. Harris' testimony, what we're talking

about are emissions that are either out there our they're not and they're either -- whether they're permitted or not, they are -- it's not as though somebody is not going to do business because they have to get a permit, but it's a question of whether we're going to be burdening this industry with these very small emissions with that same permitting process that we use for sources with larger emissions and whether we're going to be burdening Illinois EPA with that permit processing.

And that simply -- we've also then mentioned in my testimony that there are a number of other states that don't need a categorical exemption because they have exempted these very small emission sources across the board where a de minimis cutoff that would have included facilities even though those facilities were not otherwise required to have a permit.

And so it wouldn't be surprising not to find a categorical exemption in 50 states because they simply wouldn't need

it. And I would be happy to answer any questions regarding our research into the other states' regulations and I -- stepping out of my role as a witness, I would be happy -- and I don't think I was sworn in actually.

HEARING OFFICER ANTONIOLLI: No, you weren't. Thanks for reminding me. We can have you sworn in now.

MS. SHARKEY: I would be happy to be sworn in.

HEARING OFFICER ANTONIOLLI: Okay.

(Witness sworn.)

MS. SHARKEY: At this point, we would be happy to answer any questions the Board members or the staff may have or anybody else from the public. We would also -- of course, if Mr. Matoesian wants to make a statement --

HEARING OFFICER ANTONIOLLI: Would you like to?

MR. MATOESIAN: I would just state that as mentioned -- or eluded to earlier, the ABT technical staff had scheduling conflicts and were not able to attend today,

however, they will be available at the second hearing to answer any questions the Board may have, and just in general that the Agency does agree that going forward with this is an acceptable exemption to be added to the list of Section 201.146 and that's all.

HEARING OFFICER ANTONIOLLI: Okay. Thank you. We can proceed with the questioning period now if you have nothing further at this time and also note that if the Agency chooses, it can respond in writing prior to the next hearing or at the next hearing, however you choose.

MR. MATOESIAN: Thank you.

HEARING OFFICER ANTONIOLLI: Okay. Are there any questions now for any of the witnesses?

Would you like to go ahead?

MR. MELAS: Before I actually start the questioning, may I suggest, Mr. Harris and Ms. Frede, if you would sit where you were to make it easier for our court reporter.

MS. FREDE: No problem.

MR. MELAS: I'd like to start, if I may, with Mr. Harris. I appreciate very much your very detailed explanation of just exactly how these processes work. Just in general terms, a plastic injection molder factory or plant, does it generally only do that kind of work or is it the large complex that may be manufacturing other plastic products, maybe like this bottle, for example (indicating)? Generally speaking, how does that operate?

MR. HARRIS: It could be a lit bit of everything. They could be doing other things besides injection molding, but the ones that we were focusing on here were just the injection molding.

MR. MELAS: The injection molding operation of course --

MR. HARRIS: Right.

MR. MELAS: I'm just wondering if on a particular plant site they would be doing a number of other things?

MR. HARRIS: It's possible.

MR. MELAS: For example, is this cap

one of the products that would be made through plastic --

MR. HARRIS: Yes.

Mr. MELAS: -- injection molding?

MR. HARRIS: Right, whereas the bottle --

MR. MELAS: The bottle would not?

MR. HARRIS: Right.

HEARING OFFICER ANTONIOLLI: And for the record, you're referring to your water bottle that you have in front of you and the cap that screws on top.

MR. MELAS: A blue cap.

You were talking about the emissions in the last couple of paragraphs of your testimony. The particulates that you talk about that come from these typical types of operations, can you describe those very, very tiny particulates that we hear about that sometimes are causing the serious asthma-type problems?

MR. HARRIS: I think it would be more appropriate to call them fumes or aerosols.

MR. MELAS: Fumes.

MR. HARRIS: When we did the measurements, they were measured as total particulates, whatever landed on the filter.

MR. MELAS: Okay. So they would be more dispersed as a --

MR. HARRIS: Well, they come off as emissions from the operating facility just as the VOM or HAPs would.

MR. MELAS: Okay. And the total amount that is -- well, let me ask this of Ms. Frede because there was one thing that you used in your testimony, if I can find the right place -- excuse me for just a moment. Oh, here it is.

On Page 3 of your testimony, Ms. Frede, there is a -- just before that last paragraph you make a simple declarative sentence: Because this is only an exemption procedural requirement, it will not affect emissions to the environment.

And you also say: It will not result in an increase in total emissions and will not have an impact on air quality.

What do you base that it will not

have an impact on air quality? And that maybe goes back to something that you said you were going to have Mr. Sutton address the -- what are the total emissions in the state of Illinois that come from this particular industry?

MS. SHARKEY: If I could respond, Mr. Melas --

MR. MELAS: Yes, because you brought that up earlier.

MS. SHARKEY: Yes, I did.

I think the testimony that's involved here is is that the -- what we're talking about is a procedural exemption and it's an exemption from a permitting procedure, but that certainly the emissions involved in plastic injection molding, whether they are at a facility that has other processes as well or at a facility that's solely plastic injection molding, must be accounted for by that facility because, of course, once that facility -- if that facility were ever to have 15 tons of fine particulate, 25 tons of a particulate or

whatever the threshold is a more major source, they need to be considering whether or not they are triggering, depending on what attainment area they're in, whether they are triggering major source status.

So they are certainly responsible for their emissions in the same way that they that would be without a permit. What they are -- what you have is I think some -- the only reason we're talking about what are the statewide volumes --

MR. MELAS: Right.

MS. SHARKEY: -- is, frankly, reflected in the hearing in R05-20 in which there was some concern and questions raised about what are we talking about in terms of having a category or a number of sources out there for which we do not have a permit, how concerned are we, what's the volume of emissions out there.

And it's not that the permitting -- I believe Mr. Sutton testified to this in that hearing and I think we just wanted to make the same point here that it's not as

though those emissions are going to be different whether they're permitted or not, it's simply whether or not there is going to be a permit issued.

The regulations that would be reflected in those permits will be the same as any other -- will be applicable whether they have a permit or not.

MR. MELAS: That hearing you were talking about was 19.

MS. SHARKEY: Excuse me, RO5-19. Thank you.

MR. MELAS: That's the one thing that concerns me is that, you know, we talked about -- the phrase de minimis has been used, so what I -- as a question that I ask is, you know, how many di minimises do you have to add before you get a de maximis, if I may use that term, because, you know, all these little things add up?

And that's the point that Mr. Sutton addressed at that hearing and that's exactly the same kind of thing that I would, you know, like to hear from him about

next week or in two weeks.

MS. SHARKEY: If I could add one point here, I want to make it clear that if you consider what a permit for these types of emission sources would look like, it would not have any individualized emission limit in it.

It would not have -- because there are no individualized emission limitations that would apply, so there would be no federal NESHAP requirements or federal new source performance requirements, technology requirements, pollution control requirements, because these are de minimis sources that -- if any of that is triggered, your categorical exemption, your language at the front of that exemption states they would not be eligible for the exemption.

So if there are any other requirements that would actually be reflected in a permit that would require control, they will -- this source will not be eligible for the exception. So you're talking about a category of sources which are -- you can

issue them a permit, you can go through the paperwork of issuing them a permit, but there are not going to be any extra controls on them.

It's just a matter of whether or not you're going to have that paperwork in Springfield on them. The emission source is out there one way or the other, whether it's exempt or whether it's permitting. So it isn't as though we are talking about any increased level of emissions, we're simply talking about whether the state needs to have that paperwork on these sources.

And I would point out that many states as you -- some of which we've cited have a general permit, a permit by rule so that they don't issue a permit, they simply say abide by the rules. Illinois doesn't call it permit by rule, but, obviously, every emission source in Illinois is subject to the Pollution Control Board's rules no matter whether they have a permit or not.

MR. JOHNSON: Can I follow up on that, Nick?

MR. MELAS: That's fine.

HEARING OFFICER ANTONIOLLI: Please do.

MR. JOHNSON: Just before you go to another question, when I read that what it said to me was permit or no permit, the emissions are going to be the same. However, to me, part of the impetus behind your rule changing proposal is to make conducting business -- and in particular the plastic injection molding business -- in the state of Illinois easier for industry and to provide a more business-friendly -- I won't say environment, I'll say atmosphere -- in this state by doing so and hopefully attract more business to this state.

So that statement is incorrect if in fact that happens because the more PIM business that comes into the state of Illinois necessarily, the more emissions there are going to be, correct?

MS. SHARKEY: I would -- yes, I suppose that's true if we -- you know, if the question is whether or not somebody is

actually going to choose not to locate in Illinois because they have to get a minor source permit, obviously, once they get a major source permit, the interesting thing about this is once they're required to get out and get a permit if they're are one of these sources that has other emissions, they would be covered under this minor source exception.

If they are at a major source, they're going to be covered under the exemptions for Title V permits because there would be an insignificant activity because they're well under the insignificant activity levels.

MR. JOHNSON: And that's a distinction that I'm having a hell of a time making. And I know that your proposal is asking for an additional subheading under 201.146 exemption, but if you could try and straighten me out -- Anand has tried to do it and has been unable to so far -- on the difference between -- what the practical difference is of that exemption as an actual

exemption versus the 201.210 insignificant activities. I can't -- I'm not making that leap for whatever reason.

MS. SHARKEY: As a practical matter, if I am a large source, if I'm already a major source and I have emissions less than .44 tons per year, any individual emission unit at that source less than .44 tons is categorized as an insignificant activity.

And a Title V permit will be simply listed and will not have any specific control requirements applicable to it if it qualifies. Now, again, it must qualify as not having a federal new source performance standard or any other draft requirement or NESHAP requirement.

In that instance, it will simply be listed in your Title V permit under the section of insignificant activity. And in many instances, they don't even list the number, so you could have -- we've seen some simply say plastic injection. They'll simply say extruders or they'll say -- they'll check off a list and indicate that they have

insignificant activity falling into this category or that category.

So the same plastic machines that you're concerned about that right now -- at a little facility with 25 machines with, you know, two-tenths of a ton of emissions right now has to go in and get a permit for those, whereas, if there was a major source, there would only be a check-off at that source.

Similarly, if, you know, you're talking about under the state regulation, as I understand it, the state -- the proposal in RO5-19 would take those same insignificant levels and now apply them to state permitting.

But the problem there from the perspective of plastic injection molders is many of them are not at facilities that otherwise would require a permit.

MR. JOHNSON: Okay. I see now. Thank you.

MR. RAO: You know, just related to what Mr. Johnson was asking regarding those insignificant activities under 201.210, I

think it also lists a plastic extrusion operation as one of those insignificant activities and which is also a categorical exemption under 146.

And I was just curious, I was looking at the rulemaking where the Board added it to 201.146 and the Agency who proposed that addition to the categorical exemption said, you know, it's okay to add plastic extrusion under the categorical exemption because, you know, we know where those facilities are because they are also listed insignificant activities.

So my question is, do you think there is a need for the Agency to know about these PIM facilities, you know, just like some of the other states that have some registration requirements or something like that in their exemptions?

MS. SHARKEY: In my opinion, I think we have many very small emission sources, you're talking about very small emission sources. As Mr. Harris indicated in his testimony, up until a few years ago people

didn't even realize they didn't have any good emission factors for these. They didn't realize there was any substantial amount of emission at all from these facilities. They were very clean facilities.

And what we have is, as science has gone on and we've gotten more concerned about our hazardous conditions, particularly we've gone and we begin to study in more depth, and I would suggest to you that there are many, many emission sources out there at these very tiny emission levels that Illinois right now is not regulating and that what we have is an ambiguous situation for those parties and that Illinois needs to decide whether or not it is going to be focusing on these very tiny emission sources with its permitting resources for taking and looking at the fact that it doesn't have Title V permits that are out and revised and up to date for every source in this state where the big emissions are.

And if I could just say one more thing, what we're trying to say is to put it

in perspective, the states and I think that the Illinois environmental regulatory's group testimony in RO5-19 and my testimony in this proceeding is that other states have provided far bigger exemptions and are focusing their permitting resources right now on the big emission sources.

So I hope that answers your question, but the thought is that when we are at this point in Illinois focusing on some very small stuff and perhaps loosing site of the bigger of -- where the ball is and the real issue here is that -- Mr. Sutton's testimony in that proceeding told you that something like 90 percent of emissions in the state of Illinois are produced by something like 15 percent of the emission sources.

And when we start to go down to this minutia level, we have to ask ourselves as policymakers, as the Board is the policymakers, as regulators is this where these resources should be going. The rest of the states in region five had cited no and

they have created these kinds of small de minimis exemption levels saying we're not going to use our resources here.

We're not letting you out, we're still saying that there's requirements. Now, is registration required? In some states there are registrations, but in many of them there's nothing. In Indiana at ten tons, there is not even -- there's nothing, no emission regulation all the way to ten tons.

In Wisconsin, an entire facility -- until you get an entire facility up to 25 tons, there's nothing. There's no --

MR. RAO: See, one of the reasons that I ask this question is in the other ongoing rulemaking, 05-19, the issue came up and they said the Agency knows about these facilities because they already have a permit, so they know what's going on, so it's okay for those facilities to be accepted.

So that was where my question was kind of -- you know, like for PIM, it's not part of the insignificant activity, so I was wondering if that same rationale applies?

MS. SHARKEY: I don't think there's 100 percent overlap either between the exemptions so that there are some that are in there that are not. I believe Mr. Sutton has said that he is comfortable that this is a small emission source that falls in the same level of emissions as others, that he's been comfortable with not having that information -- not having that paperwork, but you're certainly --

MR. RAO: And I think what you mentioned earlier about -- you know, you were talking about de minimis and production limitation that you're still discussing with the Agency that may also help us at a Board to --

MS. SHARKEY: Get a handle.

MR. RAO: Yeah.

MS. SHARKEY: We understand. Thank you. We do plan to provide you with that information. We hear that concern that's being expressed that you would like to know sort of the size of what is out there that we're asking.

MR. MELAS: That's our main concern.

HEARING OFFICER ANTONIOLLI: And for a little bit of background, these minor source permit applications are applications that you may have reviewed -- just to give a little background to your testimony -- and that perhaps even plastic molding operation applications you've reviewed as well?

MS. SHARKEY: We have reviewed plastic injection molding operations that have been permitted in the context of facilities that have other operations going on. We have also used -- found them in context of major sources where Illinois EPA has issued major source permits where plastic injection molding was involved.

And in at least a few of those that we've looked at, the Agency has categorized them as extruders. And, you know, the issue of whether or not these are extruders or whether they are plastic injection molders and whether or not plastic injection molding was intended to be included under that extrusion exemption is one that --

there's a lack of clarity on that issue and so what we're trying to do in this rulemaking is to clarify that issue.

HEARING OFFICER ANTONIOLLI: And what's the current, I guess, state of that controversy that you just referred to between whether a plastic injection molding operation would be considered an extruder?

MS. SHARKEY: I think that there's a difference of opinion. Some engineers have looked at it and said the emission source is the extruder. Others have looked at it and said, yeah, but extruder is a term of art in the industry that means only a strand extruder, a continuous strand extruder.

And so if the issue is is it a continuous strand extruder, certainly not. Is the main emission source the extruder -- the injection barrel as we've seen, I think Mr. Harris' testimony is that that essentially is not a continuous extruder.

HEARING OFFICER ANTONIOLLI: Okay. And, Mr. Harris, do you have any differing opinion or is that -- would you agree with

that explanation?

MR. HARRIS: Based on the design of the equipment, I would agree with what Pat just said.

MR. JOHNSON: That was your testimony, that the PIM machine is essentially a non-continuous extruder.

MR. HARRIS: A non-continuous extruder.

MR. JOHNSON: And to me, the question aught to be is there a difference or what difference, if any, is there in emissions between the two because --

MR. HARRIS: In general, they're lower.

MR. MELAS: In general they're what?

MR. HARRIS: Lower.

MR. MELAS: Lower, okay.

MR. JOHNSON: And extruders are already exempt under 201.146, right?

MS. SHARKEY: Right.

MR. JOHNSON: That's to me in a nutshell --

MR. RAO: And does the Agency have

anything to say about what they view as -- you know, whether they view plastic injection as an extrusion operation or --

MR. MATOESIAN: I would have to allow Mr. Sutton to answer that in the second hearing.

MR. RAO: Okay. And does U.S. EPA have any guidance on this issue if there's some controversy about the way it's looked at?

MS. SHARKEY: We have not found any.

MR. RAO: Okay.

HEARING OFFICER ANTONIOLLI: Would you like to continue? Do you have any further questions?

MR. RAO: Yeah.

I had a couple of clarifying questions for Mr. Harris and some of them were kind of addressed by your changes to the proposed language. Basically, I wanted to know what does compression and transfer molding involve, whether it's part of this whole injection molding or it's a separate process? I know it's no longer part of your

proposed language but --

HEARING OFFICER ANTONIOLLI: Under the errata sheet that is now Exhibit 1, that compression and transfer language was deleted.

MR. RAO: Stricken out.

But is that a different process altogether, those two, plastic compression --

MR. HARRIS: From what I know, they are different but --

MS. SHARKEY: One of the reasons we've struck that is that we've been working with Mr. Harris and we've been focused on plastic injection molding and he told us he's a scientist, he does not comment on processes that he is not very familiar with, and he has not studied those two processes.

And generally the SPI, the Society of Plastics Industry, does have separate definitions for compression molding and transfer molding and we would be happy to get you those.

MR. RAO: Okay.

MS. SHARKEY: Mr. Harris, is it true

that they use a different type of plastic or thermoset plastic that's different from the type of plastic used in the --

THE WITNESS: In the resin, yes.

MS. SHARKEY: The resin has been essentially different?

MR. HARRIS: Uh-huh.

MR. RAO: But is the injection molding machine the same or is it just the raw material that's different or is the equipment different too?

MR. HARRIS: The equipment is slightly different, but we can get you the information of what the differences are.

MR. RAO: Okay. That would be helpful.

And you have provided a diagram of the PIM machine that's in Exhibit 1 and Exhibit 4. I had a question about where the VOM emissions occur, is it -- can you show us on the diagram?

MR. HARRIS: So the emissions would come -- in the PIM process?

MR. RAO: Yeah.

MR. HARRIS: When the mold cavity is opened. You know, you have to think of it as -- an extruder would be like the resins flowing through the extruder and coming out with a tubular -- or depending on what film or whatever the die head is designed for, whereas, here you're forming an object, whatever the part may be, a cap or -- and so you're flowing -- the extruder would be coming continuous, it's reached a steady state so it's flowing through.

The injection molding would be stopping to fill the cavity of the mold, cooling it down and letting the part --

MR. MELAS: So the VOM comes when the mold opens?

MR. HARRIS: Well, it's basically when the resin is melted. The pellets are melted into a liquid --

MR. MELAS: Right.

MR. HARRIS: -- and it's flowing through the extruder. And as they come out (indicating) --

HEARING OFFICER ANTONIOLLI: You're

referring to right now Exhibit 4 -- oh, no, I'm sorry, Exhibit 1 --

MR. HARRIS: My Exhibit 1.

HEARING OFFICER ANTONIOLLI: -- of your prefiled testimony, which is Exhibit 3.

MR. HARRIS: Correct.

HEARING OFFICER ANTONIOLLI: Okay.

MR. HARRIS: So basically, at the very end of the process is where you would find the emission sources. And in the extrusion process that we tested, when the strand comes out, it's quenched, cooled down, and you would see some very small emissions, but most of them would be right at the die head.

MR. MELAS: Okay.

MR. RAO: In some of the studies that you have submitted as part of your prefiled testimony, they explain how they captured the emissions to, you know, quantify them, and I'm assuming that was done just for the purpose of the studies and it's not practical to do it on a --

MR. HARRIS: It would be very expensive.

MR. RAO: For such low emission levels?

MR. HARRIS: Right.

MR. RAO: Okay.

MR. HARRIS: We tried in these studies to have 100 percent capture of all the emissions that would come out and the system equipment was designed that way.

MR. RAO: And with regards to emission of particulate matter, is that, you know, fugitive emissions that are involved in a part of your grinding operation and feeding the hoppers and stuff like that or is it just part of what you --

MR. HARRIS: You mean in the studies that we did?

MR. RAO: No, in general.

MR. HARRIS: Oh, in general. Well, different steps are going to require different types of emissions. But what we did in this study was only looked at the extrusion point, the melting of the resin in the system.

We assumed that -- when you look

at this, the resin comes into the hopper here, that's where we started from, but the handling of it we're going to address that later (indicating).

MR. RAO: At the second hearing?

MS. SHARKEY: We're talking about the handling of resins, loading, unloading?

MR. RAO: Yeah.

MS. SHARKEY: Yes, we will be providing you with some information on that.

MR. RAO: Okay. I have one more question about, you know, the associated activities with PIM facilities. Do these facilities also do any finishing activities of the products that they, you know, manufacture, painting, coatings for their products at this same facility?

MR. HARRIS: Some of them may do that.

MR. RAO: And if they do that, then depending on what they do, you know, like if it's coating or painting, you know, they are subject to applicable regulations?

MR. HARRIS: Yes.

HEARING OFFICER ANTONIOLLI: Or would

part of the finishing include what is the new language added to the proposed section HHH, associated mold release agents, is that something that's done as a finishing?

MR. HARRIS: No. That's actually for cleaning the mold or trying to keep little pieces that are attached to it from causing any defects in the product.

HEARING OFFICER ANTONIOLLI: Okay.

MR. RAO: And we will be hearing more about those?

MS. SHARKEY: Yes, you definitely will be getting some more information on the mold release agents and on these other activities that we've talked about. But I think we can briefly say they're at very low temperatures, and you're going to be hearing testimony about the temperatures. Mr. Harris has already talked in his testimony and in the studies underneath about the relationship between temperatures and the production of VOM.

We plan to give you some more information on that and in addition the

issue -- perhaps the other kind of question that comes up with handling is just this sloughing off of tiny particles and the handling of these resin beads, and you're going to be getting some more information as best as we can find it.

We have to tell you we are looking for emission factors or something to help us with this because they really aren't out there and people are not focusing on these activities. We just want to make sure -- we're all quite sure that the emissions we're going to find are very low because of their clean operations but that what we are looking for is a way to give you an understanding of something concrete and objective to understand that.

HEARING OFFICER ANTONIOLLI: Okay.

MR. RAO: In your prefiled testimony, Mr. Harris, you noted that there are like approximately 500 PIM facilities in Illinois --

MR. HARRIS: Yes.

MR. RAO: -- and I know you're going

to provide more information about the maybe approximate total emissions of these facilities. Could you also give us some idea as to where these facilities are located in terms of, you know, whether most of them are in the non-attainment area or if they're evenly spread around the state because that would be helpful to know where these facilities are?

MS. SHARKEY: If I could just say we've been looking at this question. We have asked -- the CICI has itself been looking at the question. We can provide anecdotal information for those entities that we know of through CICI.

But as you've heard in Ms. Frede's testimony, there are over 500 plastic injection molding facilities that are -- at least Plastics News tell us are located in Illinois. And so we have really had to -- as we've been looking at this question had to operate on some assumptions that they are spread all over the state because we don't know otherwise.

And I would like to promise you the vehicle to tell you whether they're -- I know you're concerned whether they're in attainment areas or not in attainment areas and I can't promise you at this point that we are going to be able to give you that information, but we will certainly --

MR. RAO: Yeah, whatever you can come up with for us.

MR. MELAS: What is the membership of CICI again?

MS. FREDE: One hundred and eighty-eight members.

MR. MELAS: One hundred and eighty-eight members, okay.

MR. RAO: Mr. Harris, in Pages 3 and 4 of your prefiled testimony, you note that depending on the size of the PIM machines, they may have throughputs ranging from ten pounds per hour to over 1,000 pounds per hour. Could you give us an idea of the size of these machines and size of a typical PIM facility?

MR. HARRIS: The physical size in

geometry?

MR. RAO: Yeah, how big these machines are. You know, I have no idea whether they're --

MR. HARRIS: Well, it could be anything from, you know, maybe something like ten or 20 feet long to 1,000 tons with, I don't know, something on the order of 30, 40 feet. You know, they're large machines.

MR. RAO: And is it common for these facilities to have like multiple machines?

MR. HARRIS: Yes, generally.

MR. RAO: And other than air pollution concerns, do PIM facilities -- do you know if they have any other environmental concerns such as noise or water pollution?

MR. HARRIS: Well, each facility would have a person at that site who would have responsibilities for OSHA and other regulatory agencies as well, so they would -- if they had a problem, they would have to file with the Agency, with the state or the federal.

MR. RAO: But are you aware of whether

these facilities need any other environmental permits other than the --

MR. HARRIS: Environmental permits, no.

MS. SHARKEY: Is your answer that you're not aware or that they do not?

MR. HARRIS: I'm not aware.

MR. RAO: Okay.

MS. SHARKEY: You know, if you've got, for example, they needed a storm water permit for activities on parking lots and construction and such, like any other facilities they would need it. I think that the answer is that there's no water involved in this process.

It would require a water -- an NPDES or a sewer hookup permit that is specifically associated with plastic injection molding. Now, again, if the facility has other operations, they may have those types of permits.

MR. RAO: Is noise an issue with these machines?

MR. MELAS: Are they noisy?

MR. HARRIS: Well, you know, they do make some noise levels, but from what I've seen of them they've been within the decibel levels of --

MR. MELAS: It's not like a forging machine operation or anything like that?

MR. HARRIS: No.

MS. SHARKEY: If I might ask a question to clarify --

HEARING OFFICER ANTONIOLLI: Please do.

MS. SHARKEY: Mr. Harris, have you ever stood outside a facility that had plastic injection molding operations in the interior?

MR. HARRIS: Yes.

MS. SHARKEY: Have you been able to hear anything in terms of the operation of the plastic injection molding machine from the outside of the building?

MR. HARRIS: I'm trying to visualize. You can hear some sound, but I don't think it's -- it's not what I would call a concern to the employee.

MS. SHARKEY: Apart from an employee concern, are you --

MR. HARRIS: Oh, are you talking about outside?

MS. SHARKEY: Concerning noise at the property's line is the Pollution Control Board's concern on regulatory noise. If you're standing at the property line in this type of facility, would you be able to hear anything --

MR. HARRIS: No, most likely not.

MR. MELAS: Most likely not.

MR. RAO: Okay. Ms. Sharkey had mentioned that, you know, you may present some information about, you know, de minimis levels and that sort. If you do, can you also try to, you know, address this issue.

I had this question about if a facility has large multiple machines like, you know, in the range of a thousand pounds per hour or so, looking at the calculations that Mr. Harris has submitted, those, you know, in the low levels can add up and be I would say significant levels of emissions

still below the threshold of regulations, but maybe three or four tons per year if you had like three or four machines, these big machines, so can you, you know, discuss that as part of your --

MS. SHARKEY: Additional testimony?

MR. RAO: Additional testimony.

MS. SHARKEY: Yes. What it's sounding to us like is that you would like to know something about a typical facility in terms of how many machines one would expect to have.

MR. RAO: Yes.

MS. SHARKEY: And then you would like to know statewide what volume of emissions we'll be talking about.

MR. RAO: Yes, that will be helpful.

MR. MELAS: That would be important.

MS. SHARKEY: We will provide that information.

MR. RAO: Because one of the things in the prefiled information was there was a listing of 600, you know, big companies that were listed by -- was it Plastics News?

MR. HARRIS: Uh-huh.

MR. RAO: I was just going over it and one other facility was in Glenview, Illinois, which is ranked No. 12, and it just gave, you know, the ranking based on the amount of money that they, you know, make or generate, so I was curious as to how big these facilities are and what their production capability is.

MR. HARRIS: Uh-huh.

MR. RAO: And I had one final question for Mr. Harris. This is about the emission factor summary chart that you have in Exhibit 9.

MR. HARRIS: Yes.

MR. RAO: In the summary chart, you have, you know, various types of resins that were tested and there was one under polypropylene for which I think it's homopolymers and the temperature was over 600 degrees Fahrenheit?

MR. HARRIS: Yes.

MR. RAO: It was indicated as an outlayer in one of the footnotes and I was

just curious to know whether -- is that like an outlayer in the statistical sense or it's not generally -- that level of temperature is not typically used in your injection molding operations?

MR. HARRIS: Most the latter. As you can see from the table here, as you increase temperature, you get greater emissions regardless of what the resin is. Higher temperatures produce higher emissions and generally polypropylene is not processed at those temperatures, but we took it up that high just to see what the impact would be.

MR. RAO: Okay. Thank you. We look forward to your additional testimony.

Alisa, do you have any?

MS. LIU: (Indicating.)

HEARING OFFICER ANTONIOLLI: Okay. Do any of the witnesses or, Ms. Sharkey, do you have anything further at this time?

MS. SHARKEY: No, we don't. We're happy to provide the Board with additional information. We appreciate the questions. They've been very helpful for us to

understand what your concerns are, and we will try to make sure that we get that to you.

The one thing we would request, we've got a holiday intervening here and I know our second round of prefiled testimony will be due on the 8th and we were wondering if we can get that weekend to work on it and provide it to you on the 11th, if that wouldn't present a problem.

HEARING OFFICER ANTONIOLLI: Let's go off the record a moment to discuss. We have a couple of things to discuss.

(Whereupon, a discussion was had off the record.)

We are back on the record. Thank you for being here, everyone. I --

MS. HANSON: Were you going to allow members of the public to speak?

HEARING OFFICER ANTONIOLLI: Oh, absolutely, please ask questions. I thought I had made it clear, but if I haven't, I apologize.

MS. HANSON: You said witnesses and

left me out.

HEARING OFFICER ANTONIOLLI: Okay.

MS. HANSON: I just have a couple of really quick things. First of all, Pat, was your testimony submitted into the record and marked?

MS. SHARKEY: Yes.

MS. HANSON: So that's CICI 5?

HEARING OFFICER ANTONIOLLI: Yes. The prefiled testimony of Patricia Sharkey is marked as Exhibit 5 and it's also -- it was prefiled on June 16th. It's been made part of the record twice, and then her testimony will be on record as far as the hearing transcript today is concerned, and that will be available online as soon as we receive that transcript.

MS. HANSON: Okay.

MS. SHARKEY: Did I give you a copy?

MS. HANSON: Yes.

I assume that you have adopted and ratified your previous unsworn testimony now that you've been sworn?

MS. SHARKEY: Thank you. Yes.

MS. HANSON: In response to your questioning of what was the status of the controversy regarding whether injection molding is considered part of extrusion, certainly is still very much a matter of controversy for my client.

And part of the reason I'm here today is we wanted to make sure that this Board didn't inadvertently address that controversy in this proceeding unless, of course, the Board decides to order briefing on it, in which case we'll have an opportunity to deal with it, so --

HEARING OFFICER ANTONIOLLI: Okay. Thank you for your comment. Anything further, any questions for the witnesses?

MS. HANSON: No.

HEARING OFFICER ANTONIOLLI: Thank you. We have one more member of the public here that we would note, Mr. Ken Brown. Thank you.

Now, the Board has scheduled a second hearing in this matter for July 15, 2005 in Springfield. We had set a prefiling

deadline of July 8th and we're going to change that prefiling deadline today on the record until Monday, July 11th, so any person wishing to prefile testimony should do so by that date.

The proponent, CICI, has offered to expedite the transcript in order to expedite the hearing process. We expect to have the transcript of today's hearing by Tuesday, July 5th. Soon after we receive it, the Board will post the transcript on our web site, which is www.ipcb.state.il.us.

There, the transcript as well as the Agency's -- as the CICI's proposal and all of the Board orders throughout this proceeding will be viewable and downloadable at no charge. Alternatively, you can order a copy of the transcript from the clerk of the Board at 75 cents per page.

Anyone can file a public comment in this proceeding with the clerk of the Board, but please note that when filing a public comment, you must serve all of the people on the service list with a copy of the

public comment.

There's nothing further. I would like to thank everyone for being here today, for your testimony and comments and questions, and the hearing is adjourned and we will see you all again -- or most of you -- again on July 15th, 2005.

MS. SHARKEY: Thank you very much.

(Whereupon, at 12:42, an adjournment was taken to July 15, 2005.)

STATE OF ILLINOIS)
) SS.
COUNTY OF KANE)

I, MARIA E. SHOCKEY, CSR, do hereby state that I am a court reporter doing business in the City of Chicago, County of Cook, and State of Illinois; that I reported by means of machine shorthand the proceedings held in the foregoing cause, and that the foregoing is a true and correct transcript of my shorthand notes so taken as aforesaid.

_____
Maria E. Shockey, CSR
Notary Public,
Kane County, Illinois

SUBSCRIBED AND SWORN TO
before me this ___ day
of _____, A.D., 2005.

_____
Notary Public