1	BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
2	
3	IN THE MATTER OF:)
4	PROPOSED AMENDMENTS TO) EXEMPTIONS FROM STATE)
5	PERMITTING REQUIREMENTS) R05-20
6	FOR PLASTIC INJECTION) (Rulemaking - Air) MOLDING OPERATIONS (35)
7	ILL. ADM. CODE 201.146))
	,
8	
9	Proceedings held on July 15, 2005, at 10:11 a.m., at the Illinois Pollution Control Board, 1021 North Grand Avenue
10	East, Springfield, Illinois, before John Knittle, Hearing Officer.
11	Officer.
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1	APPEARANCES					
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3	Board Members present:					
4						
5	Board Member Nicholas J. Melas Board Member Thomas E. Johnson					
6						
7	Anand Rao, Senior Environmental Scientist					
8						
9	Board Staff Members present:					
10	Erin Conley					
11						
12	ILLINOIS ENVIRONMENTAL PROTECTION AGENCY BY: Mr. Charles E. Matoesian					
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15	On behalf of the Illinois EPA					
16						
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19	On behalf of the Chemical Industry Council of Illinois					
20	Council of Hillions					
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- 1 PROCEEDINGS
- 2 (July 15, 2005; 10:11 a.m.)
- 3 HEARING OFFICER KNITTLE: Let's get started.
- 4 Good morning and welcome to the Illinois Pollution
- 5 Control Board. My name is John Knittle, and I am
- 6 conducting this hearing today in place of Amy Antoniolli,
- 7 who is the assigned hearing officer in this rulemaking.
- 8 The Board has captioned this proceeding as In the Matter
- 9 of: Proposed Amendments to Exemptions From State
- 10 Permitting Requirements For Plastic Injecting Molding
- 11 Operations -- I guess Plastic Injection Molding
- 12 Operations, 35 Illinois Administrative Code 201.146. The
- 13 Board has docketed this as R05-20.
- 14 In this proceeding, the proponent, the Chemical
- 15 Industry Council of Illinois, which we're going to call
- 16 CICI, is seeking to add an exemption of plastic injection
- 17 molding operations to the existing list of exemptions
- 18 from state air permitting requirements in Section 201.146
- 19 of the Board's air rules. This rulemaking was filed on
- 20 April 19, 2005, by CICI. The Board accepted the proposal
- 21 for hearing on May 5. Today is the second hearing. The
- 22 first hearing was held on July 1 at the Board's offices
- 23 in Chicago.
- The purpose of today's hearing is twofold.

- 1 First, this rulemaking is subject to Section 27(b) of the
- 2 Environmental Protection Act. It's 415 ILCS 5/27(b)
- 3 (2004). Section 27(b) of the Act requires the Board to
- 4 request the Department of Commerce and Economic
- 5 Opportunity to conduct an economic impact study on
- 6 certain proposed rules prior to adoption of those rules.
- 7 If the DCEO chooses to conduct the impact study, they
- 8 have 30 to 45 days after such request to produce a study
- 9 of the economic impact of the proposed rules. The Board
- 10 then must make the impact study or the explanation for
- 11 not conducting the impact study available to the public
- 12 at least 20 days before public hearing on the economic
- 13 impact.
- 14 As required by Section 27(b) of the Act, the
- 15 Board requested by a letter dated May 12, 2005, that DCEO
- 16 conduct an economic impact study of the rulemaking. They
- 17 did not respond, and the Board's request with no response
- 18 has been docketed and available for public viewing. That
- 19 being said, is there anybody here who has any comments on
- 20 the economic impact of this rule? As seeing none, we'll
- 21 just move forward, and that purpose of the hearing is
- 22 finished.
- 23 The second purpose is to allow the proponents to
- 24 testify, allow any members of the public who wish to

- 1 testify the opportunity to do so and to ask questions of
- 2 the proponents. If you would like to testify today and
- 3 you haven't already, please let me know. Today's
- 4 proceeding is governed by the Board's procedural rules.
- 5 All information that is relevant and not repetitious or
- 6 privileged will be admitted into the record.
- 7 To my left, your right, is Board Member Nicholas
- 8 Melas. He is the board member assigned to this matter.
- 9 We -- Also present from the board is Board Member Tom
- 10 Johnson right there, and from the technical unit is Anand
- 11 Rao, and I think we have Erin Conley in the back.
- 12 We will begin today with the testimony of the
- 13 CICI witnesses that have prefiled their testimony. They
- 14 prefiled on July 11. That's Miss Lisa --
- MS. FREDE: Frede.
- 16 HEARING OFFICER KNITTLE: -- Frede,
- 17 Mr. Lynne Harris and Miss Pat Sharkey. We're going to
- 18 read that testimony, as we talked about earlier, into the
- 19 record, and then will be available for questions.
- 20 Don Sutton from the Agency has also prefiled
- 21 testimony on July 13, 2005. He's present today to answer
- 22 questions posed to the EPA. Please note that any
- 23 questions posed by board members or staff are designed to
- 24 help develop the complete record for the Board's decision

- 1 and do not reflect any bias. After that, anyone who
- 2 else -- who wants to testify regarding the proposal may
- 3 do so. Like all witnesses, those who wish to testify
- 4 will be sworn in and may be asked questions about their
- 5 testimony. We'll conclude today's hearing with a few
- 6 procedural items that we'll address at the end with the
- 7 exhibit list and stuff like that.
- 8 Member Melas, before we begin, would you like to
- 9 add anything?
- 10 BOARD MEMBER MELAS: Nothing to add, just to
- 11 welcome everybody here to beautiful Springfield, and
- 12 we're continuing the hearing that began up a few weeks
- 13 ago in Chicago.
- 14 HEARING OFFICER KNITTLE: Thank you,
- 15 Mr. Melas. I guess we can turn to Miss Sharkey. If you
- 16 have an opening statement or if you want to just get
- 17 going, it's up to you.
- 18 MS. SHARKEY: Thank you very much. Good
- 19 morning, Mr. Melas, Mr. Johnson, Mr. Rao and Mr. Hearing
- 20 Officer. We appreciate this opportunity to have -- once
- 21 again meet with the Board and to -- and the public and to
- 22 have the Agency present particularly today to offer
- 23 comments in support of this regulation. I am not going
- 24 to repeat any kind of opening statement. Miss Frede will

- 1 make a brief opening statement and will be our witness
- 2 today, who she will be offering the comments on behalf of
- 3 the CICI, and Mr. Lynne Harris, who is from The Society
- 4 of the Plastics Industry, who was available at -- in
- 5 Chicago on the 1st, will also -- is also here today and
- 6 available to answer questions as they may come up.
- 7 What we would like to do, however, is indicate
- 8 that we do have another proposed change to the mandatory
- 9 language that we have proposed. We have previously
- 10 provided you at the last hearing with an errata sheet
- 11 number two. That errata sheet made several changes.
- 12 It deleted the terms compression and transfer molding; it
- 13 made more explicit the activities that are involved in
- 14 handling and listed those activities; and it also changed
- 15 the term granulating to grinding, which we explained was
- 16 a more generic term.
- 17 The next -- That was our first errata sheet.
- 18 Excuse me. The second errata sheet limited the exemption
- 19 to plastic injection molding equipment with an annual
- 20 throughput not to exceed 5,000 tons. So we kept all the
- 21 changes that were made in the prior errata sheet and
- 22 limited it to -- the scope of the exemption to -- the
- 23 intent was to limit it to plastic injection molding
- 24 equipment with an annual throughput not to exceed 5,000

- 1 tons, and it also exempted associated mold release agents
- 2 and mold cleaning agents.
- 3 The third errata sheet we're going to be
- 4 providing you with we've discussed with Illinois EPA this
- 5 morning, and this is a matter of clarifying, and I want
- 6 to point out that CICI brought it to the attention of
- 7 IEPA rather than vice versa, so we certainly did not want
- 8 any misimplication that we were intending that on any
- 9 individual piece of plastic injection molding equipment
- 10 could go up to 5,000 tons. Indeed, that would be
- 11 impossible. So the intention here was that 5,000 tons of
- 12 resin facility-wide from plastic injection molding
- 13 equipment.
- 14 So what we're proposing is language that would
- 15 read as follows: Plastic injection molding equipment and
- 16 associated plastic resin loading, unloading, conveying,
- 17 mixing, storage, grinding, and drying equipment and
- 18 associated mold release and mold cleaning agents, with an
- 19 annual throughput not exceeding 5,000 tons of plastic
- 20 resin in the aggregate from all plastic injection molding
- 21 equipment at the source, period. With that, we would --
- 22 I believe that language was acceptable to the Agency.
- 23 I --
- 24 HEARING OFFICER KNITTLE: Is that correct,

- 1 Mr. Matoesian?
- 2 MR. MATOESIAN: Yes, sir.
- 3 MS. SHARKEY: And what we would plan to do
- 4 is give that to you in writing as well, but we thought
- 5 we'd put on the record where we are right now so that
- 6 there isn't any confusion about that for this hearing.
- 7 BOARD MEMBER MELAS: One quick question.
- 8 Your last word was "source."
- 9 MS. SHARKEY: Yes.
- 10 BOARD MEMBER MELAS: By source, did you mean
- 11 facility?
- 12 MS. SHARKEY: Yes. Are you more -- I think
- 13 I would be as comfortable with the term facility if the
- 14 Agency is.
- MR. SUTTON: We generally use source.
- MS. SHARKEY: And that means the entire
- 17 facility.
- 18 MR. SUTTON: Right.
- 19 BOARD MEMBER MELAS: Okay. So in your
- 20 operations, you generally utilize that term to describe
- 21 the facility.
- MR. SUTTON: Right. We have drifted off
- 23 from facility to source because it has some federal legal
- 24 definition I can't remember, but it's a better term.

- 1 BOARD MEMBER MELAS: Very well. Thank you.
- 2 BOARD MEMBER JOHNSON: I would just point
- 3 out that it was -- to me it was extremely clear what you
- 4 meant at least in the prefiled testimony that was filed
- 5 on July 11, so --
- 6 MS. SHARKEY: Thank you.
- 7 BOARD MEMBER JOHNSON: -- for what that's
- 8 worth.
- 9 MS. SHARKEY: Yeah. We thought the
- 10 testimony made it clear, but we wanted to make sure the
- 11 language reflected that, and when we ourselves took a
- 12 second look at it, we said, you know, some of the other
- 13 exemptions made this clearer, so we didn't want any
- 14 confusion.
- 15 HEARING OFFICER KNITTLE: And you'll be
- 16 filing a third errata sheet?
- MS. SHARKEY: Yes, we will. We'll plan to
- 18 have that to you next week. Okay. With that, I would
- 19 like to turn to Miss Lisa Frede, who is the regulatory
- 20 affairs director for the Chemical Industry Council of
- 21 Illinois, the proponent of this rule. Miss Frede will
- 22 have brief opening remarks to put the -- this rulemaking
- 23 in perspective for any members of the public that might
- 24 be here and will then go on and provide the responses to

- 1 the Board that we -- from questions that were raised in
- 2 the last hearing that CICI provided in its prefiled
- 3 testimony, and we will basically read that into the
- 4 record just to put us all in a frame of mind that we've
- 5 gotten -- that what was filed is all in mind, and at that
- 6 point what I would like to do is some direct examination
- 7 of Miss Frede to walk through the photographs that have
- 8 been provided to the Board. Miss Frede?
- 9 HEARING OFFICER KNITTLE: Can we swear her
- 10 in?
- 11 (Witness sworn.)
- MS. FREDE: Good morning. My name is Lisa
- 13 Frede, and I am the director of regulatory affairs for
- 14 the Chemical Industry Council of Illinois, also known as
- 15 CICI, a not-for-profit Illinois corporation. CICI is
- 16 pleased to be the proponent of the rulemaking proposal in
- 17 this proceeding. CICI is a state-wide trade association
- 18 representing the chemical industry in Illinois. CICI has
- 19 offices in Des Plaines and in Springfield, Illinois. We
- 20 have 198 member companies with over 54,000 employees
- 21 employed in 745 manufacturing facilities and 975
- 22 wholesale and distribution facilities in Illinois.
- The proposal in this proceeding will amend the
- 24 Board's regulations governing state air pollution control

- 1 permits to exempt plastic injection molding operations
- 2 from the state construction and operating permit
- 3 procedure. CICI is proposing this amendment to clarify
- 4 the Board's regulations and achieve efficiencies and cost
- 5 savings for its plastic injection molding company members
- 6 in Illinois and for the state permitting program.
- 7 Here's what this amendment will do. It will
- 8 appropriately regulate the insignificant level of
- 9 emissions generated by plastic injection molding
- 10 operations by treating those operations in the same
- 11 fashion as other operations with similarly low levels of
- 12 emission. It will reduce unwarranted permitting costs to
- 13 plastic injection molding businesses across Illinois. It
- 14 will also relieve owners and operators of plastic
- 15 injection molding operations from the risk of enforcement
- 16 actions based upon differences in interpretation of
- 17 existing categorical exemptions. Finally, it will allow
- 18 Illinois EPA to allocate its permitting and enforcement
- 19 resources to more significant emission sources. Thank
- 20 you.
- MS. SHARKEY: With that, then, Miss Frede
- 22 would like to turn to the responses to the Board that
- 23 were filed in our prefiled testimony.
- 24 BOARD MEMBER MELAS: Okay.

- 1 MS. FREDE: In response to the questions
- 2 posed at the first hearing in this matter on July 1,
- 3 2005, CICI has provided certain requested information.
- 4 CICI witnesses Lynne Harris, Pat Sharkey and I are
- 5 present today to answer questions regarding these
- 6 responses.
- 7 "The Size of Facilities Exempted Under This
- 8 Proposal." At the July 1, 2005, hearing, the Board asked
- 9 how many PIM machines may be located at a given PIM
- 10 facility. CICI has not found any studies or data
- 11 directly addressing this question. However, CICI can
- 12 state that its member facilities have between 40 to 70
- 13 machines.
- 14 Because the size of the PIM machines varies,
- 15 resin throughput is better -- is a better indicator of
- 16 volume of emissions associated with a given facility.
- 17 CICI member facilities have annual PIM resin
- 18 throughout -- throughput ranging from 100 tons per year
- 19 to 3,250 tons per year. Average facility annual PIM
- 20 resin throughput is approximately 500 tons per year.
- 21 "The Estimated Volume of PIM Emissions State-wide
- 22 in Illinois." The Board asked what volume of emissions
- 23 would be exempt from permitting under this exemption. A
- 24 broad estimate of the total volume of emissions generated

- 1 by PIM processes state-wide can be derived by first
- 2 multiplying the number of facilities in Illinois by the
- 3 average volume of resin processed per facility and then
- 4 multiplying that number by an appropriate emission
- 5 factor. As indicated in Mr. Harris' testimony, a worst
- 6 case VOM emission factor is 0.4 pounds per ton of resin
- 7 processed. If we add that to the worst case emission
- 8 factor of 0.4 pounds per ton of resin processed for the
- 9 use of release or cleaning agent as discussed in Section
- 10 5 below, we arrive at a conservative overall VOM emission
- 11 factor of 0.8 pounds per ton of resin used.
- 12 Using the above information and the previous
- 13 testimony that approximately 500 PIM facilities are
- 14 located in Illinois, the formula for calculating
- 15 state-wide VOM emissions associated with PIM is as
- 16 follows: 500 facilities times 500 tons of resin per year
- equals 250,000 tons of resin per year. 250,000 tons of
- 18 resin per year times 0.8 pounds VOM per ton resin equals
- 19 100 tons VOM per year.
- 20 CICI believes that 100 tons per year is a
- 21 reasonable worst case estimate of the total volume of VOM
- 22 emissions generated state-wide by PIM facilities in
- 23 Illinois. We note that this equates to 0.2 tons of VOM
- 24 emissions per facility per year. We further note that

- 1 not all of the approximately 500 PIM facilities in
- 2 Illinois will be exempted from state permitting under the
- 3 proposal in this rulemaking.
- 4 In response to the Board's questions regarding
- 5 the number of PIM facilities that have no other
- 6 processes, such as coating, SPI did a rough survey of its
- 7 members and determined that approximately 80 percent of
- 8 its members in the PIM industry do not perform other
- 9 processes at their facilities. This indicates that
- 10 around 20 percent of the approximately 500 Illinois PIM
- 11 facilities will not be covered by this exemption. Thus,
- 12 total state-wide emission of VOM covered by this
- 13 exemption are actually likely to be on the order of 80
- 14 tons per year.
- 15 To answer any concern the Board may have that
- 16 there may be larger volumes of emissions involved, CICI
- 17 has proposed in its second errata sheet to limit the
- 18 proposed exemption to PIM facilities with no more than
- 19 5,000 tons per year of resin processed. If every
- 20 facility in Illinois processed 5,000 tons of resin per
- 21 year, an extraordinary assumption, the total VOM
- 22 emissions subject to this exemption would be
- 23 approximately 1,000 tons per year. That equates to
- 24 approximately 2 tons of VOM per year per facility.

- 1 "Location of PIM Facilities in Illinois,
- 2 Attainment Areas and Non-attainment Areas." The Board
- 3 asked about the location of PIM facilities in the state
- 4 and whether they were primarily located in attainment or
- 5 non-attainment areas. To answer this question, CICI
- 6 reviewed the locations of the Illinois facilities listed
- 7 in the Plastics News "2005 Survey of North American
- 8 Injection Molders" at the locations of the CICI member
- 9 facilities and determined that 14 percent of those PIM
- 10 facilities are located in attainment areas and the
- 11 remaining 86 percent are located in non-attainment areas.
- 12 Of those located in non-attainment areas, all are located
- in areas which have been designated as moderate
- 14 non-attainment areas under the new 8-hour ozone standard.
- 15 "Estimated Emission From Resin Handling
- 16 Operations: Loading, Unloading, Conveying, Storage,
- 17 Mixing, Grinding, Drying." As indicated at the July 1
- 18 hearing, CICI has attempted to find studies and other
- 19 sources of information on the volume and type of
- 20 emissions generated by the various activities associated
- 21 with resin handling operations. We have found no studies
- 22 directly addressing or quantifying emissions from these
- 23 activities. This is actually not surprising. As
- 24 indicated in Mr. Harris' June 16, 2005, prefiled

- 1 testimony, emissions from the injection molding process
- 2 as a whole had not been quantified prior to 1996. This
- 3 lack of quantified information on emissions may also be
- 4 explained by the nature of the materials involved and the
- 5 process. The resin and scrap are hardened plastic
- 6 materials at ambient and low temperatures. Furthermore,
- 7 these ancillary activities operate under negative
- 8 pressure. Thus, emissions from the movement of resin,
- 9 the drying of the resin and the grinding of the scrap
- 10 plastic are largely, if not entirely, drawn back into the
- 11 process.
- 12 The following information on how and where
- 13 emissions are formed in this process may assist the Board
- 14 in understanding that emissions from the ancillary
- 15 activities are minimal.
- 16 "VOM and HAP Emissions." VOM and HAP emissions
- 17 from plastic resin are directly related to temperature.
- 18 As found in the SPI studies accompanying Mr. Harris'
- 19 prefiled testimony, emission rates are directly
- 20 correlatable with the melt temperature of the resin
- 21 involved. Thermoplastic resins have a melt temperature
- 22 in the range of 300 degrees Fahrenheit to 600 degrees
- 23 Fahrenheit. The SPI studies demonstrated that even at
- 24 the melt temperatures reached in the extruder screw, VOM

- 1 and HAP emissions are low. Thus, the brief drying of the
- 2 resin at far lower temperatures to remove moisture from
- 3 the pellets can be presumed to generate only a fraction
- 4 of those emissions. The ancillary resin loading,
- 5 conveyance and mixing at ambient temperatures can be
- 6 presumed to be even lower.
- 7 To a varying degree, all plastic resins take on
- 8 moisture when they are exposed to relative humidity.
- 9 Even a minimal amount of moisture in many plastics can
- 10 negatively affect molding characteristics. Dryers
- 11 operated at low temperatures are often utilized to remove
- 12 such moisture from plastic resin prior to the plastic
- 13 injection molding process. The dryers blow heated
- 14 ambient air over the plastic resins. The temperatures
- 15 used for drying plastic resins are generally less than
- 16 one half of the melting temperature of the plastic resin
- 17 involved. Although CICI has not been able to find any
- 18 data on emissions from dryers, emissions of VOM from
- 19 plastic resin at the relatively low temperatures used in
- 20 the drying process can be presumed to result in a small
- 21 percentage of VOM or particulate emissions generated by
- 22 the overall process.
- 23 The conclusion that VOM emissions from resin
- 24 pellets handled at ambient temperatures are minimal is

- 1 confirmed by the polyethylene study, which measured
- 2 emissions of VOC from the hopper area and found that
- 3 emissions from this area accounted for less than 2
- 4 percent of the total VOCs measured.
- 5 "Particulate Matter Emissions." There is an
- 6 assumption that the movement of resin even at ambient
- 7 temperatures generates some level of particulate matter,
- 8 PM. However, CICI has been unable to find any EPA or
- 9 industry studies of this subject.
- 10 To provide the Board with some perspective on the
- 11 level of PM present at a PIM facility, I personally
- visited one of CICI members' facilities on July 7, 2005.
- 13 I can attest that it was exceedingly clean with no dust
- 14 or film on the floor or the equipment, including the
- 15 grinder or granulator, which is presumed to be the piece
- 16 of equipment most likely to produce PM. I can also state
- 17 that none of the employees in the workplace wear
- 18 respiratory protection, indicating the indoor particle
- 19 levels meet OSHA standards without such protection. One
- 20 of the primary reasons that PM is so low in these
- 21 facilities is that product specifications require that
- 22 foreign material not enter the process. Another reason
- 23 is that injection molding and associated resin and scrap
- 24 handling are almost entirely enclosed operations which

- 1 take place under negative pressure.
- 2 With our prefiled testimony we have provided
- 3 photographs taken during my visit which we hope will
- 4 provide the Board with a better understanding of the PIM
- 5 equipment and process. Briefly, the resin is brought to
- 6 the machine in a cardboard Gaylord box and fed via vacuum
- 7 hose into the dryer and the hopper. The screw extruder
- 8 and the mold are entirely enclosed processes. When the
- 9 mold opens, the product drops to an open conveyor belt,
- 10 which can be seen to have little or no dust on it. I can
- 11 testify that the plastic product and plastic scrap
- 12 leaving the mold are extremely clean.
- These scrap plastic runners and sprues are
- 14 removed from the mold by way of a robotic arm, which
- 15 drops the scrap into the grinder or granulator. As can
- 16 be seen from the photographs, the grinder area has little
- 17 or no dust. Again, this is because the grinder operates
- 18 under negative pressure and both the scrap plastic and
- 19 the associated dust are drawn into the grinder. Closing
- 20 the loop, the granulated plastic, while somewhat dusty,
- 21 is fed directly from the grinder back to the hopper and
- 22 then reused in the process. This takes place by way of
- 23 vacuum hose. Thus, the granulated plastic is never
- 24 exposed to ambient air.

- 1 Given the fact that these processes are so clean,
- 2 there is little likelihood that PIM machines would be
- 3 vented outside the workplace. CICI's survey of its
- 4 member facilities indicates that none of these facilities
- 5 vent PIM machines outside the workplace, thus there is
- 6 little likelihood of PIM emissions entering the outside
- 7 environment. To the extent that a PIM facility has
- 8 emissions of concern within the workplace, they are
- 9 subject to OSHA standards and are not regulated under the
- 10 Environmental Protection Act or air pollution control
- 11 permits issued under the Board's rules.
- 12 "Mold Release Agents and Cleaning Agents." Mold
- 13 release agent and/or mold cleaner are sometimes used in
- 14 the plastic injection molding process. Mold release
- 15 agent leaves a very thin layer of a non-stick substance
- on the surface of the mold to help the parts fall from
- 17 the mold as it opens at the end of the cycle. Mold
- 18 cleaner is used to remove built-up residue from the mold
- 19 surface. Some CICI member facilities have designed their
- 20 molds to avoid the use of mold release altogether but
- 21 still use mold cleaner.
- 22 Historically, the volatile organic matter content
- 23 of aerosol mold release agents and mold cleaning products
- 24 was in excess of 90 percent. However, mold release

- 1 agents and mold cleaning products are now available in
- 2 water-based formulation and in formulations that utilize
- 3 non-photochemically reactive chemicals as carrier
- 4 solvents.
- 5 Both mold release agent and mold cleaner are
- 6 generally used in 12- to 16-ounce aerosol cans. Based on
- 7 data collected from CICI member facilities, VOM emissions
- 8 from mold release agent and/or mold cleaner range from
- 9 less than 0.1 pounds per ton of resin processed up to 0.4
- 10 pounds per ton of resin processed. The combined usage of
- 11 the mold release agents and mold cleaner at a PIM
- 12 facility can be conversely estimated -- conservatively
- 13 estimated to generate 0.4 pounds of VOM per ton of resin
- 14 processed.
- 15 In general, facilities try to design molds to
- 16 minimize the use of mold release agents and mold cleaner
- 17 because it is very inefficient to stop the PIM machine
- 18 periodically to apply either release agent or cleaner to
- 19 the mold. Well-designed molds require only a minimal
- 20 amount of either substance. When possible, facilities
- 21 try to apply mold release agent or mold cleaner only at
- the beginning of the production shift.
- 23 "Definitions of Compression Molding and Transfer
- 24 Molding." In response to a question from the Board, CICI

- 1 has provided in their prefiled testimony definitions of
- 2 these processes from The Society of the Plastics
- 3 Industry, Inc. -- SPI -- Web site at
- 4 www.plasticsindustry.org. As stated in the first
- 5 hearing, CICI is no longer proposing that compression or
- 6 transfer molding be included in the proposed exemption
- 7 and does not plan to provide additional testimony
- 8 regarding these processes.
- 9 Thank you, and I would be happy to answer any
- 10 questions that you may have.
- 11 HEARING OFFICER KNITTLE: Thank you. Miss
- 12 Sharkey?
- MS. SHARKEY: Yes. Mr. Hearing Officer, at
- 14 this time we would like to move into evidence as
- 15 Exhibit -- CICI Exhibit 6, I believe --
- 16 HEARING OFFICER KNITTLE: That's correct.
- MS. SHARKEY: -- the prefiled testimony of
- 18 the CICI from which Miss Frede was just reading and also
- 19 the second errata sheet that was filed together with that
- 20 on July 15, and I just want to show that to Counsel that
- 21 what we're talking about is that document. With your
- 22 permission --
- 23 HEARING OFFICER KNITTLE: Do you want those
- 24 as one exhibit?

- 1 MS. SHARKEY: Or as a group exhibit if you
- 2 prefer.
- 3 HEARING OFFICER KNITTLE: That's fine.
- 4 Let's do a group exhibit, but it can be Exhibit No. 6.
- 5 MS. SHARKEY: Okay.
- 6 HEARING OFFICER KNITTLE: Any objection,
- 7 Mr. Matoesian?
- 8 MR. MATOESIAN: No.
- 9 HEARING OFFICER KNITTLE: That will be
- 10 admitted.
- 11 MS. SHARKEY: I will provide a copy to the
- 12 court reporter and also provide a copy to you, sir.
- 13 HEARING OFFICER KNITTLE: Thank you very
- 14 much.
- MS. SHARKEY: To be clear, the second errata
- 16 sheet in Group Exhibit 6 is the errata sheet we filed on
- 17 the 15th. We will be filing a third errata sheet as
- 18 discussed earlier.
- 19 HEARING OFFICER KNITTLE: Understood.
- MS. SHARKEY: At this point, what I would
- 21 like to do is walk through the photographs that are
- 22 provided in that Exhibit 6, which I would suppose be --
- 23 we can just refer to as the photographs 1 through 9 in
- 24 Group Exhibit 6.

- 1 HEARING OFFICER KNITTLE: Are they -- Yeah,
- 2 they're numbered in there?
- MS. SHARKEY: They are numbered in there.
- 4 HEARING OFFICER KNITTLE: That's fine.
- 5 MS. SHARKEY: Okay. We also, by the way,
- 6 have color photocopies of this if any member does not
- 7 have -- if you're like us, you have the black and
- 8 white --
- 9 BOARD MEMBER JOHNSON: I didn't even copy
- 10 them because I don't have a color printer, but I'll --
- 11 MS. SHARKEY: We do have another copy of it
- 12 right over here.
- BOARD MEMBER JOHNSON: Thank you.
- MS. SHARKEY: Does anybody else need a copy
- 15 of that? We would like to -- We did file these comments
- 16 and the photographs electronically, and I believe they
- 17 are available in color -- I hope they're available in
- 18 color for the Board to review, because we have found that
- 19 the graininess in the black and white makes some of it a
- 20 little hard to see, so we have an extra copy of the color
- 21 ones which we can provide for the record and which we may
- 22 in the course of this ask Miss Frede to look at and
- 23 provide you with a colored copy.
- 24 HEARING OFFICER KNITTLE: Perhaps when

- 1 you're done you could provide that for our official
- 2 exhibit.
- 3 MS. SHARKEY: Okay.
- 4 HEARING OFFICER KNITTLE: Yeah, and it is in
- 5 color on the Web site.
- 6 MS. SHARKEY: Very good. Okay.
- 7 EXAMINATION OF LISA FREDE
- 8 BY MS. SHARKEY:
- 9 Q. Miss Frede, in your prefiled responses to
- 10 the Board's questions, you indicated that you visited a
- 11 CICI member's plastic injection molding facility on July
- 12 7. What I'd like to do is ask you some questions about
- 13 your observations at that facility. Could you first
- 14 explain to the Board what your purpose was in visiting
- 15 that facility?
- 16 A. The purpose of my visit was to provide the
- 17 Board with some more information on the PIM operations,
- 18 to basically observe the PIM machines in operation and to
- 19 get some photographs to present to the Board, so it was
- 20 to see a firsthand level of what particulate emissions
- 21 were present around the machines, the overall processes,
- 22 basically.
- Q. Okay. And did you observe any of the
- 24 plastic injection molding machines in operation?

- 1 A. I did.
- 2 Q. Okay. Approximately how many machines were
- 3 located at the plant you visited?
- 4 A. There were approximately 60 PIM machines at
- 5 the facility that I visited.
- 6 Q. Do you know if this plant was typical of the
- 7 CICI member plant plastic injection molding facilities?
- 8 A. This is actually one of the larger CICI
- 9 member plants.
- 10 Q. Okay. Otherwise, in terms of its
- 11 production, was it typical of those facilities?
- 12 A. Yes.
- Q. Looking at the pictures that were attached
- 14 to the prefiled responses, are you familiar with those?
- 15 A. I am. I've reviewed them.
- 16 Q. Okay. Were you present when those photos
- 17 were taken?
- 18 A. I was.
- 19 Q. Okay. Do you believe they're an accurate
- 20 depiction of what you observed?
- 21 A. They were.
- Q. Very good. Turning, then, to photo number
- 23 1, I wonder if you would describe for the Board in your
- 24 own words what those photo -- that photo shows.

- 1 A. Okay. This is a typical -- what I appear to
- 2 be a typical PIM machine. Towards the left-hand side of
- 3 the photograph you will see the material dryer and the
- 4 dryer's controls sitting below it. Towards the center of
- 5 the picture is the grinder, and this is the area where
- 6 the runner and the sprue will be deposited for regrind
- 7 back into the process. On the top of the machine above
- 8 the middle of the two main boxes where you see the
- 9 Plexiglas is the robotic arm, and that grabs the runner
- 10 and sprue from the mold area, which then will deposit
- 11 that which I'll note as scrap back into the grinder.
- 12 Just below that robotic arm in that center section is
- 13 basically where the mold and the extruder screw come
- 14 together in the processes, and then in the last box on
- 15 the right-hand side, through the Plexiglas you can then
- 16 see the press, which is basically -- you see where it
- 17 says 120-ton press is where the two molds -- it's the
- 18 clamping force of the two molds together.
- 19 MS. SHARKEY: What we might recommend is if
- 20 the board members have available Mr. Harris' testimony
- 21 from -- which was Exhibit 3 in this proceeding, there is
- 22 a diagram of Exhibit 1 in Mr. Harris' testimony. That is
- 23 a schematic of the process which focuses on the extruder
- 24 screw, the hopper and the die head, and you'll recall we

- 1 have another exhibit that basically shows the mold at the
- 2 end of it.
- 3 Q. (By Ms. Sharkey) The piece of equipment
- 4 shown in that Exhibit 1 to Mr. Harris' testimony, Miss
- 5 Frede, is that -- could you describe for us where that --
- 6 what's shown in this schematic, the portions of the
- 7 equipment that are shown in this schematic, where they're
- 8 located in that -- in photograph 1?
- 9 A. Actually, it's a little hard to see, but the
- 10 mold area, the -- would be towards the right-hand of the
- 11 photograph contained in this box.
- 12 Q. Contained in the box that appears to have a
- 13 window on it?
- 14 A. Yes, the --
- 15 Q. That is the arrow pointing 120-ton press?
- 16 A. Correct.
- 17 O. The mold is in that enclosed box?
- 18 A. Correct.
- 19 Q. Okay.
- 20 A. It then will move per this photograph
- 21 towards the left into the second box that is shown, where
- 22 it will then meet with the extruder screw that comes from
- 23 the left into that joint section there.
- Q. Okay. So what -- you can't see very well

- 1 the extruder screw; is that correct?
- 2 A. Correct.
- 3 Q. It would be basically behind that grinder
- 4 and --
- 5 A. Correct.
- 6 Q. -- dryer area.
- 7 A. Correct.
- 8 MS. SHARKEY: Just to -- We wanted to help
- 9 the Board put in perspective what you're looking at
- 10 there.
- 11 BOARD MEMBER MELAS: I can see it.
- 12 Q. (By Ms. Sharkey) Okay. Miss Frede, did you
- 13 measure the dimensions of the plastic injection molding
- 14 machine that -- what we've just discussed, the mold and
- 15 the extruder screw?
- 16 A. Yes. This machine shown in picture 1 is
- 17 approximately fourteen feet in length and four feet in
- 18 width.
- 19 Q. Okay.
- 20 HEARING OFFICER KNITTLE: That's the entire
- 21 machine or just the part that's labeled 120-ton press?
- MS. FREDE: That would be the entire
- 23 machine.
- Q. (By Ms. Sharkey) Would that go all the way

- to the end of the extruder screw?
- 2 A. It does.
- 3 Q. So it's the extruder screw and the enclosed
- 4 mold.
- 5 A. Correct.
- 6 MR. RAO: Miss Frede, just for the record,
- 7 can you just explain what sprue means?
- 8 MS. FREDE: Sure.
- 9 MS. SHARKEY: Sprue?
- MR. RAO: Sprue.
- 11 MS. FREDE: Sprue? Can I show the Board?
- MS. SHARKEY: We can offer into evidence if
- 13 this would be of assistance at this point -- we did plan
- 14 to offer it later.
- MR. RAO: Yeah. Yesterday we figured out
- 16 what this was, but we thought in the process of reading
- 17 the record --
- MS. FREDE: Just to make sure.
- MR. RAO: Yeah.
- 20 MS. FREDE: This portion right here, this
- 21 little tab on the runner, is the sprue.
- MR. RAO: Okay.
- MS. SHARKEY: If you'd let the record show
- 24 that Miss Frede is holding what we are going to offer as

- 1 CICI Exhibit 7 by a small --
- 2 MS. FREDE: Cylindrical tab.
- 3 MS. SHARKEY: -- cylindrical tab at the top
- 4 of this piece of plastic that's called a runner, and it
- 5 is that little tab that the robotic arm actually --
- 6 MS. FREDE: Grasps.
- 7 MS. SHARKEY: -- picks up and holds; is that
- 8 correct?
- 9 MS. FREDE: Correct.
- 10 HEARING OFFICER KNITTLE: That's the sprue.
- MS. SHARKEY: That's the sprue.
- 12 HEARING OFFICER KNITTLE: Any objection to
- 13 that, Mr. Matoesian, as Exhibit 7?
- MR. MATOESIAN: No objection.
- 15 HEARING OFFICER KNITTLE: We'll admit that.
- BOARD MEMBER MELAS: The robotic arm --
- MS. FREDE: Comes up, and I'll show that to
- 18 you further.
- 19 HEARING OFFICER KNITTLE: I'm going to
- 20 docket that as sprue and associated plastic.
- 21 BOARD MEMBER MELAS: Would that entire piece
- 22 be considered the scrap?
- MS. FREDE: Yes.
- 24 BOARD MEMBER MELAS: Because the actual

- 1 mold -- the product that you're making is not that.
- 2 MS. FREDE: Correct.
- 3 MS. SHARKEY: And we'll clarify that for you
- 4 further.
- 5 Q. (By Ms. Sharkey) And that piece would be
- 6 referred to -- the larger portion would be referred to as
- 7 a runner, would it not?
- 8 A. Correct.
- 9 BOARD MEMBER MELAS: But you reuse that.
- 10 MS. FREDE: Yes, sir.
- 11 Q. (By Ms. Sharkey) Okay. Turning, then, to
- 12 photo number 2, Miss Frede, would you describe what we're
- 13 looking at in photo number 2?
- 14 A. This is the so-called beginning of the
- 15 machine process. This large box you're seeing in the
- 16 photograph is what's referred to as a Gaylord. It's
- 17 approximately 36 inches by 36 inches. It is lined with
- 18 plastic. Inside this box is the actual resin material
- 19 that is used in the process of plastic injection molding.
- Q. Okay. Did you have an opportunity to
- 21 observe that box?
- 22 A. I did.
- Q. Okay. What was inside?
- 24 A. This wonderful resin.

- 1 Q. I'm showing you what we have -- or would
- 2 like to mark as CICI Exhibit No. --
- 3 HEARING OFFICER KNITTLE: 8.
- 4 Q. -- 8 in this proceeding, and could you
- 5 identify for us what that is?
- 6 A. This is the plastic resin that's used in the
- 7 process at this machine in this picture.
- 8 Q. Okay. And is the material similar to the
- 9 pellets that you observed in the Gaylord shown in this
- 10 picture?
- 11 A. Yes. I was actually witness to them
- 12 removing these pellets from the Gaylord.
- MS. SHARKEY: And at this time we'd like to
- 14 offer this resin into evidence as CICI Exhibit 8.
- 15 HEARING OFFICER KNITTLE: Mr. Matoesian?
- MR. MATOESIAN: No objection.
- 17 HEARING OFFICER KNITTLE: That'll be
- 18 admitted.
- MS. SHARKEY: You can put a sticker on it.
- 20 It might be better on that.
- 21 HEARING OFFICER KNITTLE: Yeah, I'll sticker
- 22 it later. Thank you.
- 23 MR. RAO: So depending on the color of the
- 24 product, the resin color changes, correct?

- 1 MS. FREDE: Yes.
- 2 BOARD MEMBER MELAS: That's a good question.
- 3 For example, I presume this bottle cap is a typical
- 4 product that's made in a plastic injection molding
- 5 machine?
- 6 MR. HARRIS: Yes.
- 7 BOARD MEMBER MELAS: And there is -- it's
- 8 primarily white, but there's a little bit of blue on it.
- 9 Do you use different colored resins or is this done
- 10 during the process, applied during the process?
- 11 MS. SHARKEY: Can I -- Mr. Harris was sworn
- 12 in in the prior hearing and I was sworn in as well. Is
- 13 that --
- 14 HEARING OFFICER KNITTLE: Yeah, but let's
- 15 swear you all in again just to make certain. Can you
- 16 swear --
- MS. SHARKEY: He may be the best person to
- 18 answer that question.
- 19 HEARING OFFICER KNITTLE: -- Mr. Harris in
- 20 again, and Miss Sharkey as well if you're going to --
- 21 (Witnesses sworn.)
- 22 HEARING OFFICER KNITTLE: And you answered
- 23 one question before we swore you in, and that was whether
- 24 that bottle cap that Mr. Melas is holding up is a typical

- 1 product, and you indicated yes.
- 2 MR. HARRIS: Yes, typical.
- BOARD MEMBER MELAS: This may be getting
- 4 into a little excessive detail, I don't know, but this
- 5 has got color on it. Do you use -- Is it made in the
- 6 manufacturing process, they use two different colored
- 7 resins, or is this painted afterwards?
- 8 MS. SHARKEY: Mr. Melas, could we examine
- 9 that? Because there are processes that would print and
- 10 there are processes that would actually have embedded
- 11 color resin.
- 12 BOARD MEMBER MELAS: Because last -- at the
- 13 last hearing I happened to have a water bottle with a
- 14 blue cap. I presume that was made with blue resin,
- 15 correct, Mr. Harris?
- MR. HARRIS: Yes. This is actually printed
- 17 on.
- 18 HEARING OFFICER KNITTLE: But for a solid
- 19 blue color, Mr. Melas is asking, that would have been
- 20 made as a result of blue resin, correct?
- MR. HARRIS: Correct.
- MS. SHARKEY: For example, if we're looking
- 23 at this bottle top on top of Mr. Rao's Ice Mountain, that
- 24 would be a -- would be done with blue resin; is that

- 1 correct, Mr. Harris?
- 2 MR. HARRIS: Yes, and Miss Frede will show
- 3 you in the subsequent pictures how some of the process
- 4 works.
- 5 BOARD MEMBER MELAS: Great. Okay.
- 6 Q. (By Ms. Sharkey) Okay. In taking a look at
- 7 photo number 2 again, is the material that -- excuse me.
- 8 Strike that. Is -- Did you notice any dust in or around
- 9 this Gaylord?
- 10 A. I did not.
- 11 Q. Okay. Anything on the plastic liner?
- 12 A. Did not notice any dust.
- 13 Q. Any dust at all on the floor or in the area?
- 14 A. Did not notice any.
- 15 Q. All right. Did you see anybody sweeping or
- 16 mopping?
- 17 A. No.
- 18 Q. Cleaning around you?
- 19 A. Did not.
- 20 Q. Okay. Did any -- Did you observe any other
- 21 Gaylords in the facility?
- 22 A. I did.
- Q. Did you find any of them had any greater
- 24 quantity of dust or dirt than what you observed here?

- 1 A. I did not notice any.
- 2 Q. Okay. With that, we'd like to turn to photo
- 3 number 3. Miss Frede, would you explain what you -- we
- 4 are looking at in photo number 3?
- 5 A. This is a side view. As you can see on the
- 6 left-hand side of the picture, that is the Gaylord that
- 7 you just reviewed in page 2, picture 2. You will see a
- 8 hose exiting out of the box. This is a vacuum hose that
- 9 is installed towards the bottom of the box to suck the
- 10 resin into the hopper. The lid is ajar because this is
- 11 working under negative pressure, so you don't want to
- 12 collapse the cardboard on top of the resin during the
- 13 process. This is a completely contained system. The
- 14 vacuum hose will then feed the resin into the hopper from
- 15 this point.
- 16 Q. Okay. Thank you very much. Did you observe
- 17 any conveyance of resin in the PIM facility you visited
- 18 other than by vacuum hoses of this type?
- 19 A. I did not.
- Q. Looking at photo number 4, could you
- 21 describe what we're looking at in photo number 4?
- 22 A. This is a dryer unit in the center of the
- 23 picture. What you're seeing is a cylindrical piece of
- 24 equipment. The cylindrical portion is the actual dryer.

- 1 What you'll notice to the left of that are the supply and
- 2 return hoses that are bringing the warmed ambient air
- 3 into the dryer.
- 4 HEARING OFFICER KNITTLE: You want to hold
- 5 on just a second?
- 6 MS. FREDE: Sure.
- 7 HEARING OFFICER KNITTLE: You've lost your
- 8 counsel. Let's go off the record until Miss Sharkey
- 9 comes back.
- 10 (Brief recess taken.)
- 11 HEARING OFFICER KNITTLE: Let's go back on,
- 12 then, and you can continue your testimony.
- 13 A. You'll notice to the left of the drying
- 14 unit, the dryer, those are the supply and return hoses
- 15 that blow the warmed ambient air into the dryer. That is
- 16 to take any humidity off of the product depending on the
- 17 product used, whatever your resin product is. In front
- 18 of that unit you will see two hoses. One is coming from
- 19 the Gaylord with the resin coming into the product. The
- 20 other's coming from the regrinder. These are completely
- 21 contained coming in this unit, also under negative
- 22 pressure. To the bottom right-hand view of the picture
- 23 you'll see two dials there, and that's the actual control
- 24 to create the negative suction for the hoses.

- 1 Q. (By Ms. Sharkey) Okay. And is -- this
- 2 portion of the operation, then is it fair to say it's
- 3 entirely enclosed?
- 4 A. Yes.
- 5 Q. Did you see any dust or -- on the machines
- 6 themselves, on the hoses, on the floor, anywhere in this
- 7 area?
- 8 A. I did not.
- 9 MS. SHARKEY: Are there any questions?
- 10 BOARD MEMBER MELAS: Yeah. In looking at
- 11 this, then --
- 12 HEARING OFFICER KNITTLE: Is that picture
- 13 number 4?
- BOARD MEMBER MELAS: Picture number 4.
- 15 You're actually bringing together material -- let's say
- 16 virgin material from the Gaylord and material that's been
- 17 regrinded, mixing them together, and they go on into the
- 18 process.
- MS. FREDE: Correct.
- 20 BOARD MEMBER MELAS: And they're both under
- 21 negative pressure, I presume.
- MS. FREDE: Correct.
- BOARD MEMBER MELAS: Okay.
- Q. (By Ms. Sharkey) Looking at photo number 5,

- 1 then, Miss Frede, would you please explain what we're
- 2 looking at in that photo?
- 3 A. Yes, I'd be happy to. The hose you see
- 4 coming from the bottom left corner of the picture up,
- 5 that is the supply hose coming from the Gaylord. The
- 6 hose dead center would be coming from the grinder. Those
- 7 are going into the autoloader, and you'll see a bag
- 8 directly to the right of that. That is collecting any of
- 9 the particulate matter, similar to what you would see as
- 10 a vacuum baq. However, this is more of a canvas
- 11 material, a tighter weave. Just below those hoses and
- 12 bag is the actual hopper that we've described at the last
- 13 hearing. This machine does not have a dryer on it in
- 14 this photograph. Some machines require dryers, some do
- 15 not. Again, it depends on the material, the resin being
- 16 used.
- 17 Q. Miss Frede, taking a look at picture number
- 18 5 in color -- I have a color copy that I'm showing you --
- 19 is it clearer on there?
- 20 A. It is.
- MS. SHARKEY: All right. We will be
- 22 providing the Board with a full set of hard copy color
- 23 copies to take a look at after Miss Frede finishes her
- 24 testimony.

- 1 HEARING OFFICER KNITTLE: That would be very
- 2 helpful.
- 3 MS. SHARKEY: I apologize that we don't have
- 4 multiple copies right now.
- 5 HEARING OFFICER KNITTLE: Not a problem.
- 6 MR. RAO: In this picture number 5, you have
- 7 a hose coming directly from the Gaylord. Is that
- 8 material ground material or is it just --
- 9 MS. FREDE: If you'll refer back to picture
- 10 number 2, I believe it is -- yes, 2 -- I'm sorry. Pardon
- 11 me. 3. This is the same machine that these pictures are
- 12 taken from. The hose you see in picture number 3 is the
- 13 same hose that's being fed into picture number 5.
- MR. RAO: Okay. So it's not going through
- 15 the grinder.
- MS. FREDE: The Gaylord material is separate
- 17 from the grinding material.
- MR. RAO: Okay.
- 19 BOARD MEMBER MELAS: Because the two are
- 20 mixed after.
- 21 MR. RAO: Yeah. The two are mixed -- Okay.
- 22 This is where they're mixed, right?
- BOARD MEMBER MELAS: Yeah.
- Q. (By Ms. Sharkey) Miss Frede, is this going

- 1 through a dryer? Is there any dryer involved in this
- 2 particular plastic --
- A. It is not.
- 4 Q. Okay. Is that typical that in some
- 5 instances it may not go through a dryer?
- 6 A. That could happen. It depends on the raw
- 7 material, the resin that is going through. Some product
- 8 requires a dryer, some does not.
- 9 Q. Okay. Did you observe any dust on this
- 10 equipment?
- 11 A. I did not.
- 12 Q. Okay. If there are no more questions on
- 13 that, we'll turn to number 6. Could you describe what
- 14 you're looking at in photo number 6, please?
- 15 A. This is the front side of photograph number
- 16 1. This is the front of the machine. What you will see
- 17 here on the left side of the photograph is where the
- 18 molding process is. The second -- Dead center of the
- 19 photograph you'll see a second contained box with a
- 20 Plexiglas front with a control panel in the front. That
- 21 sits just above the conveyor belt. This is where the
- 22 extruder screw and the molds come together.
- 23 HEARING OFFICER KNITTLE: Can we see the
- 24 extruder screw now? Is that on the left or is that still

- 1 on the right?
- MS. FREDE: Yes, that would be to the left
- 3 of the photograph. It's a long rectangular box.
- 4 HEARING OFFICER KNITTLE: That's what we
- 5 identified before as that long box sticking out of the
- 6 side of the --
- 7 MS. FREDE: Correct. That was hidden by the
- 8 dryer. I'm sorry. That was hidden by the grinder in the
- 9 first one.
- 10 Q. (By Ms. Sharkey) Looking at photo number 6,
- 11 can you explain to us what we see below -- where exactly
- 12 the mold is in -- behind the Plexiglas and what's
- 13 occurring below that mold?
- 14 A. The mold is -- I'm sorry. Can you repeat
- 15 that again?
- 16 Q. Yeah. Taking a look at photograph number 6,
- 17 there's two -- what appears to be two boxes --
- A. Uh-huh.
- 19 Q. -- with two Plexiglas windows, and there's
- 20 one of them that has printed above it Van Dorn. Is the
- 21 mold inside that particular box?
- 22 A. It is in this photograph.
- Q. Okay. And what's directly below that?
- 24 A. That would be the conveyor belt where the

- 1 end product is then being deposited into the collection
- 2 pan below.
- 3 MS. SHARKEY: Okay. So this photograph is
- 4 offered as an overview again of this side of this piece
- 5 of equipment.
- 6 HEARING OFFICER KNITTLE: Thank you.
- 7 Q. (By Ms. Sharkey) In turning now to page
- 8 number 7, photo number 7 --
- 9 BOARD MEMBER MELAS: Before we go to 7, when
- 10 the product comes out, is it still fairly warm?
- 11 MS. FREDE: The product that I had
- 12 personally touched, no, it was not.
- BOARD MEMBER MELAS: So it's warmed by --
- 14 when it gets to the extruder, and by the time it actually
- 15 gets to the mold, I suppose it transfers a lot of its
- 16 energy to the surface of the mold, and when it comes out
- 17 it's lost a lot of its energy so it's cooler.
- 18 MS. FREDE: Right. Did you want to --
- 19 MS. SHARKEY: I think Miss Frede can speak
- 20 from her own observation but Mr. Harris can explain a
- 21 little bit more the temperature.
- 22 MR. HARRIS: I didn't see this machine, but
- 23 generally some of the molds actually have cold water
- 24 jackets to cool them down even further.

- 1 BOARD MEMBER MELAS: Even further. Okay.
- 2 MS. SHARKEY: But the -- Mr. Harris is
- 3 prepared to any address any questions you may have about
- 4 the temperature in the mold and the temperature in the
- 5 dryer as well, and --
- 6 BOARD MEMBER MELAS: Good.
- 7 MS. SHARKEY: Which is lower, is it not,
- 8 Mr. Harris?
- 9 MR. HARRIS: Yes.
- MS. SHARKEY: Okay.
- BOARD MEMBER MELAS: Now photo 7.
- 12 Q. (By Ms. Sharkey) Yeah. Moving to number 7,
- 13 Miss Frede, what are we looking at here?
- 14 A. This is the front view of the previous
- 15 photograph in 6. This shows you the two molds coming
- 16 together above in the top portion of the picture, then it
- 17 also shows you the conveyor belt directly below those
- 18 mold presses.
- 19 Q. Okay. I am showing you what we have -- are
- 20 going to label as CICI Exhibit No. 9, and can you
- 21 identify what these are?
- 22 A. These are products coming out of the
- 23 picture.
- 24 HEARING OFFICER KNITTLE: Picture number 7,

- 1 right?
- 2 A. Picture number 7, yes. This is the end
- 3 product, the actual plastic that -- the actual form that
- 4 came out of the mold.
- 5 O. Okay. So those are the same little white
- 6 pieces that we're seeing on the conveyor belt in this
- 7 photograph?
- 8 A. Correct.
- 9 MS. SHARKEY: Okay. Mr. Matoesian, would
- 10 you like to take a look? Would you like to keep one?
- MR. MATOESIAN: What exactly are these?
- MS. SHARKEY: Widgets.
- MR. MATOESIAN: Widgets.
- MS. SHARKEY: We have a bag of these that we
- 15 would like to offer into evidence, and I believe we --
- 16 HEARING OFFICER KNITTLE: We're on to No. 9.
- MS. SHARKEY: CICI Exhibit No. 9.
- 18 HEARING OFFICER KNITTLE: Mr. Matoesian, any
- 19 objection to the widgets?
- MR. MATOESIAN: No.
- 21 HEARING OFFICER KNITTLE: Those will be
- 22 admitted.
- Q. (By Ms. Sharkey) So this is in fact the end
- 24 product of the process.

- 1 A. This is for this machine, yes.
- Q. Okay. And I'm going to show you a color
- 3 photograph of that. Again, this is the color photograph
- 4 of number 7. Would you agree that it's clearer in this
- 5 photograph?
- 6 A. Oh, most definitely.
- 7 Q. And you can actually see the mold up above?
- 8 A. Yes, you can.
- 9 Q. Okay. And what color is the conveyor belt?
- 10 A. It's a dark blue.
- 11 Q. Okay. Did you see any dust on that conveyor
- 12 belt at all?
- 13 A. I did not.
- Q. Do you have an opinion about the cleanliness
- 15 of the product that -- the widget that we just offered
- 16 into evidence?
- 17 A. It actually was very clean as it came off
- 18 the conveyor belt. The end product did not have any --
- 19 you know, any extra particulate matter on it that I could
- 20 tell.
- 21 Q. Okay. Very good. And it looks very much --
- 22 in other words, it looked the same as the --
- 23 A. Exactly.
- Q. -- widget that the Hearing Officer is

- 1 holding in his hand.
- 2 A. Correct.
- 3 Q. Thank you. Okay. Is -- I'm sorry. If we
- 4 could stay for one more moment with photo number 7, we've
- 5 talked about the other portions of the process involving
- 6 vacuum hoses and being completely enclosed where the
- 7 resin is involved. Is this particular -- In the picture
- 8 we're looking at, are there any openings here in the
- 9 process?
- 10 A. There are. The opening below -- underneath
- 11 the machine -- Between the machine and the conveyor belt
- 12 is open, thus the mold opens and the product drops
- 13 directly into the conveyor belt.
- 14 Q. Okay. Very good. So if in fact there were
- 15 a release of the emissions, that this would be the point
- 16 at which you would see them? Perhaps you're not
- 17 comfortable answering that.
- 18 A. Yeah, I'm uncomfortable --
- 19 Q. Thank you. We'll ask that question for
- 20 Mr. -- save that question for Mr. Harris. Okay. Moving,
- 21 then, to Exhibit -- excuse me -- photo number 8, could
- 22 you explain what we're looking at in that photo?
- 23 A. This is a photo of the grinder and of the
- 24 robotic arm, and as you can see in the picture, it's --

- 1 more clear in the -- in color is the actual runner and
- 2 sprue on -- in the palm of the robotic arm there. It's
- 3 being dumped into the grinder. What you'll see is
- 4 basically a funnel that goes -- the runner and sprue will
- 5 be dropped into. It then goes down to where you see the
- 6 word Nelmar. That is where the grinding is taking place.
- 7 Q. Did you observe any dust on the grinder
- 8 here?
- 9 A. I did not.
- 10 Q. Not -- And that funnel part, did you observe
- 11 any dust above it as the runner and sprue were being
- 12 dropped in and around?
- 13 A. I did not.
- Q. Okay. Is this open at the top?
- 15 A. It is.
- Q. So this is another location in which there
- 17 is an opening at the top of the grinder at the top of
- 18 that hopper.
- 19 A. Correct.
- Q. And how -- is a single -- it appears in this
- 21 photograph that a single runner is dropped into this
- 22 grinder at a time; is that correct?
- 23 A. That is correct.
- Q. And how often is that -- does that occur in

- 1 this process?
- 2 A. From what I witnessed, it was approximately
- 3 once every ten seconds.
- Q. Okay. And you didn't see a puff of dust or
- 5 anything above that grinder --
- 6 A. I did not.
- 7 Q. -- as this was dropped in.
- 8 A. I did not.
- 9 Q. Okay. At this point, if we would turn to
- 10 Exhibit -- photo number 9, please, could you explain what
- 11 we're looking at in that photo?
- 12 A. This is the bottom half of the dryer --
- 13 excuse me -- bottom half of the grinder that we just
- 14 viewed in photograph number 8. What you are seeing here,
- 15 again, towards the top part of the picture you can see
- 16 the N written on the machine. That is the grinder area.
- 17 As you look below you'll see a hose and what appears to
- 18 be a drawer. That is where the grinder -- excuse me --
- 19 the regrind is located. The hose is then -- The regrind
- is then fed through the hose and back up to the hopper.
- Q. Okay. I am showing you what has been
- 22 offered as -- what I'd like to offer as CICI Exhibit
- 23 No. 10, I believe. Could you identify what that material
- 24 is?

- 1 A. This is the regrind that was taken out of
- 2 the drawer in photograph number 9.
- 3 Q. And why was that regrind taken out of the
- 4 drawer?
- 5 A. Because the whole system works under
- 6 negative pressure under a vacuum, so the only way to get
- 7 into the system is to open the drawer up to retrieve that
- 8 material.
- 9 Q. Was this drawer opened solely to provide you
- 10 with a sample of the regrind?
- 11 A. It was.
- 12 Q. Would otherwise that regrind have otherwise
- 13 been exposed to the air in any other way?
- 14 A. No.
- 15 Q. Okay. So it would have been exiting the
- 16 system -- it would have been created in the grinder; is
- 17 that correct?
- 18 A. It would have been created in the grinder
- 19 and then via gravity comes down to the lower portion of
- 20 the drawers and then fed back via negative pressure.
- Q. So you requested a sample and the plant
- 22 personnel offered you -- opened the drawer --
- 23 A. Yes.
- Q. -- and offered you the sample?

- 1 A. Yes.
- Q. Okay. And that is in fact how it looked
- 3 when it came out of the machine?
- 4 A. That's exactly how it looked.
- 5 MS. SHARKEY: Okay. We'd like to offer this
- 6 as regrind -- a small bag of regrind as CICI Exhibit --
- 7 HEARING OFFICER KNITTLE: 10.
- 8 Mr. Matoesian?
- 9 MS. SHARKEY: You want a sample?
- 10 MR. MATOESIAN: No, that's all right. No
- 11 objection.
- 12 HEARING OFFICER KNITTLE: It's admitted.
- 13 (Off the record.)
- Q. (By Ms. Sharkey) Okay. How would you
- 15 describe the level of dust on this product, on the
- 16 regrind? Was it dustier than the resin itself?
- 17 A. Yes.
- 18 Q. Okay. But did you see any dust in the area
- 19 around the grinder at all?
- 20 A. I did not.
- 21 Q. Okay. Nothing on the floor or the equipment
- 22 in that area?
- A. Nothing.
- Q. I'm sorry if this is repetitive, but again,

- 1 where does the hose at the bottom of this lead? Where is
- 2 it taking that regrind material?
- 3 A. The hose will take this regrind back into
- 4 the hopper or dryer, depending on the machine.
- 5 MS. SHARKEY: Okay. While that finishes the
- 6 photographs that we were -- had provided in prefiled
- 7 testimony and I think closes the loop on how this
- 8 operation works, there is one other piece of equipment
- 9 that we realized we had not provided you with a photo of,
- 10 so we wanted to provide you with a photo that we've
- 11 marked as -- that we'll have to mark as another exhibit,
- 12 I guess, and I have some extra copies for others.
- 13 HEARING OFFICER KNITTLE: This is Exhibit
- 14 No. 11?
- MS. SHARKEY: Yes, and I can give you a
- 16 color one right now.
- 17 HEARING OFFICER KNITTLE: Oh, sure.
- 18 Q. (By Ms. Sharkey) Miss Frede, taking a look
- 19 as what we have marked as Exhibit 11, could you explain
- 20 to the Board what we're looking at, in particular what we
- 21 wanted to show with that piece -- that photograph?
- 22 A. What you will see is the colorant mixing
- 23 equipment in this photograph directly below what is
- 24 labeled as the material hopper. To the right of that

- 1 hopper you will see a material dryer. From my
- 2 understanding of the facility I was at and the questions
- 3 that were given to me by the facility plant employees,
- 4 the colorant is in a resin form. It is not in a liquid
- 5 form. They are -- The colored resin and the resin coming
- 6 from the Gaylord are mixed at the hopper. That allows
- 7 for a better quality of color mixing in the product.
- 8 Q. And again, did you see any dust at all
- 9 around this area?
- 10 A. I did not.
- 11 Q. Okay. And that's a completely enclosed
- 12 process, the mixing?
- 13 A. It is.
- 14 Q. The material from the mixer goes where?
- 15 Does it go directly into the extruder screw?
- 16 A. It does.
- MS. SHARKEY: Are there any questions about
- 18 the photographs? That basically completes our review of
- 19 the photographs.
- 20 HEARING OFFICER KNITTLE: Just one second,
- 21 please. No, we're fine on that. And you want to offer
- 22 this as Exhibit 11?
- MS. SHARKEY: Yes.
- 24 HEARING OFFICER KNITTLE: Mr. Matoesian, any

- 1 objections?
- 2 MR. MATOESIAN: No objection.
- 3 HEARING OFFICER KNITTLE: That'll be
- 4 admitted as Exhibit 11.
- 5 MS. SHARKEY: Oh, I'm sorry. Excuse me.
- 6 Did I hand you the wrong --
- 7 HEARING OFFICER KNITTLE: This is a color --
- 8 MS. SHARKEY: I apologize. I had the wrong
- 9 photograph here.
- 10 MR. RAO: The black and white are the right
- 11 one.
- MS. SHARKEY: This is the correct one.
- 13 Excuse me. Do you want to take another minute and take a
- 14 look at that, make sure there are no questions?
- 15 HEARING OFFICER KNITTLE: Mr. Melas?
- 16 BOARD MEMBER MELAS: Let me take a look at
- 17 that.
- 18 HEARING OFFICER KNITTLE: How would you
- 19 describe that, just so we -- a photograph of what,
- 20 exactly?
- 21 MS. SHARKEY: It's a photograph of the
- 22 mixer.
- MR. RAO: Color mixer.
- MS. SHARKEY: Color mixer.

- 1 HEARING OFFICER KNITTLE: Color mixer.
- 2 BOARD MEMBER MELAS: And you said the
- 3 colored material is liquid.
- 4 MS. FREDE: No, it is not liquid. It is
- 5 resin, from my understanding.
- 6 BOARD MEMBER MELAS: Oh, it's also resin.
- 7 MS. SHARKEY: When you say resin, do you
- 8 mean a bead or a pellet?
- 9 MS. FREDE: Yes.
- 10 BOARD MEMBER MELAS: Yeah. Okay.
- 11 HEARING OFFICER KNITTLE: And,
- 12 Mr. Matoesian, you don't have any objection to this
- 13 picture either, correct?
- MR. MATOESIAN: No.
- 15 HEARING OFFICER KNITTLE: This will be
- 16 admitted as Exhibit 11.
- BOARD MEMBER MELAS: Exhibit No. 11.
- 18 HEARING OFFICER KNITTLE: We have no
- 19 questions. Mr. Matoesian, do you have any questions on
- 20 any of those photographs?
- MR. MATOESIAN: No, I don't.
- 22 HEARING OFFICER KNITTLE: Miss Sharkey, do
- 23 you have any other witnesses you'd like to present?
- MS. SHARKEY: Well, what I'd like to do is

- 1 just briefly walk through with Miss Frede a few more
- 2 questions --
- 3 HEARING OFFICER KNITTLE: Sure.
- 4 MS. SHARKEY: -- that don't pertain to --
- 5 pertain to her observations and other work she's done in
- 6 relation to our prefiled testimony.
- 7 Q. (By Ms. Sharkey) In walking through the
- 8 plant, what was your -- did you see anybody wearing masks
- 9 or other type of respiratory protection?
- 10 A. I did not.
- 11 Q. Okay. Can you give the Board your overall
- 12 impression of the cleanliness of the equipment and the
- work area you observed?
- 14 A. I can. Previous to coming to CICI, I was a
- 15 health inspector for the County of Will in the state of
- 16 Illinois and had visited several other facilities
- 17 throughout the state that require a basis of cleanliness.
- 18 I have been into a microchip production facility, which
- 19 requires them to have HEPA filters and be very clean.
- 20 I've also been into restaurants which are required to be
- 21 clean, and I can literally say that this is -- facility
- 22 was cleaner than most restaurants I've ever been in, and
- 23 it was equated to what you would have for a microchip
- 24 production facility. It was extremely clean.

- 1 Q. Okay. Did you observe any venting from
- 2 these machines to the outside?
- A. I did not.
- 4 Q. Did you inquire with your CICI plastic
- 5 injection molding member facilities whether or not any of
- 6 them vent to the outside?
- 7 A. I did do a brief survey of my facility
- 8 members, and it was expressed to me by each one of them
- 9 that they do not vent the machines to the outside.
- 10 Q. Okay. In the prefiled testimony there's a
- 11 discussion of mold release agents and mold cleaners.
- 12 Have you inquired with your plastic injection molding
- 13 member facilities whether or not any of them use mold
- 14 release agents or mold cleaners?
- 15 A. I did do a survey of my members. Some of
- 16 them do use usually one or the other, but they do not use
- 17 both. My understanding is there's a difference in usage
- 18 between the two products.
- 19 Q. Okay. And can you explain -- have you in
- 20 conversations with your members learned anything about
- 21 how they apply this material?
- 22 A. From what I -- From my understanding of the
- 23 conversation that I've had, the whole conceptual idea of
- 24 the mold cleaner is just that. It's to keep the molds

- 1 clean. You do not want any foreign material in your end
- 2 product. The product needs to keep its quality, and thus
- 3 the cleaner allows for the molds to remain clean so you
- 4 do not have any residue left over in them.
- 5 Q. Okay. And a mold -- that's a mold cleaner
- 6 and a mold cleaner agent?
- 7 A. A mold cleaner. A mold release agent is
- 8 literally that. It is to get the mold to release -- to
- 9 get the product to release from the mold. Unfortunately,
- 10 this -- usage of this product requires the machine to be
- 11 stopped to be sprayed on the molds, so you're slowing
- 12 down your production of the actual product.
- Q. Okay. And how many -- in the prefiled
- 14 testimony there was an indication that it was used once
- 15 every shift. Is that reflective of what your members
- 16 told you?
- 17 A. Yes.
- Q. As a standard --
- 19 A. Standard operating procedure, yes.
- 20 Q. Okay. And that it depends on the particular
- 21 mold whether you're going to use a mold release agent,
- whether a mold release agent is needed?
- 23 A. Correct.
- Q. All right. And how is it -- in what kind of

- 1 container is the mold release agent generally used?
- 2 A. They're in spray cans, approximately 12- to
- 3 16-ounce spray cans.
- 4 Q. Okay. And -- excuse me. Do you know if the
- 5 facility that you visited used a mold release agent or a
- 6 mold release cleaner?
- 7 A. They did use a mold release cleaner.
- 8 Q. Okay. And did they use it only one time a
- 9 shift?
- 10 A. I did not witness the usage of it, but from
- 11 my understanding, talking to the plant, they use it once
- 12 a shift.
- 13 Q. Do CICI members use any kind of water-based
- or nonreactive cleaners or mold release agents?
- 15 A. I did not get a precise number on that
- 16 feedback for the water-based, so I cannot assume they do
- 17 or they do not.
- 18 Q. Have they given you any information about
- 19 what -- any kinds of issues or problems there may be with
- 20 the water-based or nonreactive?
- 21 A. The water-based nonreactives tend to be more
- 22 expensive and they do not necessarily perform as well as
- 23 the current mold release agents and mold cleaners.
- MS. SHARKEY: Okay. I have no more

- 1 questions.
- 2 HEARING OFFICER KNITTLE: Any questions of
- 3 Miss Frede?
- 4 BOARD MEMBER MELAS: Yes, just one. The
- 5 aerosol cans, do you have any idea what the propellent
- 6 is?
- 7 MS. FREDE: I would not -- I'm not an expert
- 8 to say on that.
- 9 MS. SHARKEY: Can we have a moment?
- 10 (Off the record.)
- 11 MS. SHARKEY: Sorry for the delay. Mr. --
- 12 Maybe we can get an answer to this by asking Mr. Harris.
- Mr. Harris, are you aware of what the propellents
- 14 are and whether or not they're similar to what one would
- 15 find in any other aerosol type of can?
- MR. HARRIS: From what I understand, they're
- 17 about the same as you would from any aerosol can.
- MS. SHARKEY: Would some of those be
- 19 ozone-depleting types of chlorofluorocarbons?
- MR. HARRIS: It would run the gamut from
- 21 that to carbon dioxide or propane.
- MS. SHARKEY: Does that answer your
- 23 question, Mr. Melas?
- 24 BOARD MEMBER MELAS: It couldn't be the

- 1 chlorofluorocarbons. They've been prohibited. I don't
- 2 think anybody manufactures them.
- 3 MR. HARRIS: Oh. I mean, in the past it's
- 4 been -- in answer to the question, it's any kind of
- 5 propellant that's been used in the past. These days it's
- 6 the same kind of propellants that you would use in bug
- 7 spray or --
- 8 BOARD MEMBER MELAS: Okay.
- 9 MR. RAO: And just as a follow-up, this mold
- 10 cleaner or release agents, they are manually applied to
- 11 the molds?
- MR. HARRIS: They're sprayed.
- MR. RAO: Yeah. They're sprayed. There's
- 14 no automatic mechanism built into the machines?
- 15 MR. HARRIS: (Shakes head back and forth.)
- 16 HEARING OFFICER KNITTLE: Anything further?
- 17 Miss Sharkey, do you have any further --
- MS. SHARKEY: We don't have any further
- 19 questions at this point or points I'd like to make.
- 20 We're -- We might want to clarify a point on -- Could you
- 21 give me one moment to think about whether or not we want
- 22 to ask Mr. Harris a question?
- 23 HEARING OFFICER KNITTLE: Sure. Let's go
- 24 off the record while they do that and then you guys can

- 1 ready yourselves.
- 2 (Off the record.)
- 3 HEARING OFFICER KNITTLE: Miss Sharkey, do
- 4 you have any further questions or any further testimony
- 5 you'd like to provide?
- 6 MS. SHARKEY: Yeah. We thought that in
- 7 order to answer the question that was raised earlier
- 8 about temperatures that we'd indicated that Mr. Harris
- 9 would be the best person to answer those questions, so I
- 10 think maybe a few -- I can ask a few questions of
- 11 Mr. Harris to try to just give the Board some more
- 12 perspective on the temperatures involved with these --
- 13 with the product at the point that that mold is opening
- 14 and also with the dryer.
- 15 EXAMINATION OF LYNNE HARRIS
- 16 BY MS. SHARKEY:
- 17 Q. Mr. Harris, referring to your prefiled
- 18 testimony, which is Exhibit 3 in this proceeding, would
- 19 you -- could you give us -- is there anything in that
- 20 that provides perspective on the kinds of temperatures
- 21 that are reached when the plastic is melted in the screw
- 22 extruder?
- 23 A. In terms of emissions?
- Q. Yeah, the temperatures that are in the

- 1 emissions. Are they -- They're shown on Exhibit 9 --
- 2 A. Yes.
- 3 Q. -- in your prefiled testimony, are they not?
- 4 A. Right.
- 5 Q. Okay. Could you give us an overview of what
- 6 the range of those temperatures are for the melting of
- 7 the plastic?
- 8 A. They range from about 325 to 600 degrees
- 9 Fahrenheit.
- 10 O. Okay. That's in Exhibit 9 to Exhibit 3.
- 11 And when -- in your studies and the SPI studies that have
- 12 measured the emissions from the extruder die, it's
- 13 material that has been heated to those temperatures, is
- 14 it not?
- 15 A. Yes, that's correct.
- 16 Q. Okay. And looking at the -- also in your
- 17 prefiled testimony, the -- what is Exhibit 5 in the
- 18 Harris Group Exhibit 3, which is an SPI study entitled
- 19 "Development of Emission Factors For Polyethylene
- 20 Processing," turning to page 579 of that study, that
- 21 technical paper, there are some graphs labeled.
- 22 Particularly focusing on the one labeled as figure 6,
- $\,$ 23 $\,$ what do we see in terms of temperature in the -- in terms
- 24 of emissions at various temperatures? What is depicted

- 1 in that graph?
- 2 A. What you see there is that the highest
- 3 temperature is the melt temperature of 600 degrees going
- 4 down to 300 degrees, the decrease in the amount of
- 5 emissions that are coming off, and what you would assume
- 6 from this is that as you get lower than 300 degrees that
- 7 you're essentially down to almost zero, so even at lower
- 8 temperatures, cooling temperatures, you would expect
- 9 virtually no emissions.
- 10 Q. Okay. And then turning to the -- excuse me.
- 11 So is it fair to say that at ambient temperatures even on
- 12 a relatively hot day in the midwest that the emissions
- 13 for -- from any of these materials, such as the resin and
- 14 the regrind and the plastics and such, that the types of
- 15 VOM emissions that we would be seeing from those products
- 16 would be low?
- 17 A. Assuming that your temperatures in the
- 18 midwest don't get higher than 300 degrees Fahrenheit,
- 19 yes.
- 20 Q. And then looking -- the other place, of
- 21 course, in this process where there is some heat involved
- $\,$ 22 $\,$ is in the dryer itself, and looking at the table that was
- 23 provided in the prefiled testimony on behalf of CICI,
- 24 which was filed on July 15 and which we've now admitted

- 1 into evidence, I believe, as Exhibit 6 here --
- 2 HEARING OFFICER KNITTLE: Correct.
- 3 Q. -- one of the attachments to that prefiled
- 4 testimony is an excerpt from the "Modern Plastics
- 5 Handbook" by Charles -- editor in chief Charles Harper.
- 6 Showing you on page 2 of what was provided, it's labeled
- 7 as table 5.1, "Suggested Drying Conditions For Generic
- 8 Resins." Could you help us take a look at this and show
- 9 us where the temperatures -- typical temperatures for
- 10 drying are that are shown there?
- 11 A. The next to last table where it says T
- 12 drying degrees centigrade, it has a whole list of drying
- 13 temperatures for different types of resins. What you see
- 14 there is the temperatures are -- if you convert that to
- 15 degrees Fahrenheit, about double, it would still be less
- 16 than the 300 degrees that was shown on the chart.
- 17 Q. Okay. So would you anticipate that the
- 18 emissions from the -- coming from the dryer would be a
- 19 very small fraction of the emissions you were seeing at
- 20 the die head in those SPI studies?
- 21 A. Yes, I would.
- Q. And the temperatures in the mold chamber
- 23 itself, we don't have any documentation on that in your
- 24 materials, I don't believe, but are those temperatures in

- 1 fact quite a bit lower --
- 2 A. Yes.
- 3 O. -- in the mold chamber?
- 4 A. Much lower in the mold chambers.
- 5 Q. Do you have any idea what those temperatures
- 6 would be in a range, just a general approximate range?
- 7 A. As I mentioned earlier, some of them are
- 8 water cooled, so you would expect them to be probably --
- 9 I couldn't give you an exact number, but it would be much
- 10 lower than what the melt temperature of the extrudate
- 11 would be when it's coming out.
- 12 MS. SHARKEY: Okay. That's all the
- 13 questions that we have. Do you have any other questions
- 14 of Mr. Harris?
- 15 HEARING OFFICER KNITTLE: Nope, nothing --
- BOARD MEMBER MELAS: No more.
- 17 HEARING OFFICER KNITTLE: -- further. Thank
- 18 you very much, Mr. Harris, Miss Sharkey. Mr. Matoesian,
- 19 I believe you have the testimony of Don Sutton you would
- 20 like to present?
- 21 MR. MATOESIAN: Yes. Thank you, Mr. Hearing
- 22 Officer. Charles Matoesian appearing for the Illinois
- 23 Environmental Protection Agency. I'll just state that
- 24 with me today I have Mr. Don Sutton, manager of the

- 1 permit section, the Bureau of Air; Mr. Bob Bernoteit,
- 2 who's manager of the state permit and FESOP units in the
- 3 Bureau of Air; Annet Godiksen, another attorney, from the
- 4 Bureau of Air; and Mr. David Bloomberg, who's the manager
- 5 of the compliance unit in the Bureau of Air. Mr. Sutton
- 6 will be presenting the testimony today and the other
- 7 agency staff are available to answer any questions you
- 8 may have.
- 9 Mr. Sutton will -- We prefiled testimony from
- 10 Mr. Sutton, which he will now go over. I would also like
- 11 to say we appreciate CICI's effort -- continuing efforts
- 12 to modify its definition of their exemption so as to both
- 13 tighten it and to find the scope of the exemption, and
- 14 therefore, we believe that this exemption as modified
- 15 going forward should be a reasonable, acceptable addition
- 16 to the list of exemptions found at 35 Illinois
- 17 Administrative Code, Section 201.146. And with that, I
- 18 will turn it over to Mr. Sutton.
- 19 HEARING OFFICER KNITTLE: Before I start,
- 20 you did note that you had a correction you wanted to make
- 21 on the testimony?
- MR. MATOESIAN: I'm sorry. Correct.
- 23 HEARING OFFICER KNITTLE: You wanted to have
- 24 a correction made on his prefiled testimony, you said,

- 1 and did you still intend to offer that as of --
- MR. MATOESIAN: Yes, after he states that.
- 3 HEARING OFFICER KNITTLE: Okay. Can we
- 4 swear him in, then, please, Karen?
- 5 (Witness sworn.)
- 6 MR. SUTTON: Yes, I would prefer just
- 7 entering this and not actually reading it. I don't read
- 8 as well as Lisa does. So the only correction I would
- 9 like to make is in -- basically in the opening line. I'm
- 10 not the manager of the manager. I'm just the manager, so
- 11 if you would delete one of the managers, that'll be fine.
- 12 Other than that, I would like to enter the testimony as
- 13 prefiled.
- MR. MATOESIAN: Could you give me a second?
- 15 HEARING OFFICER KNITTLE: Sure.
- 16 (Off the record.)
- 17 HEARING OFFICER KNITTLE: Mr. Matoesian,
- 18 you're offering that as read?
- 19 MR. MATOESIAN: Yeah, with the correction.
- 20 HEARING OFFICER KNITTLE: That will be the
- 21 Agency Exhibit 1.
- MR. MATOESIAN: Exhibit 1, along with the --
- 23 our correction to the transcript of the July 1, 2005,
- 24 hearing.

- 1 HEARING OFFICER KNITTLE: Oh, that's
- 2 correct.
- 3 MR. MATOESIAN: Which we prefiled as well.
- 4 HEARING OFFICER KNITTLE: Right. Let's take
- 5 those separately and we can make that Agency 2, but
- 6 first, as to the prefiled testimony with the correction
- 7 noted by Mr. Sutton, Miss Sharkey, do you have any
- 8 objection to that?
- 9 MS. SHARKEY: No. I just -- I do wonder if
- 10 there's an extra copy, though, of Mr. Sutton's testimony
- 11 here today.
- MR. MATOESIAN: I can --
- 13 HEARING OFFICER KNITTLE: You can have mine.
- MS. SHARKEY: I apologize. I did print it
- 15 out yesterday but seem to have left it in Chicago.
- 16 HEARING OFFICER KNITTLE: I have one.
- 17 MR. MATOESIAN: I only brought one copy with
- 18 me.
- MR. SUTTON: Here's one.
- 20 HEARING OFFICER KNITTLE: Yeah, you can have
- 21 mine.
- MS. SHARKEY: I will return it to you.
- 23 HEARING OFFICER KNITTLE: No, that's fine.
- 24 It's a faxed copy.

- 1 BOARD MEMBER MELAS: It's okay, Miss
- 2 Sharkey.
- 3 HEARING OFFICER KNITTLE: So do you want to
- 4 take a moment to look that over before we --
- 5 MS. SHARKEY: No. I did -- Thank you very
- 6 much. I did read it. I just wanted -- if we're going to
- 7 be talking about it wanted to have a copy in front of me.
- 8 Thank you.
- 9 HEARING OFFICER KNITTLE: So no objection to
- 10 the admission of that as Exhibit 1?
- MS. SHARKEY: No objection. Thank you.
- 12 HEARING OFFICER KNITTLE: That's admitted.
- 13 And you wanted to also admit --
- MR. MATOESIAN: A correction to the
- 15 transcript.
- 16 HEARING OFFICER KNITTLE: -- corrections,
- 17 which has been docketed as a public comment, but it's in
- 18 escence the IEPA's first correction of the transcript of
- 19 the hearing held on July 1.
- MR. MATOESIAN: Yes.
- 21 HEARING OFFICER KNITTLE: Any objection to
- that, Miss Sharkey?
- MS. SHARKEY: No objection.
- 24 HEARING OFFICER KNITTLE: We'll admit that

- 1 as Exhibit -- Agency Exhibit No. 2. Anybody have any
- 2 questions of Mr. Sutton? I see none.
- 3 MS. SHARKEY: The only comment we would like
- 4 to make is that we note that at the end of Mr. Sutton's
- 5 testimony he indicates that there -- he does not
- 6 agree that the -- that the Agency does not agree that
- 7 this process qualifies for the extrusion exemption, and I
- 8 simply wanted to reiterate CICI's position that we
- 9 recognize there's a difference of opinion and that is
- 10 really not -- it's the subject for another proceeding in
- 11 front of the Board, and that this proceeding is an
- 12 agreement to make -- to create -- to not create but to
- 13 devise a very clear exemption so that there isn't any
- 14 ambiguity in the future going forward with how -- with
- 15 whether or not these particular pieces of equipment are
- 16 exempt, but we just want to make it clear there is a
- 17 difference of opinion, but not one that we believe needs
- 18 to be resolved in this proceeding.
- 19 HEARING OFFICER KNITTLE: Okay. That being
- 20 said, let's go off the record for just one minute. No,
- 21 we're still on the record.
- 22 BOARD MEMBER MELAS: Mr. Sutton, I see that
- 23 in this testimony you've already referred to the concern
- 24 that I had. It's -- You answer that on the second page,

- 1 I believe, on your economic reasonableness and technical
- 2 feasibility, third page, in your second paragraph there,
- 3 that you would have -- it's about the cumulative effect
- 4 of exempting a large number of sources of pollution even
- 5 though each individual piece of equipment and each
- 6 individual facility is really emitting a minimal amount
- 7 of VOM, and you address that in this, and maybe you can
- 8 expand on that a little bit, because that is really the
- 9 major question in my own mind.
- 10 MR. SUTTON: Well, there's basically I would
- 11 say two parts to the answer to that question. One, these
- 12 are state regulations, and we cannot supersede or replace
- 13 federal regulation, and federal regulations are triggered
- 14 on a source's potential to emit whatever comes from that
- 15 particular source, whether it's permitted by us or not,
- 16 so if in fact there's enough emission units at that
- 17 source, however small, and they add up quantitatively to
- 18 something that would trigger a federal requirement, they
- 19 are by law required to get a federal permit, so we're not
- 20 doing anything to delude that or take that obligation
- 21 away.
- 22 Having said that, we also understand there are
- 23 emission sources out there that are so small from a state
- 24 enforcement standpoint, it doesn't make sense to go after

- 1 them and regulate them, especially in light of there's
- 2 not any underlying regulation. Primarily what you end up
- 3 with is a permit in name only, so you're basically giving
- 4 a license to operate without bringing about any
- 5 particular regulatory overview other than reporting
- 6 annual emissions and paying me a fee. So to that end we
- 7 agree that there is a point in time where it does not
- 8 make sense to pursue small sources, keeping in mind it
- 9 does not shield them from federal regulatory oversight.
- 10 BOARD MEMBER MELAS: Okay. Thank you.
- 11 MS. SHARKEY: Mr. Melas, if I might just
- 12 elaborate on that point of the overall emissions, because
- 13 I know you expressed concern on that at the last hearing
- 14 as well. In the CICI's prefiled testimony, what we did
- 15 was try to provide you with an overview from the
- 16 perspective of an average facility, what we believe is
- 17 the average. We actually think it's quite a conservative
- 18 number, because there's a number of conservative
- 19 assumptions built into that, but it comes out with
- 20 something on the order of 100 tons of emissions
- 21 state-wide from all of these 500 facilities, so you're
- 22 talking about a -- an impact that I think when you
- 23 consider the number of facilities that have to go through
- 24 permitting of being very small.

- 1 Recognizing that, you know, an exemption's out
- 2 there and you never know how things can change, we
- 3 reached an agreement with Illinois EPA and in part in
- 4 response to your concerns to limit the -- to put a limit
- 5 on it, and thus we have that 5,000 tons of resin limit
- 6 that actually ends up giving us -- it's going
- 7 to remain -- no matter how big any of these units might
- 8 get, with some very outrageous assumptions, you still
- 9 would be under 1,000 tons state-wide from 500 emission
- 10 sources out there averaging 2 tons per source, so very --
- 11 the whole facility, meaning whole facility, far below the
- 12 de minimus cutoff level that the Board is considering in
- 13 the 05-19 proceeding where that 0.44 tons would apply to
- 14 any individual piece of equipment. So we hope we've
- 15 addressed any concern that this is somehow creating a
- 16 very large exemption for a large amount of emissions in
- 17 the state.
- 18 HEARING OFFICER KNITTLE: Thank you.
- 19 BOARD MEMBER JOHNSON: And your -- in your
- 20 prefiled testimony, your estimate was that the total
- 21 state-wide was 100 tons per year, and that is the
- 22 reasonable worst case, that estimate, as you phrased it
- 23 in that.
- MS. SHARKEY: Yes.

- 1 BOARD MEMBER JOHNSON: And you agree with
- 2 that, Mr. Sutton?
- 3 MR. SUTTON: Yes, I do.
- 4 BOARD MEMBER JOHNSON: And it's also true
- 5 there are single facilities located in this state that
- 6 produce a volume of VOM emissions in excess of 100 tons
- 7 by themselves.
- 8 MR. SUTTON: Yes, that's true.
- 9 BOARD MEMBER MELAS: Okay.
- 10 HEARING OFFICER KNITTLE: Nothing further.
- 11 Let's go off the record, please.
- 12 (Off the record.)
- 13 HEARING OFFICER KNITTLE: We are back on the
- 14 record. Mr. Melas has a question.
- 15 BOARD MEMBER MELAS: Miss Frede, is Corn
- 16 Products International a member of your association?
- MS. FREDE: Yes.
- 18 BOARD MEMBER MELAS: Okay. This may be
- 19 superfluous, but in the interest of full disclosure, I
- 20 think I ought to at least mention it. In my previous
- 21 life, about 50 some years ago when I worked for the
- 22 University of Chicago, I did some consulting work,
- 23 management training, for Corn Products and thought I
- 24 would just mention it. Not that it's significant enough,

- 1 but just -- might be a little overkill, but I thought I
- 2 at least had to mention it for the record.
- 3 HEARING OFFICER KNITTLE: Full disclosure is
- 4 always important.
- 5 BOARD MEMBER MELAS: Full disclosure.
- 6 MS. SHARKEY: Could I ask a follow-up
- 7 question? Mr. Melas, are you aware of -- do you know
- 8 whether they have any plastic injection molding
- 9 processes?
- 10 BOARD MEMBER MELAS: I never saw any in my
- 11 experience with the company, and I visited a number of
- 12 their plants.
- MS. SHARKEY: Miss Frede, do you know if
- 14 they have any?
- BOARD MEMBER MELAS: Probably not.
- MS. FREDE: I don't believe they do.
- MS. SHARKEY: You don't believe they do?
- MS. FREDE: I do not believe they do.
- MS. SHARKEY: Okay. Thank you.
- 20 HEARING OFFICER KNITTLE: I also want to
- 21 note that I do not see any members of the public present
- 22 here today. If they were here, they of course would be
- 23 able to ask questions and provide a statement if they so
- 24 chose.

- 1 We have discussed off the record, and the Board
- 2 will accept public comments on this proposal until August
- 3 8. Of course after we adopt these rules for first notice
- 4 there's going to be an additional 45 days for public
- 5 comment.
- 6 Today's hearing concludes the hearings scheduled
- 7 by the Board in this matter, but any party may request an
- 8 additional hearing pursuant to Section 102.412(b) of the
- 9 Board's procedure rules. We expect to have today's
- 10 transcript ready by July 22, and soon thereafter we will
- 11 post it on our Web site, which is www.ipcb.state.il.us.
- 12 Transcripts as well as the Agency's proposal, all board
- 13 orders throughout this proceeding will be viewable and
- 14 downloadable on the Board's Web site. Alternatively, you
- 15 can order a copy of the transcript from the clerk of the
- 16 board at 75 cents per page.
- 17 Anybody can file a public comment to this
- 18 proceeding with the clerk of the board, but please note
- 19 that when filing a public comment you must serve all the
- 20 people on the service list with a copy of the public
- 21 comment, and we of course would be willing to provide
- 22 copies of the current service and notice list if
- 23 necessary. If there's nothing further, I wish to thank
- 24 all of you for your comments today.

- 1 MR. MATOESIAN: Just one thing.
- 2 HEARING OFFICER KNITTLE: Yes, Mr.
- 3 Matoesian?
- 4 MR. MATOESIAN: I believe you said it was
- 5 the Agency's proposal?
- 6 HEARING OFFICER KNITTLE: Did I really?
- 7 MR. MATOESIAN: Yeah, and it's not actually
- 8 the Agency's proposal.
- 9 HEARING OFFICER KNITTLE: It is not. It is
- 10 CICI's proposal. Thank you for that correction. And if
- 11 there's nothing further, thank you all, and this hearing
- 12 is adjourned.
- 13 (Off the record.)
- 14 HEARING OFFICER KNITTLE: I have just one
- 15 further clarification. I stated that anybody can file a
- 16 public comment, and they can, but when filing a public
- 17 comment, they have to serve all the people on the service
- 18 list with the public comment. That is not true. We will
- 19 of course accept public comment from members of the
- 20 public and they do not have to serve, but they will be
- 21 available on the Board's Web site for viewing. Thanks
- 22 again.
- 23 (Hearing adjourned.)

24

1	STATE OF ILLINOIS)
2) SS COUNTY OF ST. CLAIR)
3	
4	I, KAREN WAUGH, a Notary Public and Certified
5	Shorthand Reporter in and for the County of St. Clair,
6	State of Illinois, DO HEREBY CERTIFY that I was present
7	at the Illinois Pollution Control Board, Springfield,
8	Illinois, on July 15, 2005, and did record the aforesaid
9	Hearing; that same was taken down in shorthand by me and
10	afterwards transcribed, and that the above and foregoing
11	is a true and correct transcript of said Hearing.
12	IN WITNESS WHEREOF I have hereunto set my hand
13	and affixed my Notarial Seal this 19th day of July, 2005.
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17	Notary PublicCSR
18	#084-003688
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