

UNITED STATES OF AMERICA
CONSUMER PRODUCT SAFETY COMMISSION

CPSC/OPIC DEPUTY SECRETARY
REGISTRATION
198 APR 20 P 5:09

In the Matter of)
CENTRAL SPRINKLER CORP.,)
and)
CENTRAL SPRINKLER CO.,)
Respondents)

CPSC DOCKET NO. 98-2

FIRST SET OF INTERROGATORIES TO RESPONDENTS
CENTRAL SPRINKLER CORP. AND CENTRAL SPRINKLER CO.

Complaint Counsel hereby propounds its First Set of Interrogatories upon Respondents
Central Sprinkler Corp. and Central Sprinkler Co.

PLEASE TAKE NOTICE that pursuant to 16 C.F.R. § 1025.32, Respondents must
respond to these Interrogatories within 30 days after service of same.

PLEASE TAKE FURTHER NOTICE that pursuant to 16 C.F.R. § 1025.31,
Respondents are under a continuing duty to supplement their responses to the staff's discovery
requests to include information later obtained, regardless of whether the response to the
discovery request was complete when made.

DEFINITIONS

Throughout the following Interrogatories and Definitions, unless the context otherwise requires, the singular includes the plural, the masculine includes the feminine, and neuter, or vice versa.

As used herein, the terms below are defined as follows:

"Activate" in the context of Omega sprinklers means full opening (as opposed to partial opening) of the sprinkler -- i.e., full release of the plunger housing -- upon exposure to the Omega's triggering temperature.

"Adhesion" and "Adhered," in the context of a sprinkler "o" ring, refers to adhesion or adhered to the plunger housing and/or main housing of the sprinkler.

"Cause" means to bring about, effect, make happen, contribute to, induce, produce, and/or compel.

"Claim" refers to all lawsuits, governmental actions or orders, disputes, demands for payment, indemnification or reimbursement, complaints, and/or potential lawsuits that contain allegations against you and/or your agents and/or employees.

"Communication" means any transfer of information, ideas, opinions or thought by any means at any time or place under any circumstances, including any transfer of data from one location to another by electrical, electronic or similar means.

"Distribute" means to deliver, sell, give, allot, or otherwise provide, and includes the giving away of free samples and promotional items.

"Document" or "Record" shall have the broadest meanings permissible, and shall include the original and any non-identical copy of any written, graphic, photographic, audio,

electronic or visual material, however produced or reproduced, of any kind or description, whether sent or received or neither, including, but not limited to: papers, books, letters, facsimiles, photographs, motion pictures, video tapes, audio recordings, correspondence, drawings, sketches, schematics, manuals, blueprints, work papers, intra- and interoffice communications, memoranda, notes, transcripts, minutes, reports, recordings of telephone or other conversations, or of interviews, conferences, or meetings, affidavits, statements, summaries, opinions, court pleadings, reports, indices, studies, analyses, evaluations, contracts, licenses, agreements, questionnaires, answers to questionnaires, statistical records, desk calendars, appointment books, diaries, telephone logs, lists, tabulations, charts, graphs, data sheets, computer tapes, disks, printouts or programs, microfilms, all other records kept by electronic, photographic, or mechanical means, and things similar to any of the foregoing, regardless of their author or origin, however denominated, no matter how produced or maintained, regardless of whether in your actual or constructive possession, custody or control, and regardless of whether or not communicated to any person other than the maker. A draft is a separate document or record within the meaning of this term.

If you claim that any document or record is privileged, specify the privilege claimed and the factual basis you contend supports the assertion of the privilege. If any document or record was, but is no longer, in your possession, custody, or control, provide the following information:

- a) state the disposition of the document or record;
- b) state the date such disposition was made;
- c) identify the present custodian of the document or record and state his or her

address or, if the document or record no longer exists, so state;

- d) identify the person who made the decision regarding the disposition of the document or record; and
- e) state the reason for the disposition and describe the document or record and the contents of the document or record, including the title, the author, the position or title of the author, addressee, the position or title of the addressee, whether indicated or blind copies were made, date, subject matter, number of pages, attachments or appendices, and all persons to whom the document was distributed, shown or explained.

"Field test," for purposes of these Interrogatories, shall mean any test performed on a sprinkler while it is installed in a sprinkler system.

"Identify" or "identity" shall mean, when referring to an individual person, the person's full name, present or last known employer, present or last known address, occupation, business position, and telephone number, and the relationship or association, if any, to a Respondent in this action.

When referring to an entity, the terms "identify" or "identity" shall mean its present and any former name(s), the business address of its principal place of business, its state of incorporation, registration, or organization, the identity and address of its registered agent in each state where it is present and doing business or has a place of business, its present officers, directors, and shareholders, and its relationship, if any, to a Respondent in this action. Once a person or entity has been identified in accordance with this paragraph, only the name of that person or entity need be listed in response to subsequent discovery

requesting the identification of that person or entity.

When referring to a document or record, the terms "identify" or "identity" shall mean a description of the document or record including its date of preparation and transmission, the author, sender and recipient, the custodian of the record, and a summary of the subject matter.

When referring to an Omega or other brand sprinkler, "identify" or "identity" means to provide the following information:

- a) the sprinkler manufacturer
- b) model name and number;
- c) manufacture date;
- d) activation temperature;
- e) "o" ring type (if applicable)
- f) all dates of UL listing;
- g) the UL standards for safety under which the sprinkler is/was listed;
- h) the type of piping in which the sprinkler is or was installed (if applicable);
- i) the name, address and telephone number of the building in which the sprinkler was installed (if applicable); and the name, address and telephone number of the owner of that building;

"Manufacture" means to make, produce, assemble, fabricate, or work into usable form.

"Omega" means any and all models and makes (variations within a model) of Omega series or brand automatic fire sprinklers.

"Relating to" shall mean consisting of, referring to, describing, discussing, constituting, evidencing, containing, mentioning, concerning, pertaining to, citing, summarizing, analyzing,

or bearing any logical or factual connection with the matter discussed.

"UL" or "Underwriters Laboratories, Inc." means Underwriters Laboratories, Inc., 333 Pfingsten Road, Northbrook, IL 60062 and any subsidiaries, divisions, or agents of Underwriters Laboratories, Inc.

"You," "your," "yourself" means the Respondent to whom this discovery is directed, including any officer, director, representative, insurer, agent or employee thereof, and also includes any agent, person or entity acting on your behalf.

INSTRUCTIONS

1. Each Interrogatory shall be answered completely, separately, and fully.
2. The following Interrogatories are to be regarded as continuing. You are required to supplement or modify any response as additional or different information becomes known to you.
3. Each person consulted in answering any Interrogatory shall be identified in the body of the response to the particular Interrogatory.
4. If you cannot answer any Interrogatory in full after exercising due diligence, so state and answer or produce to the extent possible, specifying your inability to answer or produce the remainder, stating whatever information or knowledge you have concerning the unanswered portion or unproduced documents, and describing your efforts to secure the unknown information or unproduced documents.
5. If you assert any privilege in responding to any Interrogatory, state the type of privilege asserted and the basis for its assertion. In addition, briefly identify the document or record with respect to which the privilege is asserted. For any document or record with

respect to which a privilege is asserted, state:

- a) The type of document or record (e.g., letter, memorandum, contract, etc.), the date of the document, and the subject matter of the document or record;
- b) The name, address and position of the author of the document or record and of any person who assisted in its preparation;
- c) The name, address and position of each addressee or recipient of the document or record, or any copies of it; and
- d) The present location of the document or record and the name, address and position of the person having custody of it.

For any communication with respect to which a privilege is asserted, identify the persons or entities among whom the communication took place, the date of the communication, and the subject.

INTERROGATORIES

INTERROGATORY NO. 1

Identify the person(s) answering these Interrogatories.

INTERROGATORY NO. 2

Identify yourself.

INTERROGATORY NO. 3

Identify all officers, directors and/or shareholders of your company since its formation.

For each such person, specify all positions they have held, and the dates they held each position.

INTERROGATORY NO. 4

Provide the date on which the first "Omega" sprinkler was sold or given away as a free sample or promotional item. Identify the first "Omega" sprinkler sold or given away as a free sample.

INTERROGATORY NO. 5

Identify all makes and/or models of "Omega" sprinklers you have ever designed, manufactured, and/or distributed. For each model, indicate the date(s) it was designed, manufactured and distributed.

INTERROGATORY NO. 6

Provide the total number of Omega sprinklers that:

- a) have been sold;
- b) have been given away as free samples or promotional items;
- c) are installed

in the United States and its territories. Of these, how many contain:

- i) EPDM "o" rings;
- ii) silicone "o" rings;
- iii) neither EPDM or silicone "o" rings (specify whether the model has an "o" ring, and if so, the composition of the "o" ring).

INTERROGATORY NO. 7

How many Omega sprinklers:

- a) have been sold;
- b) have been given away as free samples or promotional items;

- c) are installed

in each state and territory of the United States.

INTERROGATORY NO. 8

Provide the sales price for each Omega sold by you (or anyone on your behalf) in the United States and/or its territories.

INTERROGATORY NO. 9

For each year in which you manufactured and/or distributed Omega sprinklers, provide:

- a) your gross income;
- b) your net income;
- c) the amount in revenues generated from product sales;
- d) the amount in revenues generated from sales of Omega sprinklers.

INTERROGATORY NO. 10

How many total Omega sprinklers are installed in the United States and/or its territories in:

- a) steel piping systems;
- b) copper piping systems;
- c) plastic piping systems;
- d) polybutylene piping systems;
- e) other piping systems not listed above (specify the type of piping system)?

INTERROGATORY NO. 11

How many Omega sprinklers are installed in each state and territory of the United

States in:

- a) steel piping systems;
- b) copper piping systems;
- c) plastic piping systems;
- d) polybutylene piping systems;
- e) other piping systems not listed above (specify the type of piping system)?

INTERROGATORY NO. 12

How many Omega sprinklers are installed in the United States and/or its territories in:

- a) private homes
- b) apartment buildings
- c) schools (including universities and colleges, public or private)
- d) nursing homes
- e) hospitals
- f) detention facilities (including jails, juvenile detention facilities, etc.)
- g) homeless shelters
- h) facilities used for recreation (e.g., health clubs, gymnasiums, sports arenas, public pools, country clubs, etc.)
- i) hotels
- j) museums
- k) offices (including office buildings)
- l) warehouses with no public access areas
- m) industrial facilities with no public access areas

INTERROGATORY NO. 13

Identify which Omega makes and/or models you are currently manufacturing and/or selling.

INTERROGATORY NO. 14

What is the current sales price for each Omega make and/or model listed in your response to Interrogatory No. 13?

INTERROGATORY NO. 15

Identify all of your employees, agents, representatives or consultants who have held a supervisory, managerial, or executive position or role in the following areas of your company at any time:

- 1) sales;
- 2) marketing;
- 3) product design and/or development;
- 4) engineering and/or technical services;
- 5) customer service/customer relations;
- 6) public and/or governmental relations;
- 7) product manufacturing and/or production;
- 8) product sales, marketing and/or distribution;
- 9) corporate mergers and/or acquisitions;
- 10) quality assurance/control;
- 11) any divisions, subdivisions or areas that deal or dealt with Omega automatic fire sprinklers and/or any component parts of Omega automatic fire

sprinklers.

For each employee, agent, representative or consultant, please state the position(s) and title(s) of those position(s), term(s) of employment, and salary. If the person is no longer in your employ, please indicate their reason for leaving and, if known, provide their current address and telephone number.

INTERROGATORY NO. 16

Identify all persons and/or entities who were in any way involved in:

- a) design and/or development;
- b) testing
- c) the UL listing process and/or submission of Omega sprinkler samples and/or prototypes for same;
- d) marketing;
- e) sale; or
- f) manufacturing of any makes and/or models

of each make and/or model Omega sprinkler.

For each such person and entity, indicate:

- i) whether the person or entity is currently employed by your company;
- ii) their position in your company (or, if not in your company, elsewhere) at the time of their involvement;
- iii) which makes and/or models the involvement related to; and
- iii) describe in detail the nature of their involvement.

INTERROGATORY NO. 17

For each make and/or model of Omega sprinkler, identify and describe (including specifications for) each component part and each chemical (including lubricants), tool and/or substance used in the Omega manufacturing process.

INTERROGATORY NO. 18

Identify the manufacturer of each component part, chemical (including lubricants, etc.), tool and/or substance identified in your response to Interrogatory No. 17.

INTERROGATORY NO. 19

Identify the person and/or entity who supplied to you each component part, chemical (including lubricants, etc.), tool and/or substance identified in your response to Interrogatory No. 17.

INTERROGATORY NO. 20

Identify all persons and/or entities who were involved in any way in the design, specifications, and/or development of each component part, chemical (including lubricants, etc.), tool and/or substance identified in your response to Interrogatory No. 17.

INTERROGATORY NO. 21

Describe in detail the procedures and specifications for the manufacture of each different make and/or model Omega sprinkler, including any changes in such procedures and/or specifications over time. Specify and describe all tools, chemicals and substances used, including when, how and in what amount they are used.

INTERROGATORY NO. 22

For each change in procedure or specification identified in your response to

Interrogatory No. 21:

- a) explain the differences between the procedure or specification and its predecessor(s);
- b) explain the reasons for the change;
- c) identify all persons and/or entities involved in bringing about the change, and explain their role in same;
- d) identify all persons and/or entities who implemented the change;
- e) indicate whether any tests were done on the models before or after the change occurred. If so:
 - i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test results.

INTERROGATORY NO. 23

Have you (or anyone on your behalf) ever utilized any chemical or substance in the manufacture of Omega sprinkler(s) to prevent leaking of those sprinklers when they are later installed into a sprinkler system? If so, identify, for each such chemical or substance:

- a) its name (and brand name, if applicable);
- b) its chemical composition;
- c) its manufacturer; and

- d) the person and/or entity from whom you purchased and/or received the chemical or substance;
- e) identify and describe any tests performed by you or anyone else to assess whether and/or how the substance affects the operation of Omega sprinkler(s) or any Omega component part, providing the following information:
 - i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test results.
- f) indicate whether you have communicated with any persons and/or entities (including your employees, agents, and consultants) regarding any such chemical or substance. If so, provide the following information:
 - i) identify all such persons and/or entities;
 - ii) state the date of the communication;
 - iii) describe the content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 24

Were/are there any prototypes or precursors of any of the Omega sprinklers listed in your response to Interrogatory No. 6? If so:

- a) identify and describe each prototypes or precursor, including any modifications

- in composition or design;
- b) indicate the date on which it was designed and/or developed;
 - c) identify all persons and entities who were in any way involved in designing, developing and/or reviewing the prototype or precursor;
 - d) identify the Omega model to which the prototype or precursor corresponds;
 - e) describe all tests and evaluations performed on the prototype or precursor, providing the following information:
 - i) the date on which the test or evaluation was conducted;
 - ii) the protocol for the test or evaluation;
 - iii) identify all persons and entities who conducted, attended, reviewed, and/or supervised the test or evaluation;
 - f) indicate whether the prototype or precursor was ever submitted to a testing laboratory for review, certification or listing. If so, fully describe the circumstances and outcome of the submission and testing, and identify the laboratory;
 - g) indicate whether you have communicated with any persons and/or entities (including your employees, agents, and consultants) regarding any such prototype or precursor. If so, provide the following information:
 - i) identify all such persons and/or entities;
 - ii) state the date of the communication;
 - iii) describe the content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 25

Identify and describe all measures and/or procedures taken by you or anyone on your behalf at any time before, during, and/or after each Omega sprinkler is manufactured, to ensure that each Omega sprinkler will fully and properly activate when exposed to its activation (triggering) temperature.

INTERROGATORY NO. 26

Have you ever known or been advised of any problems with, imperfections or flaws in, defects or deficiencies in or associated with any component part(s) of any Omega sprinkler, or any chemical, tool or substance used in manufacturing Omegas, including whether any component part has been or alleged to have been out of tolerance? If so, for each such problem, flaw, defect and deficiency:

- a) describe in full detail the problem, imperfection, flaw, defect, deficiency or extent to which the part was out of tolerance;
- b) indicate the date on which you were notified or learned of the problem, flaw, defect or deficiency;
- c) indicate how you became aware or were notified of the problem, flaw, defect or deficiency;
- d) describe all actions, if any, you took as a result, indicating when those actions were taken; and
- e) state whether the affected component part was ever delisted, recalled, discontinued, taken off the market, or requested to be returned to the manufacturer, supplier, distributor, etc. and, if so, explain the circumstances of

same.

INTERROGATORY NO. 27

Explain in full detail the mechanism of proper operation of each different make and model of Omega sprinkler, once exposed to its activation (triggering) temperature.

INTERROGATORY NO. 28

Once the activation (triggering) temperature has been reached, indicate whether water pressure or any other source of pressure (not internal to or part of the Omega itself) is a prerequisite to or requirement for activation of any make and/or model of Omega sprinkler(s).

If so:

- a) identify the Omega
- b) indicate, for each make and/or model of Omega, what the necessary pressure is (in psig);
- c) indicate the expected or required source of that pressure;
- d) explain how the pressure activates or assists the Omega's activation;
- e) explain why the sprinkler will not activate without that pressure.

INTERROGATORY NO. 29

Are you aware of any non-Omega sprinklers that contain an "o" ring? If so:

- a) identify the sprinkler make and/or model;
- b) identify the manufacturer of the sprinkler;
- c) indicate where in the sprinkler the "o" ring is located;
- d) explain the mechanism of proper operation/activation of the sprinkler, including how the "o" ring is used; and

- e) identify all persons and entities involved in any way in the design of each such sprinkler make and/or model;
- f) indicate whether you are aware or have been notified of any instances in which a non-Omega sprinkler containing an "o" ring did not or allegedly did not activate, either in testing or in a fire, when exposed to its activation (triggering) temperature. If so, indicate when, how, and from whom you received such notification;
- g) identify all tests of which you are aware that were conducted on the sprinkler to determine whether or not it operates properly, providing the following information:
 - i) identify the sprinkler;
 - i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test results;
- h) indicate whether you have communicated with any persons and/or entities (including your employees, agents, and consultants) regarding the operation of any non-Omega sprinklers containing an "o" ring. If so, provide the following information:
 - i) identify all such persons and/or entities;

- ii) state the date of the communication;
- iii) describe the content of the communication;
- iv) identify all persons and/or entities present during the communication;

INTERROGATORY NO. 30

Indicate which Omega makes and/or models, and which, if any, adaptations or devices to be used with any Omega make and/or model (such as the "helper spring"), have been tested or submitted for approval, listing and/or certification by a certifying laboratory or institution such as UL or FM? For each such Omega, for each testing and/or submission, and for each certifying laboratory or institution:

- a) describe all efforts involved and steps taken in an effort to obtain approval, listing and/or certification;
- b) indicate the date on which each such effort or step took place;
- c) indicate the project number, if any, that each such effort or step related to or was part of;
- d) identify all persons and/or entities involved in each effort or step;
- e) with respect to any testing and/or examinations:
 - i) describe the tests and/or examinations, and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test results;

- f) describe all communications regarding or relating in any way to the listing and/or certification, including the following information:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication;
- g) indicate whether and when listing and/or certification was granted, refused, or postponed by the certifying laboratory or institution.

INTERROGATORY NO. 31

Indicate whether approval, listing or certification was ever refused, withdrawn, discontinued or cancelled for any Omega sprinkler, sprinkler component part or allegedly assistive operating device (such as the helper spring), and/or whether any certifying laboratory or institution has ever objected to your sale and/or distribution of any Omega sprinkler. If so:

- a) identify the Omega and/or Omega component part or allegedly assistive operating device;
- b) explain the circumstances and date;
- c) identify all persons and/or entities involved;
- d) identify and describe all communications regarding or relating in any way to the refusal, withdrawal, discontinuation, cancellation, or objected to sale and/or distribution, including:
 - i) the date on which the communication took place;

- ii) the persons and/or entities to and from whom the communication was directed;
- iii) the nature and content of the communication;
- iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 32

Have you ever advertised, represented, indicated or suggested in any marketing material that Omega sprinklers that are not listed or certified by FM are listed or certified by FM? If so:

- a) identify the advertisement or marketing material;
- b) indicate whether and when you were notified of the false advertisement, representation, indication or suggestion. If so, indicate:
 - i) how and from whom you received the notification;
 - ii) when you received the notification;
 - iii) describe the contents of the notification;
 - iv) describe your response to the notification.

INTERROGATORY NO. 33

Have you ever advertised, indicated or suggested in any marketing material that Omega sprinklers that are not listed or certified by UL are listed or certified by UL? If so:

- a) identify the advertisement or marketing material;
- b) indicate whether and when you were notified of the false advertisement, representation, indication or suggestion. If so, indicate:
 - i) how and from whom you received the notification;

- ii) when you received the notification;
- iii) describe the contents of the notification;
- iv) describe your response to the notification.

INTERROGATORY NO. 34

Indicate whether you are aware or have ever been notified of an Omega that did not or allegedly did not activate in a fire? If so:

- a) identify the Omega;
- b) indicate when, where and how the fire occurred;
- c) what was the system pressure was (in psig) at the time of the fire and/or nonactivation;
- d) indicate whether anyone sustained or allegedly sustained bodily injury as a result of or in association with the fire (including injuries sustained or allegedly sustained in attempting to escape the fire). If so:
 - i) identify the injured person;
 - ii) indicate how the injury was or was alleged to have been sustained;
 - iii) indicate whether a suit, claim, or demand was ever made against you or in which you were implicated relating to the incident or injury; provide details of same;
- e) indicate whether anyone died or allegedly died as a result of or in association with the fire (including death incurred or allegedly incurred in attempting to escape the fire). If so:
 - i) identify the decedent;

- ii) indicate how and where the death occurred;
 - iii) indicate whether a suit, claim, or demand was ever made against you or in which you were implicated relating to the incident or death; provide details of same;
- f) indicate whether any property was or allegedly was damaged, lost or destroyed as a result of or in association with the fire (including damage sustained or allegedly sustained in attempting to remove the property from the fire, or in attempting to put out the fire). If so:
- i) identify the owner of the property;
 - ii) indicate how the property was or allegedly was damaged;
 - iii) indicate the value or alleged value of the property;
 - iv) indicate whether a suit, claim, or demand was ever made against you or in which you were implicated relating to the incident or damage; provide details of same;
- g) indicate whether the Omega was fitted with a "helper spring;"
- h) indicate when and how you became aware of the fire and/or the nonactivation, including from whom you received the notification;
- i) identify and describe all communications regarding or relating in any way to the fire and/or nonactivation, including:
- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;

- iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- j) indicate whether you or anyone else tested and/or examined any Omega that failed to activate or allegedly failed to activate in a fire, the sprinkler system in which the Omega was installed, and/or any other sprinkler from the same site?
- If so:
- i) identify the sprinkler;
 - ii) describe the tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests and/or examinations;
 - iv) describe and explain the results of the tests and/or examinations, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- k) indicate whether the Omega "o" ring was examined for swelling and/or adhesion. If so:
- i) indicate whether swelling and/or adhesion was present;
 - ii) indicate on what basis and by what criteria it was determined whether the "o" ring was swollen and/or adhered;
 - iii) identify all persons and/or entities involved in determining whether the "o" ring was swollen and/or adhered;
- l) indicate whether the Omega and/or the system from which it came was tested

and/or examined for "stop leak" or any other leakage prevention substance. If

so:

- i) indicate whether "stop leak" or any other such substance was present;
 - ii) indicate on what basis and by what criteria it was determined whether "stop leak" or any other such substance was present;
 - iii) identify all persons and/or entities involved in determining whether "stop leak" or any other such substance was present;
- m) indicate whether the Omega was examined for dezincification. If so:
- i) indicate whether dezincification had occurred;
 - ii) indicate on what basis and by what criteria it was determined whether dezincification had occurred;
 - iii) identify all persons and/or entities involved in determining whether dezincification had occurred;
- n) explain why the Omega failed to activate in the fire.

INTERROGATORY NO. 35

Indicate whether you are aware or have ever been notified of an Omega sprinkler that, when tested, did not activate or allegedly did not activate at 7 psig or below when exposed to its activation/triggering temperature? If so:

- a) identify the Omega;
- b) indicate when, how, and from whom you received such notification;
- c) describe and explain the circumstances of the nonactivation at 7 psig, including
 - i) when and where the testing and nonactivation at or below 7 psig took

- place;
- ii) describe the tests and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iv) describe and explain the results of the tests, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test results.
- d) indicate at what pressure, if any, the Omega activated (or if it failed to activate altogether, indicate the highest pressure to which the sprinkler was subjected);
- e) describe and explain your response to the notification;
- f) did you or anyone else of whom you are aware examine and/or test the Omega that failed to activate (after it failed to activate), the system in which it was installed, and/or any other sprinkler from the same site? If so:
- i) identify the sprinkler;
 - ii) describe the tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests and/or examinations;
 - iv) describe and explain the results of the tests and/or examinations, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- g) identify and describe all communications regarding or relating in any way to

the notification, the sprinkler, the testing and/or examination, and/or the nonactivation at 7 psig or below, including:

- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- h) indicate whether the Omega was equipped or fitted with a "helper spring;"
- i) indicate whether the Omega "o" ring was examined for swelling and/or adhesion. If so:
- i) indicate whether swelling and/or adhesion was present;
 - ii) indicate on what basis and by what criteria it was determined whether the "o" ring was swollen and/or adhered;
 - iii) identify all persons and/or entities involved in determining whether the "o" ring was swollen and/or adhered;
- j) indicate whether the Omega and/or the system from which it came was tested and/or examined for "stop leak" or any other leakage prevention substance. If so:
- i) indicate whether "stop leak" or any other such substance was present;
 - ii) indicate on what basis and by what criteria it was determined whether "stop leak" or any other such substance was present;
 - iii) identify all persons and/or entities involved in determining whether

"stop leak" or any other such substance was present;

- k) indicate whether the Omega was examined for dezincification. If so:
 - i) indicate whether dezincification had occurred;
 - ii) indicate on what basis and by what criteria it was determined whether dezincification had occurred;
 - iii) identify all persons and/or entities involved in determining whether dezincification had occurred;
- l) explain why each such Omega did not activate at or below 7 psig.

INTERROGATORY NO. 36

Indicate whether you are aware or have ever been notified of an Omega sprinkler that, when tested in the field, did not activate or allegedly did not activate when exposed to its activation/triggering temperature? If so:

- a) identify the Omega;
- b) indicate when, how, and from whom you received such notification;
- c) describe and explain the circumstances of the nonactivation, including:
 - i) when and where the testing and nonactivation took place;
 - ii) describe the tests and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iv) describe and explain the results of the tests, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test results.

- d) indicate what the pressure of the system (in which the Omega was installed) was at the time of the field test;
- e) describe and explain your response to the notification;
- f) did you or anyone else of whom you are aware examine and/or test the Omega that failed to activate (after it failed to activate), the system in which it was installed, and/or any other sprinkler from the same site? If so:
 - i) identify the sprinkler;
 - ii) describe the tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests and/or examinations;
 - iv) describe and explain the results of the tests and/or examinations, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- g) identify and describe all communications regarding or relating in any way to the notification, the sprinkler, the testing and/or examination, and/or the nonactivation, including:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

- h) indicate whether the Omega was equipped or fitted with a "helper spring;"
- i) indicate whether the Omega "o" ring was examined for swelling and/or adhesion. If so:
 - i) indicate whether swelling and/or adhesion was present;
 - ii) indicate on what basis and by what criteria it was determined whether the "o" ring was swollen and/or adhered;
 - iii) identify all persons and/or entities involved in determining whether the "o" ring was swollen and/or adhered;
- j) indicate whether the Omega and/or the system from which it came was tested and/or examined for "stop leak" or any other leakage prevention substance. If so:
 - i) indicate whether "stop leak" or any other such substance was present;
 - ii) indicate on what basis and by what criteria it was determined whether "stop leak" or any other such substance was present;
 - iii) identify all persons and/or entities involved in determining whether "stop leak" or any other such substance was present;
- k) indicate whether the Omega was examined for dezincification. If so:
 - i) indicate whether dezincification had occurred;
 - ii) indicate on what basis and by what criteria it was determined whether dezincification had occurred;
 - iii) identify all persons and/or entities involved in determining whether dezincification had occurred;

- l) explain why each such Omega did not activate when field tested.

INTERROGATORY NO. 37

Do you contend that an Omega that is installed into a sprinkler system containing water at a pressure of at least 7 psig, that does not activate upon being exposed to its activation (triggering) temperature for long enough for its fusible link to melt, will activate if fitted with the "helper spring" (that Central has proposed for use with the Omega)? If so:

- a) explain the basis for your contention;
- b) describe in detail the method of operation of the "helper spring;"
- c) describe in detail the specifications for the "helper spring;"
- d) identify the manufacturer of the "helper spring;"
- e) identify all persons and/or entities involved in the design and/or development of the "helper spring."
- f) describe and any tests performed by you or anyone else to assess whether and/or how the "helper spring" affects the operation of an Omega sprinkler or any Omega component part, providing the following information:
 - i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test results.
- g) indicate whether you have communicated with any persons and/or entities

(including your employees, agents, and consultants) regarding the operation and/or efficacy of the helper spring. If so, provide the following information:

- i) identify all such persons and/or entities;
 - ii) state the date of the communication;
 - iii) describe the content of the communication;
 - iv) identify all persons and/or entities present during the communication;
- h) if you allege that an Omega sprinkler fitted with a helper spring will activate at a lower system pressure than an Omega without a helper spring, please indicate:
- i) how much lower the pressure required to activate the helper-spring fitted Omega is than the pressure required to activate an Omega not fitted with the helper spring; and
 - ii) explain the basis for your allegation;
 - iii) indicate what evidence supports your allegation.

INTERROGATORY NO. 38

Have you ever been aware or been notified of an Omega sprinkler or component that has cracked or broken? If so:

- a) identify the Omega and, if applicable, its component part;
- b) describe the circumstances of the cracking and/or breakage, including the date on which it occurred;
- c) identify the person and/or entity (including your employees and/or consultants) who notified you of the cracking and/or breakage;

- d) detail when and how you became aware or received notification of the cracking and/or breakage;
- e) describe and explain your response to the notification;
- f) indicate whether you or anyone of whom you are aware examined and/or tested the affected sprinkler, its component part (if applicable), and/or other sprinklers from that site. If so:
 - i) describe all such tests and/or examinations, and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iii) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test and/or examination results;
- g) identify and describe all communications regarding or relating in any way to the affected sprinkler, the cracking and/or breakage, and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication;

- h) explain in full detail why the cracking and/or breakage occurred.

INTERROGATORY NO. 39

Have you ever been aware or been notified of an Omega sprinkler or any sprinkler component that has exhibited corrosion? If so:

- a) identify the Omega and, if applicable, its component part;
- b) describe the circumstances of the corrosion, including the date on which it occurred;
- c) identify the person and/or entity (including your employees and/or consultants) who notified you of the corrosion;
- d) detail when and how you became aware or received notification of the corrosion;
- e) describe and explain your response to the notification;
- f) indicate whether you or anyone of whom you are aware examined and/or tested the affected sprinkler, its component part (if applicable), and/or other sprinklers from that site. If so:
 - i) describe all such tests and/or examinations, and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iii) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - iv) identify the persons and entities involved in evaluating the test or

examination results;

- g) identify and describe all communications regarding or relating in any way to the affected sprinkler, the corrosion, and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication;
- h) explain in full detail how and why the corrosion occurred.

INTERROGATORY NO. 40

Indicate whether you are aware or have ever been notified of an Omega sprinkler that leaked and/or weeped when tested or in a fire? If so:

- a) identify the Omega;
- b) indicate when, how, and from whom you received notification or became aware of the leakage and/or weeping;
- c) describe and explain the circumstances of the leaking and/or weeping, including when and where the leakage and/or weeping took place. If the leakage and/or weeping took place in testing:
 - i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;

- iii) describe and explain the results of the tests, including all observations and conclusions (and including at what pressure the sprinkler leaked and/or wept);
 - iv) identify the persons and entities involved in evaluating the test and/or examination results.
- d) indicate whether you or anyone else of whom you are aware tested and/or examined the Omega (after it leaked and/or wept), and/or any other sprinkler from the same site. If so:
 - i) identify the sprinkler;
 - ii) describe the tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests and/or examinations;
 - iv) describe and explain the results of the tests and/or examinations, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results.
- e) describe and explain your response to the notification;
- f) identify and describe all communications regarding or relating in any way to the notification, the sprinkler, the testing, and/or the leakage and/or weeping, including:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was

- directed;
- iii) the nature and content of the communication;
- iv) identify all persons and/or entities present during the communication.
- g) indicate whether the Omega that leaked or wept was equipped or fitted with a "helper spring;"
- h) indicate whether the "o" ring of the Omega that leaked or wept was examined for swelling and/or adhesion. If so:
 - i) indicate whether swelling and/or adhesion was present;
 - ii) indicate on what basis and by what criteria it was determined whether the "o" ring was swollen and/or adhered;
 - iii) identify all persons and/or entities involved in determining whether the "o" ring was swollen and/or adhered;
- i) explain why the Omega leaked and/or wept.

INTERROGATORY NO. 41

Indicate whether you are aware or have ever been notified of an Omega sprinkler that activated unnecessarily or prematurely (either without or before being exposed to its activation/triggering temperature) when tested or in a fire? If so:

- a) identify the Omega;
- b) indicate when, how, and from whom you received notification or became aware of the unnecessary or premature activation;
- c) describe and explain the circumstances of the unnecessary and/or premature activation; including when and where the activation took place. If during

testing:

- i) describe the tests and provide a detailed protocol;
 - ii) identify the persons and entities involved in setting up and/or conducting the tests;
 - iii) describe and explain the results of the tests, including all observations and conclusions (and including at what temperature and pressure the sprinkler activated);
 - iv) identify the persons and entities involved in evaluating the test results.
- d) indicate whether you or anyone else of which you are aware tested and/or examined the Omega (after it activated prematurely and/or unnecessarily), and/or any other sprinkler from the same site. If so:
- i) identify the sprinkler;
 - ii) describe the tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting the tests and/or examinations;
 - iv) describe and explain the results of the tests and/or examinations, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results.
- e) describe and explain your response to the notification;
- f) identify and describe all communications regarding or relating in any way to the notification, the sprinkler, the testing, and/or the premature and/or

unnecessary activation, including:

- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- g) indicate whether the Omega that activated prematurely and/or unnecessarily was equipped or fitted with a "helper spring;"
- h) indicate whether the "o" ring of the Omega that activated prematurely and/or unnecessarily was examined for swelling and/or adhesion. If so:
- i) indicate whether swelling and/or adhesion was or was not present;
 - ii) indicate on what basis and by what criteria it was determined whether the "o" ring was swollen and/or adhered;
 - ii) identify all persons and/or entities involved in determining whether the "o" ring was swollen and/or adhered;
- i) explain why the Omega activated prematurely and/or unnecessarily.

INTERROGATORY NO. 42

Do you contend that dezincification may cause an Omega to:

- a) leak and/or weep;
- b) activate prematurely and/or unnecessarily;
- c) fail to activate at 7 psig or below in testing (when the Omega is exposed to its activation/triggering temperature); and/or

- d) fail to activate in field testing (when the Omega is exposed to its activation/triggering temperature); and/or
- e) fail to activate in a fire (when the Omega is exposed to its activation/triggering temperature). If so:
 - i) explain the basis for your contention;
 - ii) identify the Omegas in which dezincification causes or may cause (a), (b), (c), and/or (d), above;
 - iii) identify the systems in which dezincification causes or may cause (a), (b), (c) and/or (d), above;
 - iv) describe the circumstances under which dezincification causes or may cause (a), (b), (c) and/or (d), above.

INTERROGATORY NO. 43

Have you or anyone of whom you are aware ever determined or alleged that an Omega with a plunger housing made of an alloy other than CDA 35330, from a plastic or copper piping system, exhibits dezincification? If so:

- a) identify the Omega;
- b) identify the person and/or entity that made the determination or allegation;
- c) indicate the date on which the determination or allegation was made;
- d) describe the methods and criteria used to determine and confirm the existence of dezincification;
- e) identify the person and/or entity (including your employees or consultants) who notified you of the alleged dezincification;

- f) indicate how and when you were notified of the alleged dezincification;
- g) detail your response to the notification or awareness;
- h) did you or anyone else of whom you are aware test and/or examine the Omega, the system in which it was installed and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- i) identify and describe all communications regarding or relating in any way to the Omega, the alleged dezincification, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

- j) With respect to each such Omega, indicate whether you contend that the dezincification caused the Omega to:
- i) leak and/or weep;
 - ii) prematurely and/or unnecessarily activate;
 - iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature);
 - iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
 - v) fail to activate in a fire (when exposed to its activation/triggering temperature).

If so, explain fully the basis for your contention.

INTERROGATORY NO. 44

Have you or anyone of whom you are aware ever determined or alleged that an Omega with a plunger housing made of CDA 35330 alloy, from a plastic or copper piping system, exhibits dezincification? If so:

- a) identify the Omega;
- b) identify the person and/or entity that made the determination or allegation;
- c) indicate the date on which the determination or allegation was made;
- d) describe the methods and criteria used to determine and confirm the existence of dezincification;
- e) identify the person and/or entity (including your employees or consultants) who notified you of the alleged dezincification;

- f) indicate how and when you were notified of the alleged dezincification;
- g) detail your response to the notification or awareness;
- h) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- i) identify and describe all communications regarding or relating in any way to the Omega, the alleged dezincification, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- j) With respect to each such Omega, indicate whether you or anyone else of

whom you are aware contend that the dezincification caused the Omega to:

- i) leak and/or weep;
- ii) prematurely and/or unnecessarily activate;
- iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature;
- iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
- v) fail to activate in a fire (when exposed to its activation/triggering temperature).

If so, explain fully the basis for your contention or, if not your contention, identify the person and/or entity who so contended, and explain your understanding of the basis for their contention.

INTERROGATORY NO. 45

Have you or anyone of whom you are aware ever determined or alleged that an Omega from a piping system that is neither copper or plastic exhibits dezincification? If so:

- a) identify the Omega;
- b) identify the person and/or entity that made the determination or allegation;
- c) indicate the date on which the determination or allegation was made;
- d) describe the methods and criteria used to determine and confirm the existence of dezincification;
- e) identify the person and/or entity (including your employees or consultants) who notified you of the alleged dezincification;

- f) indicate how and when you were notified of the alleged dezincification;
- g) detail your response to the notification or awareness;
- h) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- i) identify and describe all communications regarding or relating in any way to the Omega, the alleged dezincification, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 46

Are you aware or have you ever been notified of an Omega sprinkler from a copper or plastic piping system that did not exhibit dezincification, and that when exposed to temperatures at and/or in excess of its activation/triggering temperature, did not activate (1) at a pressure at or below 7 psig in testing; and/or (2) in a field test; and/or (3) in a fire? If so:

- a) identify the Omega;
- b) describe the circumstances under which the Omega did not activate;
- c) indicate at what pressure, if any, the Omega activated (or if it failed to activate altogether, indicate the highest pressure to which the Omega was subjected);
- d) identify the person and/or entity (including your employees and/or consultants) who notified you of the Omega and/or its nonactivation under the circumstances above;
- e) indicate how and when you became aware or received notification of the nonactivation under the circumstances described above;
- f) indicate on what basis and by what criteria it was determined whether dezincification was present;
- g) detail your response to the notification or awareness;
- h) indicate whether you or anyone else of whom you are aware examined and/or tested the affected sprinkler and/or other sprinklers from that site. If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;

- iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
- iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
- v) identify the persons and entities involved in evaluating the test results;
- i) identify and describe all communications regarding or relating in any way to the Omega and/or its nonactivation, and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- j) explain in full detail why the Omega did not activate.

INTERROGATORY NO. 47

Do you allege that any change in the manufacturing process and/or component parts, including any tools, substances or chemicals used in the manufacturing process, renders the Omegas manufactured after a certain date unsusceptible to dezincification? If so:

- a) describe the alleged change, and indicate which Omega makes and models were changed;
- b) indicate the date on which the change was effected;
- c) identify all persons and/or entities involved in effecting the change, describing

- each such person's role in effecting the change;
- d) indicate whether you or anyone else of whom you are aware has tested and/or examined an Omega manufactured after the change to determine whether it exhibits dezincification? If so:
- i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- e) identify and describe all communications regarding or relating in any way to the change and/or tests and/or examinations relating thereto, indicating:
- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 48

Do you contend that the use of stop leak or other sealant, leakage prevention substance

or pipe cement by sprinkler installers/contractors, plumbers and/or others directly involved in installation and/or maintenance of sprinkler systems may cause an Omega to:

- a) leak and/or weep;
- b) activate prematurely and/or unnecessarily;
- c) fail to activate at 7 psig or below in testing (when the Omega is exposed to its activation/triggering temperature); and/or
- d) fail to activate in field testing (when the Omega is exposed to its activation/triggering temperature); and/or
- e) fail to activate in a fire (when the Omega is exposed to its activation/triggering temperature). If so:
 - i) explain the basis for your contention;
 - ii) identify the Omegas in which the use of stop leak or other sealant, leakage prevention substance or pipe cement causes or may cause (a), (b), (c), and/or (d), above;
 - iii) identify the systems in which the use of stop leak or other sealant, leakage prevention substance or pipe cement causes or may cause (a), (b), (c) and/or (d), above;
 - iv) identify the substances you contend are used;
 - v) describe the circumstances under which the use of stop leak or other sealant, leakage prevention substance or pipe cement causes or may cause (a), (b), (c) and/or (d), above.

INTERROGATORY NO. 49

Have you or anyone of whom you are aware ever determined or alleged that an Omega sprinkler was exposed to stop leak or any other sealant, leakage prevention substance or pipe cement? If so:

- a) identify the Omega;
- b) identify the substance to which the Omega was allegedly exposed, including the manufacturer, chemical name, brand name, and chemical composition;
- c) identify the person and/or entity that made the determination or allegation;
- d) indicate the date on which the determination or allegation was made;
- e) describe the methods and criteria used to determine and confirm the existence of the stop leak or the other sealant, leakage prevention substance or pipe cement;
- f) identify the person and/or entity (including your employees or consultants) who notified you of the alleged exposure to stop leak or any other sealant, leakage prevention substance or pipe cement;
- g) indicate how and when you were notified of the alleged exposure to stop leak or any other sealant, leakage prevention substance or pipe cement;
- h) detail your response to the notification or awareness;
- i) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;

- iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- j) identify and describe all communications regarding or relating in any way to the Omega, the alleged exposure to stop leak or any other sealant, leakage prevention substance or pipe cement, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.
- k) With respect to each such Omega, indicate whether you contend that the exposure to stop leak or any other sealant, leakage prevention substance or pipe cement caused the Omega to:
- i) leak and/or weep;
 - ii) prematurely and/or unnecessarily activate;
 - iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature;

- iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
- v) fail to activate in a fire (when exposed to its activation/triggering temperature);

If so, explain fully the basis for your contention.

INTERROGATORY NO. 50

Are you aware or have you ever been notified of an Omega sprinkler that was not exposed to stop leak or any other sealant, leakage prevention substance or pipe cement, and that when exposed to temperatures at and/or in excess of its activation/triggering temperature, did not activate (1) at a pressure at or below 7 psig in testing; and/or (2) in a field test; and/or (3) in a fire? If so:

- a) identify the Omega;
- b) describe the circumstances under which the Omega did not activate;
- c) indicate at what pressure, if any, the Omega activated (or if it failed to activate altogether, indicate the highest pressure to which the Omega was subjected);
- d) identify the person and/or entity (including your employees and/or consultants) who notified you of the Omega and/or its nonactivation under the circumstances above;
- e) indicate how and when you became aware or received notification of the nonactivation under the circumstances described above;
- f) indicate on what basis and by what criteria it was determined whether stop leak or any other sealant, leakage prevention substance or pipe cement was present;

- g) detail your response to the notification or awareness;
- h) indicate whether you or anyone else of whom you are aware examined and/or tested the affected sprinkler and/or other sprinklers from that site. If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test results;
- i) identify and describe all communications regarding or relating in any way to the Omega and/or its nonactivation, and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication;
- j) explain in full detail why the Omega did not activate.

INTERROGATORY NO. 51

Do you allege that any change in the manufacturing process and/or component parts,

including any tools, substances or chemicals used in the manufacturing process, renders the Omegas manufactured after a certain date unsusceptible to the effects that you allege in your response to Interrogatory No. 48 are caused or may be caused by the use of stop leak or any other sealant, leakage prevention substance or pipe cement? If so, for each such substance (stop leak or any other sealant, leakage prevention substance or pipe cement):

- a) identify the substance;
- b) describe the alleged change, and identify the Omega makes and models to which the change applies;
- c) indicate the date on which the change was effected;
- d) identify all persons and/or entities involved in effecting the change, describing each such person's role in effecting the change;
- e) indicate whether you or anyone else of whom you are aware has tested and/or examined an Omega manufactured after the change to determine whether it exhibits the effects that you allege in your response to Interrogatory No. 48 are caused or may be caused by the use of stop leak or any other sealant, leakage prevention substance or pipe cement? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test or examination;
 - iv) describe and explain the results of each test and/or examination,

- including all observations and conclusions;
- v) identify the persons and entities involved in evaluating the test and/or examination results;
 - e) identify and describe all communications regarding or relating in any way to the change and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 52

Do you contend that the use of cutting oil or other substances used by sprinkler installers/contractors, plumbers and/or others directly involved in installation and/or maintenance of sprinkler systems to cut pipe may cause an Omega to:

- a) leak and/or weep;
- b) activate prematurely and/or unnecessarily;
- c) fail to activate at 7 psig or below in testing (when the Omega is exposed to its activation/triggering temperature); and/or
- d) fail to activate in field testing (when the Omega is exposed to its activation/triggering temperature); and/or
- e) fail to activate in a fire (when the Omega is exposed to its activation/triggering temperature). If so:

- i) explain the basis for your contention;
- ii) identify the Omegas in which the use of cutting oils or other substances used to cut pipe causes or may cause (a), (b), (c), and/or (d), above;
- iii) identify the systems in which the use of cutting oils or other substances used to cut pipe causes or may cause (a), (b), (c) and/or (d), above;
- iv) identify the substances you contend are used;
- v) describe the circumstances under which the use of cutting oils or other substances used to cut pipe causes or may cause (a), (b), (c) and/or (d), above.

INTERROGATORY NO. 53

Have you or anyone of whom you are aware ever determined or alleged that an Omega sprinkler was exposed to cutting oils or other substances used to cut pipe? If so:

- a) identify the Omega;
- b) identify the substance to which the Omega was allegedly exposed, including the manufacturer, chemical name, brand name, and chemical composition;
- c) identify the person and/or entity that made the determination or allegation;
- d) indicate the date on which the determination or allegation was made;
- e) describe the methods and criteria used to determine and confirm the existence of the cutting oil or other substance used to cut pipe;
- f) identify the person and/or entity (including your employees or consultants) who notified you of the alleged exposure to cutting oil or other substance to cut pipe;

- g) indicate how and when you were notified of the alleged exposure to cutting oil or other substance to cut pipe;
- h) detail your response to the notification or awareness;
- i) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- j) identify and describe all communications regarding or relating in any way to the Omega, the alleged exposure to cutting oil or other substance to cut pipe, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;

- iv) identify all persons and/or entities present during the communication;
- k) With respect to each such Omega, indicate whether you contend that the exposure to cutting oil or other substance to cut pipe caused the Omega to:
 - i) leak and/or weep;
 - ii) prematurely and/or unnecessarily activate;
 - iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature);
 - iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
 - v) fail to activate in a fire (when exposed to its activation/triggering temperature).

If so, explain fully the basis for your contention.

INTERROGATORY NO. 54

Are you aware or have you ever been notified of an Omega sprinkler that was not exposed to cutting oil or other substance used to cut pipe, and that when exposed to temperatures at and/or in excess of its activation/triggering temperature, did not activate (1) at a pressure at or below 7 psig in testing; and/or (2) in a field test; and/or (3) in a fire? If so:

- a) identify the Omega;
- b) describe the circumstances under which the Omega did not activate;
- c) indicate at what pressure, if any, the Omega activated (or if it failed to activate altogether, indicate the highest pressure to which the Omega was subjected);
- d) identify the person and/or entity (including your employees and/or consultants)

who notified you of the Omega and/or its nonactivation under the circumstances above;

- e) indicate how and when you became aware or received notification of the nonactivation under the circumstances described above;
- f) indicate on what basis and by what criteria it was determined whether cutting oil or other substance to cut pipe was present;
- g) detail your response to the notification or awareness;
- h) indicate whether you or anyone else of whom you are aware examined and/or tested the affected sprinkler and/or other sprinklers from that site. If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test results;
- i) identify and describe all communications regarding or relating in any way to the Omega and/or its nonactivation, and/or tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was

directed;

- iii) the nature and content of the communication;
- iv) identify all persons and/or entities present during the communication;
- j) explain in full detail why the Omega did not activate.

INTERROGATORY NO. 55

Do you allege that any change in the manufacturing process and/or component parts, including any tools, substances or chemicals used in the manufacturing process, renders the Omegas manufactured after a certain date unsusceptible to the effects that you allege in your response to Interrogatory No. 52 are caused or may be caused by the use of cutting oil or other substance used to cut pipe? If so, for each such substance (cutting oil or other substance used to cut pipe):

- a) identify the substance;
- b) describe the alleged change, and identify the Omega makes and models to which the change applies;
- c) indicate the date on which the change was effected;
- d) identify all persons and/or entities involved in effecting the change, describing each such person's role in effecting the change;
- e) indicate whether you or anyone else of whom you are aware has tested and/or examined an Omega manufactured after the change to determine whether it exhibits the effects that you allege in your response to Interrogatory No. 52 are caused or may be caused by the use of cutting oil or other substance used to cut pipe? If so:

- i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- f) identify and describe all communications regarding or relating in any way to the change and/or tests and/or examinations relating thereto, indicating:
- i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication.

INTERROGATORY NO. 56

Do you contend that swelling of the "o" ring in an Omega sprinkler may cause the Omega to:

- a) leak and/or weep;
- b) activate prematurely and/or unnecessarily;
- c) fail to activate at 7 psig or below in testing (when the Omega is exposed to its

- activation/triggering temperature); and/or
- d) fail to activate in field testing (when the Omega is exposed to its activation/triggering temperature); and/or
- e) fail to activate in a fire (when the Omega is exposed to its activation/triggering temperature). If so:
- i) explain the basis for your contention;
 - ii) identify the Omegas in which "o" ring swelling causes or may cause (a), (b), (c), and/or (d), above, indicating what type of "o" ring (EPDM, silicone, or other) is used in that Omega;
 - iii) identify the systems in which "o" ring swelling causes or may cause (a), (b), (c) and/or (d), above;
 - iv) describe the circumstances under which "o" ring swelling causes or may cause (a), (b), (c) and/or (d), above.

INTERROGATORY NO. 57

Have you or anyone of whom you are aware ever determined or alleged that an Omega containing an EPDM "o" ring, from a steel piping system, exhibits "o" ring swelling?

If so:

- a) identify the Omega;
- b) identify the person and/or entity that made the determination or allegation;
- c) indicate the date on which the determination or allegation was made;
- d) describe the methods and criteria used to determine and confirm the existence of "o" ring swelling;

- e) identify the person and/or entity (including your employees or consultants) who notified you of the alleged "o" ring swelling;
- f) indicate how and when you were notified of the alleged "o" ring swelling;
- g) detail your response to the notification or awareness;
- h) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- i) identify and describe all communications regarding or relating in any way to the Omega, the alleged "o" ring swelling, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;

- iv) identify all persons and/or entities present during the communication;
- j) With respect to each such Omega, indicate whether you contend that the "o" ring swelling caused the Omega to:
 - i) leak and/or weep;
 - ii) prematurely and/or unnecessarily activate;
 - iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature);
 - iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
 - v) fail to activate in a fire (when exposed to its activation/triggering temperature).

If so, explain fully the basis for your contention.

INTERROGATORY NO. 58

Have you or anyone of whom you are aware ever determined or alleged that an Omega containing a silicone "o" ring, from a steel piping system, exhibits "o" ring swelling?

If so:

- a) identify the Omega;
- b) identify the person and/or entity that made the determination or allegation;
- c) indicate the date on which the determination or allegation was made;
- d) describe the methods and criteria used to determine and confirm the existence of "o" ring swelling;
- e) identify the person and/or entity (including your employees or consultants) who

- notified you of the alleged "o" ring swelling;
- f) indicate how and when you were notified of the alleged "o" ring swelling;
 - g) detail your response to the notification or awareness;
 - h) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
 - i) identify and describe all communications regarding or relating in any way to the Omega, the alleged "o" ring swelling, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;
 - iii) the nature and content of the communication;
 - iv) identify all persons and/or entities present during the communication;

- j) With respect to each such Omega, indicate whether you or anyone else of whom you are aware contend that the "o" ring swelling caused the Omega to:
- i) leak and/or weep;
 - ii) prematurely and/or unnecessarily activate;
 - iii) fail to activate at 7 psig or below in testing (when exposed to its activation/triggering temperature);
 - iv) fail to activate in field testing (when exposed to its activation/triggering temperature);
 - v) fail to activate in a fire (when exposed to its activation/triggering temperature).

If so, explain fully the basis for your contention or, if not your contention, identify the person and/or entity who so contends, and explain your understanding of their basis for that contention.

INTERROGATORY NO. 59

Have you or anyone of whom you are aware ever determined or alleged that an Omega from a piping system that is not steel exhibits "o" ring swelling? If so:

- a) identify the Omega;
- b) indicate what type of "o" ring the Omega contained (EPDM, silicone, or other type of "o" ring);
- c) identify the person and/or entity that made the determination or allegation;
- d) indicate the date on which the determination or allegation was made;
- e) describe the methods and criteria used to determine and confirm the existence

of "o" ring swelling;

- f) identify the person and/or entity (including your employees or consultants) who notified you of the alleged "o" ring swelling;
- g) indicate how and when you were notified of the alleged "o" ring swelling;
- h) detail your response to the notification or awareness;
- i) did you or anyone else of whom you are aware test and/or examine the Omega and/or any other sprinkler from the same site? If so:
 - i) identify the Omega;
 - ii) describe all such tests and/or examinations, and provide a detailed protocol;
 - iii) identify the persons and entities involved in setting up and/or conducting each test and/or examination;
 - iv) describe and explain the results of each test and/or examination, including all observations and conclusions;
 - v) identify the persons and entities involved in evaluating the test and/or examination results;
- j) identify and describe all communications regarding or relating in any way to the Omega, the alleged "o" ring swelling, the examination and/or conclusion, and any tests and/or examinations relating thereto, indicating:
 - i) the date on which the communication took place;
 - ii) the persons and/or entities to and from whom the communication was directed;