

Occupational Safety & Health Administration
United States Department of Labor
Room 208, Federal Building
Tyler, Texas 75702

Attention: Mr. C. R. Holder
Area Director

Re: Petition for Modification of Abatement Date
Your CSHO No. _____

Gentlemen:

We have completed our extensive preliminary engineering studies of the cited areas as shown in the citation indicated above. As a result of these studies, we request that the final abatement date for Serious Citation No. _____, Items _____, issued _____, be extended to April 1, 1985, as further detailed on our Compliance Time Schedule.

We have included in this Compliance Time Schedule a description which fully outlines the various phases of our program which are necessary for the development and implementation of systems to correct the cited violations at our North Plant. The time periods shown on the time schedule are, based on our studies and our past experience, the shortest possible necessary for the development, engineering, procurement, and installation of the necessary equipment and systems for a program of this type and size.

The accompanying plot plan shows the various areas of the North Plant including the two specifically cited operations. The Compliance Schedule Description outlines our plan to eliminate all air contaminant problems in the entire North Plant. We have found that it will be necessary to attack the problem in this manner since the nature of the centrifugal cast and permanent molding processes generates fugitive emissions in certain areas which are contributing to the exposure levels at the two citation points.

As you are already aware, this is a centrifugal cast pipe facility utilizing permanent molds and techniques not normally encountered in the general foundry industry.



For this reason it will be necessary for us to continue our testing and evaluation program which will include the development of experimental measures and prototype programs. It has long been a sound engineering practice to develop such prototypes and to evaluate their effect not only on the specific area in question but also the overall ambient conditions in the foundry.

In addition, Tyler Pipe has already installed an extensive dust and fume control system in our effort to provide air contaminant control throughout our facility. These control measures are being continually monitored to insure that they meet the design specifications. In addition to our dust and fume control systems, we are in the midst of an ongoing experimental program to attempt to reduce the percentage of free silica contained in our permanent mold machine mold spray. Our experimental program is designed to attempt to find a material which will reduce the percentage of silica in the mold spray and be compatible with the actual molding process. This requires not only the production of acceptable castings but also sufficient insulating quality in the material to prevent excessive wear of the permanent molds. To date, our work has included the use of non-silica sands (Olivine) blended with silica in our slurry mix. So far, we have been able to reduce the silica concentration by 25 percent; however, we have run into significant product and insulation difficulties. Nevertheless, we are continuing our experimentation with Olivine and other similar materials.

Additionally, we are currently involved in a program to evaluate the use of certain non-foundry materials and additives which have the potential of significantly reducing, or possibly eliminating, the silica in the mold spray. Unlike Olivine sand, these materials are not presently being utilized in the foundry industry and will therefore require extensive testing and evaluation before they can be used on a production basis.

We have also included in our plan description a brief explanation of the various steps of the Compliance Time Schedule and the actitivies they include.

We also require your assistance in the handling of this material and information submitted as well as any data in our future progress reports since some of the material

is of a proprietary nature. We request that you keep this information confidential, and if you require a statement with regard to trade secrets we will be happy to provide one for you. This will be particularly important in regard to the present proprietary pipe machinery in the foundry as well as our experimental development programs in the use of non-silica materials as mold sprays. Some of this work could be revolutionary in improving the environment within the foundry industry and we may wish to patent these developments at a later date.

All necessary interim steps have been taken and will continue to be taken to safeguard employees against excessive exposure to air contaminants. The personal protection equipment program will continue to be in effect until the abatement plan has been completed. At that time we will submit to your office the results of our final employee testing pro...

If you should have any further questions pertaining to this petition, please do not hesitate to contact us.

Respectfully yours,

TYLER PIPE

Enclosure

COMPLIANCE SCHEDULE DESCRIPTION

NORTH PLANT ENVIRONMENTAL PROGRAM

230 Sand Cast Machine

The 230 Sand Cast Machine is a green sand pipe molding machine utilizing a high speed centrifugal slinger to accelerate the green molding sand into a mold around the pattern. Our testing program has indicated that the dust levels in this area are generated not only by the slinger operation itself but by the associated sand conveying system and the fugitive dust generated by surrounding permanent mold sand lines.

Our program for compliance includes the reduction, or possible elimination, of the fugitive sand created by spill contamination from the existing overhead sand feed system including the overhead sand conveyor and rotary fe table. This will be done through the use of belt cleaners and enclosures around the feed conveyors and rotary feeder with its associated sand bin. In addition, additional baffles will be installed in the operator's area to reduce the possibility of compressed air carrying contaminants into the breathing zone of the operator.

As discussed below, the general ventilation system of the entire North Plant is being reevaluated. As part of this program, we will redesign the existing forced make-up air system currently in place for the operator. Evaluation of the present system indicates that the velocities for winter time operation are too high, and the direction of air flow does not provide for maximum benefits of this type of "push-pull" ventilation.

Our program for the 230 Sand Cast Machine Area also includes a thorough review of the fugitive contaminants from associated permanent mold assembly areas including the adjacent large diameter and Akers pipe machines. A significant portion of our work here will be, as described in the cover letter, concentrated on reducing the concentration of silica in the actual mold spray utilized in the process. Further work will also be done on the 230 Pipe Line including an evaluation of the amount of dust generated by the reaming and brushing stations. If it is found that these stations are contributing to the ambient levels in the area, the reamers and brushes will be enclosed and ventilated if

necessary. We will also experiment with a number of work practices including the blowing out of the mold just prior to pouring to determine if this operation could be completely eliminated or further enclosed and exhausted.

456 Sand Cast Machine

The operation of the 456 Sand Cast Machine is very similar in general practice to the 230 installation described above. We therefore intend to implement all of the corrective steps described above as well as additional steps to isolate this line from the existing 10 Foot Large Diameter Pipe Process Line.

These additional measures will include the isolation of the pipe blow-out, reaming, and grinding cross-contamination from the 10 Foot Large Diameter Line. Further testing will be required to establish the degree of ambient contamination into the 456 Area which will allow us to develop a specific program for barriers, enclosures, or exhaust if required to reduce or eliminate this cross-contamination.

General Ventilation

As mentioned above, our program includes a complete reevaluation of the general ventilation program in the North Plant. Presently, there are actually two ventilation systems for the facility. The first system was designed for general ventilation to provide control of all air contaminants. The second system is primarily used during the summer months to provide for man cooling in the high temperatures normally encountered in a permanent mold operation in this climate. Initial studies have shown that in some cases the two ventilation systems operating simultaneously are actually counter productive and can cause cross-contamination at certain work stations. It is our intention to thoroughly study the entire ventilation system and establish a program to insure that cross-contamination does not result from either the general ventilation or man cooling system.

We will also be reviewing the existing roof monitor system and power roof exhausters to insure that with the multiple roof profiles existing at our Tyler facility, we are not cross-contaminating existing make-up air systems with

exhaust fr other systems. Experimentation has shown that in light of the required use of silica, this potential cross-contamination can be critical to the design of a successful environmental program.

ENVIRONMENTAL SCHEDULE
BREAKDOWN

Process Experimentation

This area is a continuation of our program to eliminate or reduce the concentration of silica in the mold spray. It will also include other "process" or manufacturing modifications including possible elimination of the blow-out of the mold just prior to pouring.

Experimental Engineering

In this phase we will develop and install experimental and/or prototype systems to evaluate their effectiveness and compatability with the manufacturing process. New concepts or approaches will be "proven" on an experimental basis prior to actual implementation.

Design Engineering

After the testing and acceptance of various systems they will be detailed and designed into the foundry process.

Equipment Sepcifications & Bid Request Preparation

Once engineering studies and recommendations have been approved, we will prepare specifications for the request of bids from the suppliers of the necessary equipment as well as erection quotations with time limitations, guarantees, etc., as required for our client. These specifications will also contain a clause whereby we will encourage all bidders to suggest or recommend any improvements in our specification of equipment which in their belief would assist us in further eliminating our dust problem.

Bid Evaluation

Upon the receipt of the various quotations from the manufacturers who have been invited to bid on these jobs, we will then proceed to evaluate and investigate, where possible, the ability of each of these manufacturers to supply equipment as designed and also to eventually perform as intended.

Purchasing

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Purchase orders will be issued to the successful bidders after a meeting with the successful potential supplier in order to be sure that all statements, specifications, etc., are clearly understood and will be lived up to.

Vendor Drawing Approval & Equipment Delivery

As soon as purchase orders have been issued with the successful bidders, we will start requesting and receiving approved certified drawings for final installation. After which suppliers can proceed with the actual manufacturer and delivery of equipment. This is important as it is the final check that we have on the engineering, design, and equipment which we are to receive and place into use prior to its actual manufacture and shipment to the jobsite.

Equipment Installation & Start-Up

After receiving the necessary machinery and equipment, actual installation will begin through the use of outside contractors or customer facilities to coordinate all phases of this operation toward a successful start-up of the new system. This type and size of installation is very difficult to coordinate and execute since most of this work will have to be done while the plant is still in operation. This, of course, is necessary in order to maintain a continued flow of produce through the plant as well as continue to offer full-time employment to the operators.

Final Testing & Evaluations

After installation has been completed, a final testing and evaluation program will be put into motion to ascertain that this equipment is functioning as designed and as specified and is meeting all requirements and operating at full potential.