



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FIRST INTERNATIONAL BUILDING
1201 ELM STREET
DALLAS, TEXAS 75270

MAR 09 1977

Mr. R. T. Ferrell
Plant Manager
Conoco Chemicals
P. O. Box 15360
Oklahoma City, Oklahoma 73115

Date Received 3/14
R.T.F. _____
C.W.H. _____
G.V.S. _____
J.J.M. _____
C.H.P. _____
W.V.H. _____
W.F.R. _____
J.W.W. _____

File SPR

VCM Standard

Dear Mr. Ferrell:

This is in response to your submittals of December 8 and 13, 1976, requesting various waivers of compliance and equivalency determinations. This letter will render the determinations requested, and will address certain other portions of the waiver request which we feel merit our comment.

This letter is not to be interpreted as an approval or disapproval of any of your waiver of compliance requests. We are merely responding to several equipment equivalencies, and are commenting informally on our intention to approve or deny, various compliance schedules. We will issue your waiver of compliance upon receipt of the information requested in the attachment to this letter. We are also requesting your comments to the various items discussed.

We wish to make a general comment concerning your waiver requests. As submitted, your requests are very general in nature, and we have attempted to separate them into several, more specific requests. The enclosure should somewhat clarify our method of evaluating your requests. If we have misinterpreted your waiver application, and have not properly represented your requests, please let us know. Otherwise, your response and comments to the attached should suffice for additional review of your waiver.

Please submit this information as soon as possible so we may further process your waiver request. Should you have any questions concerning this you may contact Mr. Gary Bernath or Mr. Martin Brittain of my staff by telephone at (214) 749-7675.

Sincerely,

for O.W. Lively

Howard G. Bergman
Director
Enforcement Division

Enclosure

Items Relating to the Batch Suspension PVC Plant

I. Equivalency Determinations

A. Equivalency request relating to reactor opening loss
Re: Sections 61.64(a)(2) and 61.64(e)(1)(ii)

You have requested that your proposal be considered an equivalent method to determine the compliance status of the reactor opening loss. This is to inform you that your equivalency proposal is denied for the following reasons:

1. It is the intent of the standard that once a resin has been stripped to the required levels that additional controls are not required. Under this provision, VCM escaping from the resin after it has been stripped to acceptable levels is not counted as part of the reactor opening loss.
2. The proposal of combining the two standards cannot be acceptable because the emission limits of each standard have been prescribed to control emissions of VCM from two different phases or mediums, one being for VCM emissions to atmosphere from the solid PVC resin, and the other being VCM emissions contained in the gaseous exhausts or vents associated with reactor opening losses.

However, in conjunction with the above denial, we would like to propose an alternative which we would be able to approve. Our proposal is as follows:

1. By the proposed procedure, demonstrate compliance with Section 61.64(e)(1)(ii) for residual VCM content of stripped resin slurry (400 ppm).
2. To demonstrate compliance with Section 61.64(a)(2), separately for "reactor opening loss", it will be allowable and acceptable by the proposed procedure to combine the standard requirement for reactor opening loss and residual VCM after stripping and show compliance by adding the total residual VCM in the slurry to the total left in the reactor, and compare that total with 420 pounds of VCM per million pounds of resin produced.

B. Equivalency request relating to tandem seals on rotating pumps
Re: Section 61.64(b)(3)(i)

You have requested an equivalency for tandem seals to double mechanical seals. Your request is denied for the following reasons:

1. The intent of applicable VCM standard is to reduce all fugitive VCM emissions as a whole, and specifically regarding rotating pumps, this means reducing the frequency of periodic maintenance, as well as providing double prevention of seal leakage.

2. Double mechanical seals can be used where abrasive solids are present, they have negligible leakage over a long service life, and they provide freedom from periodic maintenance. They have been required over the conventional seals to provide the greatest reduction of fugitive emissions of VC.
3. The proposed water flushed tandem seals are not considered equivalent to sealless pumps or double mechanical seals because they do not provide the greater overall reduction of fugitive emissions by reducing frequency of periodic maintenance.

C. Equivalency request relating to tandem seals for rotating compressors
Re: Section 61.65(b)(3)(iii)

You have requested to use the tandem seal system on your rotating compressors as an equivalent to a double mechanical seal system. Your request is denied for the first two reasons stated in the previous section. Additionally, the proposed water flushed tandem seals are not considered equivalent to double mechanical seals because they do not provide the greater overall reduction of fugitive emissions by reducing the frequency of periodic maintenance.

D. Equivalency request for seals on reciprocating compressors
Re: Section 61.65(b)(3)(iv)

This is to inform you that double mechanical seals are not required for reciprocating compressors. Instead, they must be equipped with double outboard seals, or their equivalent. The standard further requires that if double outboard seals are used, VC emissions from seals are to be minimized by:

1. Maintaining pressure between two seals so that any leak that occurs is into the compressor, or
2. Ducting any VC between seals through a control system from which the concentration of VC in the exhaust gases does not exceed 10 ppm (or an equivalent there to).

E. Equivalency request relating to the standard operating procedure
Re: Section 61.65(c)

You have requested an alternative to the standard operating procedure which requires the use of Test Method 106, a portable hydrocarbon detector, or an equivalent or alternative method.

Your request has been evaluated, and we have determined that the concept of using water displacement is an acceptable procedure under certain conditions. In your case, considering that we are discussing reactors, it is required that you demonstrate the correlation for each given resin grade, with the measurement methods prescribed by Section 61.67(g)(5)(i) A or B, such that compliance is demonstrated separately for each resin grade.

For this reason, even though we find the concept acceptable, we cannot approve your particular utilization of the concept until you submit adequate demonstration information, e.g. calculations, which correlate the procedure parameters to Section 61.65(c), and which demonstrates compliance for each given resin grade.

F. Equivalency request relating to Test Methods 106 and 107
Re: Sections 61.67(g)(3) and (g)(5)

You have requested an equivalency for the operating records at the batch stripping operation for each batch to Test Methods 106 and 107.

We have determined that your proposed equivalency is acceptable on the following basis. For both reactor opening and improved stripping, it is possible that the relationship between the emissions measured, and the corresponding operating procedure used to attain the emissions measured, can be established.

For example, regarding improved stripping, it may be established that for a given resin grade (each grade of resin would have to be done separately), a given set of operating conditions (temperature, residence time, and pressure) will result in a certain concentration of VCM in the resin which is below the standard that is applicable.

Accordingly, we wish to inform you that the proposal discussed above can be approved as an alternative to Test Methods 106 and 107. However, we are not approving your proposal at this time, but are instead requiring that you respond to and comply with the following:

1. Submit adequate test data that correlates the operating parameters with compliance and demonstrates the required compliance for each given resin grade, and
2. Any testing done to obtain correlation data demonstrating compliance, must be observed by EPA personnel as part of the performance testing demonstration relating to Sections 61.64(a)(2), and 61.64(a)(1)(ii).

Upon satisfaction of these two requirements, we intend to approve your proposal to be an alternative to Test Methods 106 and 107.

II. Waiver Requests

A. Waiver request relating to PVC reactors Re: Section 61.64(a)(3)

Please enumerate and identify each effected PVC reactor, to be covered by waiver.

B. Waiver request relating to vents from the existing recovery system
Re: Section 61.64(d)

Please enumerate and identify each vent from both the existing and the new recovery system for which you are applying for a waiver of compliance from this section.

C. Waiver request relating to the slurry resin discharge
Re: Section 61.64(e)(1)(ii)

1. Please enumerate and identify each affected reactor to be covered by waiver.
2. Please submit the three increment of progress dates which were not included in your schedule (Increment number 1: Date by which equipment will be ordered; Increment number 2: Date of commencement of construction; Increment number 4: Date of final compliance).

D. Waiver request relating to manual reactor relief valves
Re: Section 61.65(a)

Please enumerate and identify each reactor relief valve to be covered by waiver.

E. Waiver request relating to compressor and pumps in VC service
Re: Section 61.65(b)(3)

General: We feel this one waiver request should be expanded to be three waiver requests: one for rotating pumps, one for rotating compressors, and one for reciprocating compressors. As such, each request will require a separate compliance schedule. The following comments are offered in anticipation of your requesting a separate waiver for each item as described above.

I. Rotating pumps

- a. Enumerate and identify each affected rotating pump in VC service, to be covered by waiver.
- b. Submit a compliance schedule, containing the required four increment of progress dates, to install double mechanical seals.

II. Rotating Compressors

- a. The previous denial to utilize the tandem seal system applies equally to rotating compressors. Please submit an appropriate compliance schedule to install double mechanical seals or equivalent.
- b. Enumerate and identify each affected rotating compressor in VC service to be covered by waiver.

III. Reciprocating compressors

- a. Please note that double mechanical seals are not required for reciprocating compressors, although you state that you are working to develop a suitable equivalent to the mechanical seals. Instead,

reciprocating compressors must be equipped with double outboard seals or their equivalent. For this reason, it will be necessary for you to submit another waiver request, complete with an appropriate compliance schedule, to install double outboard seals, or their equivalent, for your reciprocating compressors in VC service.

- b. Please enumerate and identify each affected reciprocating compressor in VC service to be covered by waiver.

- F. Waiver request relating to thermal relief valves
Re: Section 61.65(b)(4)

Please enumerate and identify each affected thermal relief valve to be covered by waiver.

- G. Waiver request relating to equipment in VC service
Re: Section 61.65(b)(5) and (b)(6)

Please enumerate and identify : 1) each affected manual vent on equipment in VC service, and 2) all affected equipment in VC service to be covered by waiver.

- H. Waiver request relating to wastewater discharge
Re: Section 61.65(b)(9)

Please enumerate and identify each wastewater discharge. This may be accomplished by submitting a flow diagram identifying all affected wastewater discharges to be covered by waiver.

- I. Waiver request relating to the venting of reactors
Re: Section 61.64(a)(1) and (a)(2)

As we understand your request, you are not applying for a waiver to Section 61.64(a)(1) since you state that there will be no exhaust gases discharged to the atmosphere from the reactor until paragraph 61.64(a)(2) has been complied with. As such your reaction vessel will be required to comply with Section 61.64(a)(1) except as provided in 61.64(a)(2).

Further, it appears that you are applying for a waiver from the requirements of Section 61.64(a)(2), since you have submitted a compliance schedule for our consideration. However, you have not explained precisely what you intend to do to achieve compliance with this Section of the regulations.

Please clarify as to whether the reactor opening loss is presently out of compliance with Section 61.64(a)(2), thereby necessitating a waiver of compliance. If it is, please explain your method to achieve compliance. This is the only way we can evaluate your compliance schedule. Also, enumerate and identify each affected reactor to be covered by waiver.