concerns are that the owners or operators might frequently change the determination of full charge and that EPA would lack the criteria to evaluate whether the changes were justified. The commenters suggested a way to address these concerns:

- Any downward revision of the full charge should be acceptable without a need for EPA to challenge it;
- EPA could specify that the midpoint of the established range constitutes the full charge for determining a leak rate;
- EPA could require the owners or operators to maintain records of the basis for their original determinations of the full charges and any data behind any changes to those determinations; and
- EPA could require the owners or operators to submit a report to EPA when a number is revised after discovering refrigerant losses, when a number is revised resulting in a leak rate below 35 percent, and when the owners or operators do not intend to fix the leaks.

Another commenter stated that if EPA does not revise the proposed regulations to permit this method for determining the full charge, the Agency should provide at least six months for the owners or operators to determine the full charge of affected appliances using acceptable methods.

EPA has considered these comments very carefully. EPA's concerns relate to the accuracy of the fourth method for determining the full charge of a system and the potential to adjust the estimate to reduce leak rates below the applicable thresholds. However, EPA believes that the commenters have suggested ways to alleviate EPA's concerns. EPA understands that while ranges may need to be adjusted several times for a new appliance, over time the frequency of such adjustments would likely decrease, unless substantial modifications were made to the appliance. Moreover, in most cases, ranges would not need to be adjusted more than once every few years after an appliance has been in operation long enough for the owner or operator to become comfortable with the range. Furthermore, EPA understands that a range may actually represent seasonal variations.

EPA agrees with the commenters that any downward revision of the full charge should be acceptable without any need for EPA to challenge the revision. EPA further agrees that the midpoint of the established range shall represent the full charge for determining a leak rate. This mitigates the possibility of receiving any unfair advantage by

adjusting the range, since the midpoint would not vary as much.

EPA agrees with the comments that records should be maintained concerning the determination of the range and any adjustments to it. If the owners or operators of an appliance choose to establish a range, it is critical to understand the methodology for the establishment of the range and the methodology for any adjustments that would result in a larger number for the midpoint. EPA believes that such records would be beneficial in any compliance determinations. Moreover, EPA believes that while ranges many need to be adjusted several times during the first year, the ranges will soon become stabilized. It will not be necessary to adjust the ranges unless a major change was made to the industrial process refrigeration equipment. Therefore, the records would not need to be modified often. Commenters suggested data elements to be contained in the records, including the original full charge and any revisions. EPA agrees with these commenters. Therefore, the records required for using the fourth option will include: the identification of the owner or operator of the appliance; the location of the appliance; the original full charge of the appliance and how it was determined; any revision of the full charge number and how it was determined; and the date such revisions occurred. Since the owner or operator need not use the fourth methodology, EPA does not believe this recordkeeping provision constitutes an unreasonable burden for the owners or operators.

While commenters suggested limited reporting requirements to accompany this recordkeeping provision, EPA does not believe it is necessary or appropriate to require reports to be submitted detailing the methodology for establishing or changing the full charge determination. EPA believes maintaining records is necessary for the Agency to understand the methodologies used if an issue of compliance arises. EPA also believes that in all likelihood, such records will benefit the owner or operator of the appliance by providing a historic record of how the current leak rate was developed. However, routinely providing that information to EPA, particularly where no potential violation is suspected, is not necessary or appropriate. Therefore, EPA will require that records be maintained if the fourth method for establishing the full charge is used; however, EPA will not require any periodic reporting.

Commenters stated that if the Agency adopts any recordkeeping or reporting

options for the fourth methodology, such provisions should not be extended for use with the other three methodologies. EPA agrees with these commenters. EPA did not propose and today is not adopting any recordkeeping options for these three methodologies.

Through this action EPA will allow any one of the three proposed methods and the fourth method discussed in the NPRM, or a combination of these methods to be used for determining the full charge of appliances. If the fourth method is chosen or used in combination with any of the other acceptable methods, the midpoint of the range will constitute the full charge for purposes of determining the leak rate. The owners and operators of the affected industrial process refrigeration equipment must keep records in accordance with § 82.166(q), detailing the methodology used for determining

and adjusting the range.

Two commenters stated that the calculations required for determining the normal charge of industrial process refrigeration equipment should apply to the commercial and comfort-cooling sectors as well. One commenter believes that these other appliances have fieldinstalled interconnecting piping and there may not be any information available from the manufacturer indicating the normal refrigerant charge. Furthermore, the commenter requests that EPA publish guidance, including formulas, tables and sample calculations with enough detail that most owners affected by the leak repair provisions will be able to perform the necessary calculations. EPA does not agree with this commenter. In cases where a comfort-cooling or commercial refrigeration appliance is "customized," EPA believes it is still relatively easy to derive the charge of the system. Fieldinstalled piping can be measured and the refrigerant charge can, therefore, be calculated. Moreover, the owners or operators of such systems often hire contractors to service and maintain their appliances. These contractors should be able either to determine the full charge or to provide guidance on establishing leak rates. EPA believes that in most instances, these contractors will be better able to advise the owners or operators. Therefore, EPA does not believe it is necessary to specify how the full charge will be established for these sectors, nor to publish specific guidance.

One commenter believes that EPA should exclude from any calculation of refrigerant leak rates the loss of refrigerant through a one-time accidental release, such as breaking pipes, a ruptured disc, or operator error.