



Self-Audit Checklist For Industrial Process Refrigeration Leak Repair Regulations Under Section 608 Of The Clean Air Act



Self-Audit Checklist for the Amendments to the Leak Repair Rule Provisions of §608

Questionnaire

Please help us gauge the usefulness of this checklist by completing this short form. Your response will be kept confidential. Aggregated response data will be published, but only to illustrate whether this training was beneficial to its users. Your judgment of the checklist's utility will help, CMA and EPA to decide how to improve it, or whether they should even develop future compliance tools together. We appreciate you taking time to complete the following questions.

DEMOGRAPHICS

1. What type of business do you work for? (check one of the following)

Chemical_____ Refining_____ Recycling_____ Refrigeration Service_____

Other manufacturing (please identify):_____

Other non-manufacturing (please identify):_____

2. How many people does your facility employ (including contractors)? (check one of the following)

1-100 Employees_____ 101-500 Employees_____ 501-1000 Employees_____

1001-5000 Employees_____ 5001-10,000 Employees_____ >10,001 Employees_____

3. What are your job responsibilities? (check any of the following that apply)

Support Engineer _____ Compliance Staff _____ Environmental Engineer _____

Corporate Management _____ Plant Management _____ Operator _____

Technician _____ Maintenance _____ Other: _____

4. How did you hear about this guidance? (circle one of the following)

CMA _____ EPA's Stratospheric Protection Hotline _____ Federal Register _____

Other: _____

ASSESSMENT

Please indicate your agreement with the following statements from 1=Strongly Agree to 5=Strongly Disagree

Statement	1	2	3	4	5	N/A to my job
The checklist is a good tool to assess my facility/company's compliance status with the amendments to the leak repair provisions of §608.						
The checklist format was user-friendly.						
The checklist was timely.						
I used the self-audit checklist in combination with the compliance guidance and/or the training module.						
I tailored the checklist to reflect the individual needs of my facility/company.						
My company/facility would have developed a audit checklist for this rule.						
Time/resources were saved by using this checklist? (yes or no) If yes, how many hours were saved? _____						
Was the self-audit checklist incorporated into a corporate audit protocol rather than used as a stand alone checklist? (yes or no) Did you have the checklist on disk? (yes or no) If yes, did it help in incorporating it? (yes or no)						
How many people in your facility/company are using the checklist?						
Were additional copies of this checklist made? (yes or no) If yes, how many?						
I would like similar checklists to be developed for other rules. If so, which ones?						
Would you be interested in participating in another survey in the future to help CMA and EPA measure the success of this compliance assistance tool? (yes or no) If yes, please indicate your name and phone number where we can contact you.						
Additional Comments: (Please indicate any addition comments on the back page, or attach them on a separate page).						

Return survey to the Chemical Manufacturers Association, c/o Compliance Assistance Manager at the following address: 1300 Wilson Boulevard, Arlington, Virginia 22209 (or fax to 703/741-6231)

ACKNOWLEDGEMENTS

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Their technical insights, experiences, and suggestions were essential to the development of this guide.

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OVERVIEW

The purpose of this self-audit checklist is to help members of the regulated community determine their compliance status with portions of the August 8, 1995, amendments to the leak repair provisions of the refrigerant recycling regulations. The amendments were issued by the Environmental Protection Agency (EPA) on August 8, 1995, and became effective on September 7, 1995. **The amendments make important changes to the leak repair rules.**

The self-audit checklist was developed jointly by EPA and the Chemical Manufacturers Association (CMA) for use in conjunction with the "Compliance Guidance For Industrial Process Refrigeration Leak Repair Regulations under Section 608 of the Clean Air Act" (EPA 300-B-95-010). In addition, the EPA/CMA workgroup has developed a training package on the leak repair provisions to further support the regulated community. This self-audit checklist is intended to be used in conjunction with the compliance guidance and training package. Copies of the compliance guidance and training package can be obtained through either the Stratospheric Ozone Information Hotline (800-296-1996) or CMA (202-741-5231).

The self-audit checklist is intended solely as a compliance assistance tool. The audit checklist is intended to be used in conjunction with the compliance guidance, which explains the practical requirements of the regulations. A compliance determination based on the use of the self-audit checklist should generally result in compliance with those aspects of the amendments that it covers. However, the self-audit checklist is not Agency guidance and does not replace or modify the existing regulations or guidance; instead, it is an informational tool to help in complying with the regulations. Facilities may augment or modify the audit checklist to reflect facility-specific situations. However, in such cases, it should be communicated to the intended users that the document should no longer be considered an EPA/CMA workproduct.

NOTE TO USERS

Responses in boxes within the "no" column outlined by thick lines indicate a potential violation. The "N/A" column should be used to indicate those activities/requirements that are not applicable to the subject refrigeration system. Activities not required by the regulations are presented in italicized text. Where a "--" is provided in the Yes, No, or N/A column, a response is only needed in the comment column. The comment field should include, as appropriate, working paper references, location of documents, action implemented to remedy potential areas of noncompliance, and other appropriate comments.

COPIES RECEIVED FROM CMA

Copies of the self-audit checklist distributed by CMA include a disk with the checklist in Microsoft Word 6.0. To install the file ("cklist.doc"), insert the disk in your a:\ drive and copy the file to your Word 6.0 program or just open the document in Word.

§608 INDUSTRIAL PROCESS REFRIGERATION LEAK REPAIR AUDIT CHECKLIST

#__ of __ Checklists for Facility

Name of Facility: _____

Date of Audit: _____

Name/title of person conducting the audit: _____

Phone number: _____

Description of industrial process refrigeration system:

#	Protocol/Question	Y	N	N/A	Comments
A.	Full Charge				
A.1	Describe method used to determine the full charge of the system (e.g., measure, calculate, manufacturer's information, establish range, combination).	--	--	--	
A.2	If range method or combination of methods incorporating the range method was used, records are maintained including: [§82.166(q)]	--	--	--	

#	Protocol/Question	Y	N	N/A	Comments
	a) identification of the owner/operator of the system				
	b) location of system				
	c) original range for full charge, its midpoint, and how the range was determined				
	d) all revisions of the full charge range				
	e) how determined date(s) of any revisions				
A.3	<i>Date full charge determined.</i>	--	--	--	Date: _____
A.4	Auditor reviewed documentation to verify the full charge determination:				
	a) the full charge determination appears to be accurate (If yes, go to statement after A.4(c))				
	b) the full charge determination appears to overestimate the actual full charge				
	c) the full charge determination appears to underestimate the actual full charge				
If the full charge is 50 pounds or less, stop. If the full charge is more than 50 pounds, continue.					

#	Protocol/Question	Y	N	N/A	Comments
B.	Leak Rate				
B.1	Date refrigerant last added to the system. [82.166(k)]	--	--	--	Date: _____ (As necessary, refer to documentation regarding previous additions of refrigerant)
B.2	<i>A leak rate has been calculated for the system.</i>				
B.3	<i>Describe method used to calculate leak rate.</i>	--	--		
B.4	Purged refrigerant was excluded from leak rate calculation/determination. [If no, go to statement after B.6(h)]				

#	Protocol/Question	Y	N	N/A	Comments
B.5	Records are maintained on-site to support the amount of refrigerant claimed as sent for destruction - records are based on a monitoring strategy that provides reliable data to demonstrate that the amount of refrigerant claimed to have been destroyed was not greater than the amount of refrigerant actually purged and destroyed and that 98% or greater destruction efficiency was met. [§82.166(p)(2)]				
B.6	The records pertaining to purged refrigerant include: [§82.166(p)(2)]	--	--	--	
	a) flow rate of purge flow				
	b) quantity or concentration of the refrigerant in the vent stream				
	c) periods of purge flow				
	d) identification of the facility and a contact person, including the address and telephone number				

#	Protocol/Question	Y	N	N/A	Comments
	e) general description of the refrigeration system, focusing on aspects relevant to the purging of refrigerant and subsequent destruction				
	f) description of methods used to determine the quantity of refrigerant sent for destruction and type of records that are being kept by the facility				
	g) frequency of monitoring and data-recording				
	h) description of the control device and its destruction efficiency				
<p>The leak rate for the system you are examining is ____% of the full charge; continue if greater than 35%; stop if less than or equal to 35%.</p>					

#	Protocol/Question	Y	N	N/A	Comments
C.	REPAIR				
C.1	<p>The leak(s) was repaired within 30 days of discovery. Sound professional judgment indicates repair efforts will bring the leak rate below the trigger rate. [§82.156(i)(3)]</p> <p>[If yes, go to C.7]</p> <p>[If no, complete (a)-(d)]</p>				<p>(If N/A is checked, include the number of days left on the 30-day time clock in this field)</p> <p>Note: Unless N/A is checked here, a "yes" response to one of the options in C.1-C.1(d) must be provided to avoid noncompliance.</p> <p>If two or more "yes" responses are checked in (a)-(c), go to C.5.</p>
	<p>a) an industrial process shutdown was necessary to repair the leak(s).</p> <p>[If this is the only "yes" response in C.1, go to C.2]</p>				
	<p>b) the system was mothballed</p> <p>[If this is the only "yes" response in C.1, go to C.3]</p>				

#	Protocol/Question	Y	N	N/A	Comments
	c) repair was delayed due to parts or other applicable regulations [If this is the only "yes" response in C.1, go to C.4]				
	d) the system will be retired/retrofitted [If yes, go to F.1]				
C.2	If an industrial process shutdown was needed to repair the leak(s) from the industrial process refrigeration equipment: the leak was repaired within 120 days of discovery. [§82.156(i)(2)(ii)] [If yes, go to C.6] [If no, but some repairs have been done, go to D.1]				(if N/A is checked, include the number of days left on the 120-day time clock in this field)
C.3	If the industrial process refrigeration equipment has been mothballed: the leak was repaired within 30 days of discovery (or 120 days if an industrial process shutdown was necessary) in addition to the time the system was mothballed. [If yes, go to C.6] [If no, but some repairs have been done, go to D.1]				

#	Protocol/Question	Y	N	N/A	Comments
C.4	If parts necessary to repair the leak(s) are unavailable or other applicable Federal, State, or local regulations made repair within 30 or 120 days impossible: repairs were completed within 30 or 120 days plus the additional time needed to receive delivery of the necessary parts or comply with the pertinent regulations. [§82.156(i)(2)(i)]				
C.5	If more than one "yes" response is provided in C.1(a)-(c), determine the leak repair deadline as follows: If C.1(a) = "yes", use 120 days rather than 30 If C.1(b) = "yes", add time the system was mothballed If C.1(c) = "yes", add time necessary due to delay. Was the deadline met?				
C.6	EPA has been notified of the need for additional time to repair leaks due to regulatory delays or because delivery of necessary parts will take too long. The notification and on-site documents include: [§82.166(n)]				

#	Protocol/Question	Y	N	N/A	Comments
	a) identification of the facility				
	b) leak rate				
	c) method used to determine the leak rate and full charge				
	d) date of discovery that the leak rate was above the trigger rate				
	e) location of the leaks to the extent determined				
	f) any repair work that has already been completed and the date the work was completed				
	g) documentation of the reasons why more than 30 days (or 120 days) are needed to complete the work				
	h) estimate of when the repairs will be completed				
C.7	All repair efforts are documented. [§82.156(i)(2)]				

#	Protocol/Question	Y	N	N/A	Comments
D.	Verification Testing				
D.1	An initial verification test was conducted. [§82.152]				(compare date of test to timing requirements provided in §82.152 - definition of "initial verification test")
D.2	If the system was taken off line, it was kept off-line until the initial verification test indicated that the repairs have been successfully completed. [§82.156(i)(3)(i)] [If yes, go to D.4]				
D.3	If a response "no" was provided in D.2, the system will be retrofitted/retired. [If yes, go to F.1]				
D.4	A follow-up verification test was conducted within 30 days after the initial verification test, or if the system was taken off line, within 30 days of bringing the system back on line. [§82.156(i)(3)]				

#	Protocol/Question	Y	N	N/A	Comments
D.5	The follow-up verification test was conducted at normal operating characteristics and conditions. [§82.156(i)(3)] [If yes, go to D.6] If no:				
	a) Did sound professional judgment indicate that tests performed at normal operating characteristics and conditions would produce less reliable results?				
	b) The follow-up verification test was conducted at or near the normal operating pressure where practicable. [§82.156(i)(3)]				
	c) The follow-up verification test was conducted at or near the normal operating temperature if practicable. [§82.156(i)(3)]				
D.6	The follow-up verification test indicated that the repair efforts are successful. [§82.156(i)(3)(ii)] [If yes, stop]				

#	Protocol/Question	Y	N	N/A	Comments
D.7	If repairs fail the follow-up verification test, EPA was notified of the failed follow-up verification test within 30 days of the failed follow-up verification test and documentation of the failed follow-up verification test is available on site. [§82.156(i)(3)(iii)]				<i>The notification was sent to EPA on</i> _____
D.8	<i>A copy of the notification is maintained on site.</i>				
D.9	The notification/on-site documentation of the failed follow-up verification test includes: [§82.166(n)]	--	--	--	
	a) identification of the facility				
	b) leak rate				
	c) method used to determine the leak rate and full charge				
	d) date of discovery that the leak rate was above the trigger rate				
	e) location of the leaks to the extent determined				

#	Protocol/Question	Y	N	N/A	Comments
	f) any repair work that has already been completed and the date the work was completed				
	g) the date(s), type(s), and results of the failed follow-up verification test(s)				
	i) if applicable, the parameters that would be used to attempt to verify that the leak rate is below the trigger rate within 180 days				
D.10	If the system failed the follow-up verification test, a retrofit or retirement plan was developed within 30 days after the failed follow-up verification test. A copy of the plan is kept on site and the original can be made available upon request. [§82.156(i)(6)(i)]				
D.11	The owner/operator relies on being relieved of the duty to retrofit or retire by:				
	a) successful second repair efforts within 30 days of the failed follow-up verification test (or 120 days, if a process shutdown is required) [If yes, go to E.1]				(the owner/operator is permitted to implement both (a) and (b); complete all applicable parts of the audit checklist)

#	Protocol/Question	Y	N	N/A	Comments
	b) demonstrating within 180 days of the failed follow-up verification test that the leak rate is below the trigger rate [If yes, go to E.15] [If no, to F.1]				
E.	Retrofit/Retire Alternatives				
<p>If the owner/operator relies on successful second repair efforts to relieve the duty to retrofit/retire, complete section E.1 through E.13.</p> <p>If the owner/operator relies on demonstrating that the leak rate is below the trigger rate to relieve the duty to retrofit or retire, complete questions E.14 through E.17.</p>					
E.1	<p>Second repair efforts were completed within 30 days (or 120 days where an industrial process shutdown is required) after the initial failed follow-up verification test. [§82.156(i)(3)(iv)] [If yes, go to E.2] If no:</p>				<p>Note: Unless N/A is checked here, to avoid noncompliance, a "yes" response to one of the options in E.1 through E.1(b) must be provided, or the owner/operator must also successfully complete the 180 day option in D.11(b).</p>
	<p>a) repair was delayed due to parts or other applicable regulations [If yes, go to E.3]</p>				

#	Protocol/Question	Y	N	N/A	Comments
	b) the system was mothballed [If yes, go to E.2]				
E.2	If the industrial process refrigeration equipment has been mothballed: the leak was repaired within 30 days of discovery (or 120 days if an industrial process shutdown was necessary) in addition to the time the system was mothballed. [If yes, go to E.5] [If no, go to F.1]				
E.3	If parts necessary to repair the leak(s) are unavailable or other applicable Federal, State, or local regulations made repair within 20 or 120 days impossible: repairs were completed within 30 or 120 days plus the additional time needed to receive delivery of the necessary parts or comply with pertinent regulations. [§82.156(i)(3)(iv), §82.156(i)(2)(i)]				
E.4	EPA has been notified of the need for additional time to repair leaks due to regulatory delays or because delivery of necessary parts will take too long. The notification and documents include:				

#	Protocol/Question	Y	N	N/A	Comments
	a) identification of the facility				
	b) leak rate				
	c) method used to determine the leak rate and full charge				
	d) date of discovery that the leak rate was above the trigger rate				
	e) location of the leaks to the extent determined				
	f) any repair work that has already been completed and the date the work was completed				
	g) documentation of the reasons why more than 30 days (or 120 days) are needed to complete the work				
	h) estimate of when the repairs will be completed.				

#	Protocol/Question	Y	N	N/A	Comments
E.5	An initial verification test was conducted. [§82.156(i)(3)(iv), §82.156(i)(3)]				(compare date of test to timing requirements provided in §82.152 - definition of "initial verification test")
E.6	The initial verification test was successful.				
E.7	If the system was taken off line, it was kept off-line until the initial verification test indicated that the repairs have been successfully completed. [§82.156(i)(3)(iv), §82.156(i)(3)(i)] [If yes, go to E.9]				
E.8	If a response "no" was provided in E.4, the system will be retrofitted/retired. [If yes, go to F.1]				
E.9	A follow-up verification test was conducted within 30 days after the initial verification test, or if the system was taken off line, within 30 days of bringing the system back on line. [§82.156(i)(3)(iv), §82.156(i)(3)]				

#	Protocol/Question	Y	N	N/A	Comments
E.10	The follow-up verification test was conducted at normal operating characteristics and conditions. [§82.156(1)(3)] [If yes, to E.11] If no:				
	a) Did sound professional judgment indicate that tests performed at normal operating characteristics and conditions would produce less reliable results?				
	b) The follow-up verification test was conducted at or near the normal operating pressure where practicable. [§82.156(i)(3)(iv), §82.156(i)(3)]				
	c) The follow-up verification test was conducted at or near the normal operating temperature if practicable. [§82.156(i)(3)(iv), §82.156(i)(3)]				
E.11	The follow-up verification test indicated that the second repair efforts are successful. [§82.156(i)(3)(iv), §82.156(i)(3)(ii)]				

#	Protocol/Question	Y	N	N/A	Comments
E.12	EPA was notified within 30 days of the successful follow-up verification test. [§82.156(i)(3)(iv)]				
E.13	The notification of the successful follow-up test includes: [82.166(n)]	--	--		
	a) identification of the facility				
	b) leak rate				
	c) method used to determine the leak rate and full charge				
	d) date of discovery that the leak rate was above the trigger rate				
	e) location of the leaks to the extent determined				
	f) any repair work that has already been completed and the date the work was completed				
	g) the date(s), type(s), and results of the successful follow-up verification test				
	[Stop]				

#	Protocol/Question	Y	N	N/A	Comments
E.14	If "yes" is indicated in D.9(i), did EPA disapprove the submitted parameters within 30 days of receipt of the notice?				Note: Identify the approved parameters.
E.15	Within 180 days of the initial failed follow-up verification test, it is established by approved parameters that the annual leak rate does not exceed the trigger rate. [§82.156(i)(3)(v)] [If no, go to F.1]				
E.16	EPA was notified of the determination that the system's annual leak rate does not exceed the trigger rate within 30 days of the determination.				
E.17	The notification to EPA (E.16) includes:	--	--		
	a) identification of the facility				
	b) date of the first notification regarding the failed initial follow-up verification test				

#	Protocol/Question	Y	N	N/A	Comments
	c) determination that the system's annual leak rate does not exceed the trigger rate [Stop]				
F.	Retrofit/Retire Implementation				
F.1	A retrofit or retirement plan for the leaking system was developed within:	--	--	--	Note: To avoid noncompliance, all of the options in F.1 cannot be "no."
	a) 30 days of discovery of leak; or [§82.156(i)(6)]				
	b) 30 days of the failed follow-up verification test; or [§82.156(i)(6)]				
	c) 30 days of determining to retrofit/retire the system. [§82.156(i)(6)(ii)]				
F.2	The retrofit or retirement plan is dated, a copy of the plan is kept on site, and the original can be made available upon request. [§82.156(i)(6)]				

#	Protocol/Question	Y	N	N/A	Comments
F.3	All work specified in the retrofit or retirement plan is completed within one year of the plan's date unless you switched from repair under §82.156(i)(6)(ii), in which case, the deadline is one year from discovery of the leak rate. [If yes, stop]				Note: To avoid noncompliance, a "yes" response to one of the options in F.3 must be provided or an extension under F.9 or F.11 must apply.
	If no:				
	a) the system has been mothballed [If yes, go to F.4]				
	b) retrofit/retirement activities were delayed due to other applicable regulations or lack of a suitable replacement refrigerant with a lower ozone depletion potential [If yes, go to F.5]				
F.4	If the system has been mothballed; retrofit/retirement activities were completed in a timeframe equal to, or less than, one year plus the same period of time that the system was mothballed. [If yes, stop]				

#	Protocol/Question	Y	N	N/A	Comments
F.5	If there was an extension of time due to delays caused by the requirements of other applicable Federal, State, or local laws or regulations, or due to the unavailability of a suitable replacement refrigerant with a lower ozone depletion potential, work under the plan was completed within one year plus the extension.				
F.6	EPA was notified of the need for a time extension to complete retrofit/retirement activities within 6 months of the 30-day period following discovery. The notification is maintained on-site and explains why a time extension is needed, and includes: [§82.156(i)(7)(ii), §82.166(o)]				<i>The notification was sent to EPA on</i> _____
	a) identification of the facility				
	b) leak rate				
	c) method used to determine the leak rate and full charge				

#	Protocol/Question	Y	N	N/A	Comments
	d) date of discovery that the leak rate was above the trigger rate				
	e) location of the leaks to the extent determined				
	f) any repair work that has already been completed and the date the work was completed				
	g) reasons why you need an extension of time, and an estimate of when the retrofit or retirement will be completed				
	h) a copy of the retrofit or retirement plan				
F.7	EPA notified the facility of its determination regarding the time extension within 60 days of the above submittal. [§82.156(i)(7)(ii)]				
F.8	The retrofit/retirement of the system is completed within the time extension. [If yes, stop]				

#	Protocol/Question	Y	N	N/A	Comments
F.9	If delays are caused by: (1) the installation or retrofitting of a custom built system; and (2) the supplier of the system or a critical component has quoted a delivery time of more than 30 weeks from when the order is placed, work is completed within one year plus the initial 12 month period to complete retrofit/retirement activities. [§82.156(i)(7)(ii)]				
F.10	EPA was notified within 6 months of the expiration of the 30-day period following the discovery of an exceedance of the trigger rate. The notification includes: [§82.156(i)(7)(ii), §82.166(o)]				
	a) the identification of the facility and the owner or operator				
	b) a description of the refrigeration system				
	c) the leak rate				
	d) the method used to determine the leak rate and full charge				

#	Protocol/Question	Y	N	N/A	Comments
	e) the date when the excessive leak rate was discovered				
	f) the location of leaks to the extent determined so far				
	g) any repair work that has already been completed and the date of completion				
	h) the reasons why you need an extension of time (demonstrating that the new or retrofitted system is custom built, and that a vendor has quoted a delivery time of more than 30 weeks from when an order is placed, for the system or a critical component				
	i) an estimate that the retrofit or retirement will be completed by the end of the one-year extension				
	j) a copy of the retrofit or retirement plan				
	k) the date of the original notification to EPA (if any)				

#	Protocol/Question	Y	N	N/A	Comments
F.11	The retrofit/retirement of the custom built system is completed within the one-year time extension. [If yes, stop]				
F.12	If additional time beyond the first additional one-year time period is needed, a request for such time was submitted to EPA before the end of the ninth month of the first additional year and includes revisions of information submitted to EPA (see F.6). [§82.156(i)(7)(iii)]				
F.13	EPA objected to the request for a second block of additional time to complete retrofit/retirement activities within 30 days of receipt of the request.				
F.14	Retrofit/retirement activities were completed within the second time extension.				