

INVESTIGATIVE NOTES
COMPILED AND RETAINED FOR ENFORCEMENT PURPOSES

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**PIPELINE AND HAZARDOUS MATERIAL SAFETY ADMINISTRATION CYLINDER
REQUALIFICATION FACILITY INSPECTION REPORT**

Inspection Date: _____

RIN Number: _____

Company Name and Address: _____

Company Officials:	Title:	Interviewed
_____	_____	Y/N
_____	_____	Y/N

GENERAL INFORMATION

What type(s) of cylinders are being requalified? 3A_____ 3AA_____ 3AL_____ 3B_____ 3HT_____ 4B_____ 4BA_____ 4BW_____ 4D_____ 8_____ UN Receptacles_____ 6351-T6 (Aluminum)_____ Others? 180.209(a)_____			
Are Foreign cylinders being requalified? 171.23(a)(4), 173.301(j), 180.209			Yes No N/A
Are Special Permit cylinders being requalified?			Yes No N/A
What method is used to requalify cylinders? Water Jacket/Volumetric_____ Proof Pressure_____ Visual Only_____ Direct Expansion_____ Ultrasonic_____ Acoustic Emission_____ Eddy Current_____			
If Water Jacket/Volumetric, what type of equipment is utilized? Burettes_____ Computerized_____ Weigh Bowl_____			
Are Cylinders sent to outside vendors for requalification or other services?			Yes No N/A
If Yes, include hired services and vendor name and address: Services: _____ Name/Address _____			
Fire Extinguisher Service			
Does company provide fire extinguisher service & supply? 173.309, 180.209(i)			Yes No N/A
If Yes, what type(s) of fire extinguishers? Dry Chemical_____ Halon/Halotron_____ CO2_____ Others? _____			
Compressed Gas Filler/Distributor			
Does company provide compressed gas filling and/or distribution services?			Yes No N/A
If Yes, what type(s) of gasses? Oxygen_____ Argon_____ CO2_____ Nitrogen_____ Air_____ Others? _____			
Are cylinder dates checked prior to filling?			Yes No N/A

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REQUALIFER INFORMATION

 Requalification Operator(s): Initials: Years Experience: Interviewed
 _____ _____ _____ Y/N
 _____ _____ _____ Y/N
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Publications/CGA's			
Requalifier Identification Number (RIN) Letter issued:			
Is a hard copy of 40 CFR or internet access available?			
	Yes	No	N/A
If hard copy, what is the year of publication?			
Are all applicable CGA's on hand 171.7			
	Yes	No	N/A
If yes verify dates: C-5 (91*) _____ C-6(93) _____ C-6.1(02) _____ C-6.2(96) _____ C-6.3(91) _____ C-8(85) _____ C-13(00) _____ Others: * Redefined 1995			
If Special Permit cylinders are requalified, list several examples:			
If Special Permits are used, are hard copies or internet access available?			
	Yes	No	N/A
If hard copies, are Special Permits current?			
	Yes	No	N/A
Visual Inspection			
Is a visual internal/external inspection performed before testing? 180.205			
	Yes	No	N/A
Are all outside labels, corrosion, and excessive paint removed prior to visual inspection?			
	Yes	No	N/A
If yes, what method is used to remove paint and/or surface debris?			
Are all attachments (boots, bands, etc.) removed for visual inspection? 180.205(f)(2) & (g)(1)			
	Yes	No	N/A
How is the internal visual inspection of neck and shoulder area being completed? Various CGA references			
Is an internal inspection light used?			
	Yes	No	N/A
If yes, is it functional during the inspection?			
	Yes	No	N/A
If yes, is it capable of illuminating the interior of the cylinder?			
	Yes	No	N/A
Are aluminum cylinders of 6351-T6 alloy inspected for evidence of sustained load cracking (SLC) in accordance with Appendix C to Part 180? 180.205(f)(4), CGA C-6.1			
	Yes	No	N/A
If yes, how is the cylinder marked? 108.213(f)(9) (Obtain "VE" stamp sample)			
Has the facility developed, updated and maintained a written examination procedure applicable to the test equipment it uses to perform eddy current examinations? Appendix C to Part 180, CGA C-6.1			
	Yes	No	N/A

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What method is used to determine aluminum/steel cylinders?			
Is a "Hammer Test" conducted on steel cylinders during visual inspection? 108.209(b)(1)(iii).CGA C-6	Yes	NO	N/A
Are 3HT cylinders requalified in accordance with CGA C-8? 180.209(k)	Yes	NO	N/A
What criteria are used to condemn a cylinder visually (dents, burns, arc marks, abrasions, pits, fire damage, etc.)? 180.2059d)			
Are low pressure aluminum cylinders dried following hydrostatic testing? (CGA C6.3)	Yes	NO	N/A
If yes, at what temperature? (not to exceed 350 F)			
Requalification Markings			
Are cylinders marked Before or After requalification of visual/hydro/UE/AE testing? 108.213(d)			
How is cylinder requalified by the "Visual Only" method marked? 108.209(g) & 180.213(f)(5) (obtain "E" stamp sample)			
Are markings legible? 108.213 (b)	Yes	NO	N/A
Are Special Permit cylinders (previously Exemption cylinders) marked E-6498, E-7042, E-8107, E-8364, or E-8422 being requalified and marked 3AL? 173.23(c)	Yes	NO	N/A
If yes, obtain "3AL" stamp sample:			
If foreign cylinders are requalified, how are they being marked? 171.23(a)(4), 180.209(l)			
Are applicable requalifications marking methods being followed? 180.213(c), 180.215(f)	Yes	NO	N/A
How are low pressure cylinders used as fire extinguishers marked? (Obtain completed pressure sensitive label) Stamp: _____ Proof Pressure designation "S": _____ Pressure Sensitive Label: _____			
Are DOT "3HT" cylinders being marked with low-stress steel stamps?	Yes	NO	N/A
Are composite cylinders being marked with a pressure sensitive label?	Yes	NO	N/A
If yes, obtain complete pressure sensitive label:			
Are cylinders successfully passing requalification marked accordingly? 180.213	Yes	NO	N/A
If yes, obtain RIN stamp samples: High Stress: _____ Low Stress: _____ Date: _____			

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	Yes	No	N/A
Do the RIN stamp(s) meet the minimum size requirement of 1/8 inch? 180.213(e)	Yes	No	N/A
Do the DATE stamp(s) meet the minimum size requirement of 1/4 inch? 180.213(e)	Yes	No	N/A
For 10 year requalification tests meeting 180.209(b) requirements, are cylinders marked with a five point star? 180.209(b)(vi), 108.213(f)(2)			
Yes	No	N/A	
If yes, obtain five-point star (⬠) stamp sample:			
Does the five-point star meet the minimum size requirement of 1/4 inch? 180.213(e)	Yes	No	N/A
For 10 percent overfill markings, are average wall stress calculations computed and marked accordingly? 173.302a(b), 108.213(f), (3), CGA C-5			
Yes	No	N/A	
If yes, obtain plus sign (+) stamp sample:			
Does the plus sign meet the minimum size requirement of 1/4 inch? 180.213(e)	Yes	No	N/A
Where are the reference calculations located? 173.302a(b), CGA C-5			
How is a cylinder that fails requalification documented? 180.205(f) & (i)			
Is the cylinder owner notified in writing? (Get sample notification)	Yes	No	N/A
Is the cylinder stamped with a series of "XXXX's"?	Yes	No	N/A
Is the cylinder stamped "condemned"?	Yes	No	N/A
Is the cylinder rendered incapable of holding pressure?	Yes	No	N/A
Is the cylinder returned to the owner?	Yes	No	N/A
How is a condemned cylinder shown on test records? 180.205(b)(2)			
How are condemned cylinders identified/marked? 108.205(i), sample(s)			
Series of XXX's: _____ CONDEMNED: _____ Other: _____			
Are DOT 8 acetylene cylinders successfully passing requalification marked accordingly? 180.209(i), 180.213, CGA C-13	Yes	No	N/A
If yes, obtain stamp samples:			
Shell only "S": _____ Shell & Porous Filler "FS": _____			
Do the stamp(s) meet the minimum size requirement of 1/4 inch? 180.213(e)	Yes	No	N/A
Are cylinders successfully passing Ultrasonic Examination or Acoustic Emission requalification marked accordingly? 180.213(f)	Yes	No	N/A
If yes, obtain "UE" and/or "AE" stamp sample(s):			
Do the "UE" and/or "AE" meet the minimum size requirement of 1/4 inch? 180.213(e)	Yes	No	N/A
Requalification System			
Is the pressure-indicating device certified to be accurate within ±0.5% or better of its full range? 180.205(g)(3)(i)	Yes	No	N/A
Does the pressure-indicating device permit readings of pressure from 90%-110% of the minimum prescribed test pressure of the cylinder being tested?	Yes	No	N/A

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	Yes	No	N/A
Can the accuracy of the pressure-indicating device be demonstrated within 500 psi for cylinders tested at or above 3000 psi, or 10% of the actual test pressure for cylinders tested below 3000 psi?			
Pressure-Indicating Device Information: (obtain copy of calibration)			
Main - _____ psi Increments _____ psi Serial Number _____ Certificate Date _____			
Alt - _____ psi Increments _____ psi Serial Number _____ Certificate Date _____			
How often is pressure-indicating device calibrated?			
Is the expansion-indicating device certified to be accurate within $\pm 0.5\%$ or better of its full range? 180.205(g)(3)(ii) (obtain copy of calibration)	Yes	No	N/A
Does the expansion-indicating device used for calibration/testing provide resolution accuracy of $\pm 1\%$ of the total expansion of any cylinder tested or 0.1cc, whichever is larger?	Yes	No	N/A
If Burette system is utilized, are burettes adjustable?	Yes	No	N/A
Are readings first taken at zero level?	Yes	No	N/A
Burette Readings Used:			
0 - _____ cc Increments of _____ cc			
0 - _____ cc Increments of _____ cc			
0 - _____ cc Increments of _____ cc			
0 - _____ cc Increments of _____ cc			
What method is used to confirm equipment accuracy within ± 1.0 accuracy? Calibrated Cylinder _____ Other _____ (e.g. Associated Administrator Letter)			
Calibrated Cylinder Information:: (obtain copy of calibration)			
#1 Manufacturer _____ Serial Number _____ Calibration Date _____			
#2 Manufacturer _____ Serial Number _____ Calibration Date _____			
How long are cylinders held at test pressure? 180.205(g)(5), any applicable DOT-SP			
Is there a timing device or clock, which indicates seconds available?	Yes	No	N/A
How does facility distinguish between a test equipment failure and a cylinder failure?			
If during a test, the pressure cannot be maintained due to equipment failure, is the cylinder retested?	Yes	No	N/A
How many retests may be conducted?			
At what pressure is the cylinder retested? (an increase of 10% or 100psi, whichever is less)			
Are retests noted on test records with a reason for the repeated test? 180.215(b)(2)	Yes	No	N/A
If performing a system check, is it done at or below 90% of the cylinders test pressure? (180.205)(g)(5)	Yes	No	N/A

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Calibration Certificate Readings & Expansion Reading Achieved

<u>Calibration Certificate Figures</u>		<u>Actual Test Figures</u>	
Pressure _____ psi	Total Exp _____ cc	Pressure _____ psi	Total Exp _____ cc
Pressure _____ psi	Total Exp _____ cc	Pressure _____ psi	Total Exp _____ cc
Pressure _____ psi	Total Exp _____ cc	Pressure _____ psi	Total Exp _____ cc
Pressure _____ psi	Total Exp _____ cc	Pressure _____ psi	Total Exp _____ cc
Pressure _____ psi	Total Exp _____ cc	Pressure _____ psi	Total Exp _____ cc

Are the “actual” expansion figures within ± 1.0 accuracy of the prescribed test pressures for cylinders tested today?	Yes	No	N/A
Based on the results of calibration, would you continue to test cylinders today?	Yes	No	N/A

Facility Requalification Records

Do daily calibration and requalification records include the required information?(108.215)	Yes	No	N/A
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Calibration record:

Date of calibration	Yes	No	N/A
Calibrated cylinder serial number	Yes	No	N/A
Calibration test pressure	Yes	No	N/A
Total, elastic, and permanent expansions	Yes	No	N/A
Legible identification of the test operator	Yes	No	N/A

Pressure Test and Visual Inspection record:

Date of cylinder requalification	Yes	No	N/A
Serial number of tested cylinder	Yes	No	N/A
DOT/ICC Specification, exemption, or Special Permit number	Yes	No	N/A
Cylinder marked service pressure	Yes	No	N/A
Actual dimension (size)	Yes	No	N/A
Manufacturer’s Name or symbol (if present)	Yes	No	N/A
Owner’s Name or symbol (if present)	Yes	No	N/A
Visual inspection results (Pass/Fail)	Yes	No	N/A
Actual test pressure	Yes	No	N/A
Total, elastic, and permanent expansions	Yes	No	N/A
Percent permanent expansion	Yes	No	N/A
Disposition, with reason for any repeated test, rejection or condemnation	Yes	No	N/A
Legible identification of test operator	Yes	No	N/A
An indication of how maximum wall stress is calculated (if applicable)	Yes	No	N/A
When a second test is conducted after a cylinder failed to hold test pressure, the date of the earlier test is indicated (if applicable)	Yes	No	N/A

Visual only record:

Date of cylinder inspection (month and year)	Yes	No	N/A
DOT Specification number	Yes	No	N/A
Cylinder identification (registered symbol, and serial number, date of manufacture, and owner)	Yes	No	N/A
Type of cylinder protective coating (including statement as to need of refinishing or recoating)	Yes	No	N/A

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	Conditions checked (leakage, corrosion, gouges, dents, or digs in shell or heads, broken or damaged foot ring or protective ring, or fire damage)	Yes	No	N/A
	Disposition of cylinder (returned to service, returned to cylinder manufacturer for repairs or condemned)	Yes	No	N/A
Eddy Current record:				
	Equipment manufacturer, model number and serial number	Yes	No	N/A
	Probe description and unique identification (serial number, part number etc.)	Yes	No	N/A
	Specification of each <i>standard reference ring</i> used to perform the examination	Yes	No	N/A
	DOT specification or exemption number of the cylinder, manufacturer's name or symbol, owner's name or symbol (if present), serial number and date of manufacture	Yes	No	N/A
	Name of test operator performing eddy current examination	Yes	No	N/A
	Date of eddy current examination	Yes	No	N/A
	Acceptance/condemnation results (pass/fail)	Yes	No	N/A
	Requalifier/Retester identification number	Yes	No	N/A
	If ditto marks or a solid vertical line is used to indicate repetition, are they only used for date, actual dimensions, manufacturer's name or symbol, owner's name or symbol, and test operator entries?	Yes	No	N/A
Investigator obtained records of:				
	Cylinder requalification records	Yes	No	N/A
	RIN letter of approval	Yes	No	N/A
	Calibrated cylinder certificate(s)	Yes	No	N/A
	Pressure gauge calibration certificates	Yes	No	N/A
	Training records	Yes	No	N/A

ADDITIONAL NOTES:

I hereby certify that the documented responses on the previous pages are true and accurate to the best of my knowledge.

Person(s) interviewed:

Signature _____

Date _____

Signature _____

Date _____

Investigator(s):

Signature _____

Date _____

Signature _____

Date _____