



Australia | New Zealand

Hose Advisory Services Survey Report

CLIENT

FACILITY

Project line 1

Project line 2

Document No.:

Prepared by:

Date:



EXAMPLE REPORT ONLY

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Note:

This report is an example of a Hose Advisory Services Survey Report. This report demonstrates a typical report out from a Hose Advisory Survey and explains the sections of the report and the general information provided to the client.



SWAGELOK HOSE ADVISORY SERVICES

Swagelok Hose Advisory Services (HAS) is a service program offered by Swagelok in which we use our industry expertise in fluid system design to help improve hose life and hose performance at your facilities.

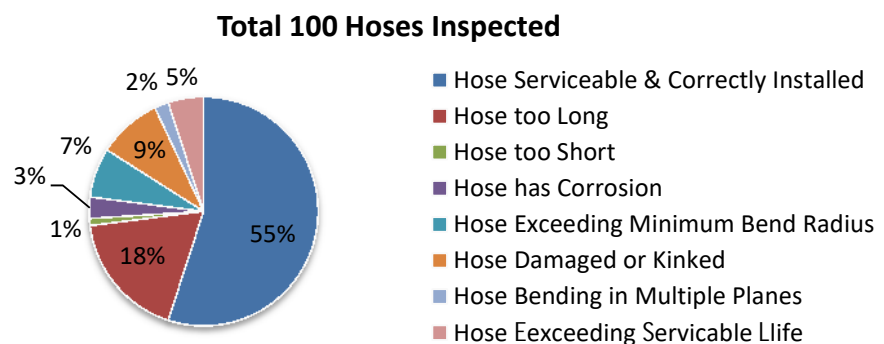
A Swagelok Hose Advisor serves as your partner and trusted advisor to troubleshoot hose-related problem areas that may exist at your facilities. The service can be tailored to the your requirements but can consist of;

- Inspection, evaluation and advice on installed hoses
- Audit of installed hoses and development of a detailed Hose Bill of Materials
- Compilation of hose datasheets
- Development of a hose management plan

EXECUTIVE SUMMARY

The executive summary provides an overall summary of the hoses installed. The main points in the executive summary are;

- An introduction to the service carried out onsite
- Summary of the main findings and common themes found during the survey
- Highlighted areas of concern
- General recommendations for improvement
- Statistics of issues found. For Example;



SURVEY SCOPE OF WORK

- Details the scope of work conducted on site
- Sets out the objectives that were to be achieved
- Details the deliverables on completion of the survey

METHODOLOGY

- Explains how the survey was conducted
- Details the tools and technologies used to carry out the survey, for example;
 - An intrinsically safe Tablet was used to recorded information during the survey
 - An intrinsically safe camera was used for photography during the survey
 - Ultrasound equipment and a liquid surfactant were used to find gaseous leaks



TEAM MEMBERS

Swagelok works closely with your organisation to understand your pain points, how they affect your operation, the criticality of your systems and what you want to achieve. The Swagelok team and your personnel involved in this evaluation are listed below.

Client Personnel

Name
Company
Position

Swagelok Personnel

Name
Company
Position
Email

FACILITY AREAS INSPECTED

This section lists the areas of the facility that were inspected, using the client's terminology, tag numbers and reference documentation.

STRATEGIC OBSERVATIONS

This section explains the common issues identified during the survey. For each issue type, the issue is explained and potential causes and remediation suggested.

- Identify the issue and explain why it is an issue and the potential consequences if not rectified.
- Potential causes of the issue are identified and explained.
- A solution to rectify the issue and prevent it reoccurring is proposed.

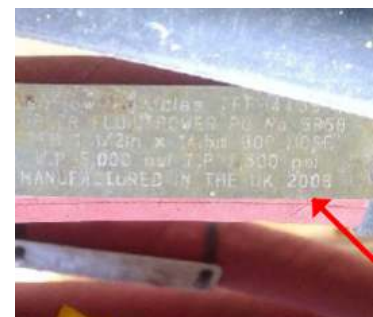
Other issues indirectly related to the condition of the hoses such as handling of hoses, hose selection for application, environmental factors and maintenance may be discussed in this section.

Example Only

Hoses exceeding their serviceable life.

The majority of hoses installed on the swivel were manufactured in 2008 according to their hose tags. For the hoses that were able to be fully inspected (access permitting), all of them were showing signs of degradation of the outer casing. Degradation of the outer casing can allow moisture to ingress the steel reinforcing wire causing corrosion which compromises the structural integrity of the hose.

Hoses installed on equipment critical for safety or operation should be replaced every 4 years. Swagelok recommend all Swivel hoses older than 4 years be replaced at the next available maintenance interval. A maintenance schedule should be put into place for regular inspections and replacement at the recommended interval.



SUMMARY OF HOSE ISSUES

Table format showing a summary of the hoses tagged during the survey.

Example Only

Tag ID	Hose ID	Category	Location	Findings	Suggested Improvements
#	#	1	(Area & ID No.)	Hose has corrosion	Replace immediately
#	#	3	(Area & ID No.)	Hoses too long	Replace hose with correct length
#	#	3	(Area & ID No.)	Hose exceeding minimum bend radius	Replace hose and reroute
#	#	2	(Area & ID No.)	Hose exceeding serviceable life	Replace at next maintenance interval

Note: Refer to Appendix A for detailed information on each inspected hose in the table above.

REFERENCES

All client and Swagelok documentation used for the survey will be listed here, in addition to any relevant standards and specifications.

SWAGELOK PRODUCTS, SERVICES & CONTACT INFORMATION

Swagelok offer a wide range of hoses, compression fittings, pipe fittings and valves which can help to improve the reliability and safety of your systems.

Swagelok also provide site support services which include design of small bore tube and hose installation, training and site support or supervision of small bore tube and hose installation.

Thank you for allowing Swagelok to be of service. Please contact Swagelok if we can be of further assistance on any items contained within this report.

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Disclaimer

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APPENDIX A

Hose Installation Survey Findings

Example Only

Area and Condition	Image	Recommended Solution
[Area & Tag No.] Hose is in contact with a scaffold pole. Vibration has caused the outer casing of the hose to wear through allowing the inner hose wire to start corroding. This hose is pressurised to system working pressure of 350Bar.		Corrosion of the reinforcing wire has compromised the structural integrity of the hose. The hose should be depressurised immediately and replaced.
[Area & Tag No.] Hoses are too long for the installation. This allows the hoses to rest on the ground, increasing the likelihood that the braid will be damaged. Hoses also pose a trip hazard to personnel. The hose connection to the ring manifold (circled) could also be improved by adding an elbow to reduce stress on the hose end connection.		Use proper length hoses throughout the facility. Focus on good routing practices that minimise stresses in the hose assembly, including using elbows into component or manifold connections.
[Area & Tag No.] Hose on the left is exceeding its minimum bend radius. Hose kinking can occur, eventually causing collapse of the hose.		Hose on the right is routed correctly. Suggest the left hose be installed with an elbow on the pump to produce a large radius bend in the hose. Suggest a new hose be installed.
[Area & Tag No.] Cracks evident in the hose outer casing. Manufacture date on hose is 2008. Cracks in the outer casing can allow moisture to ingress the inner reinforcing wire, causing corrosion.		The hose is beyond its serviceable life and showing signs of degradation. Considering the criticality of this hose to production, the hose should be replaced at the next available maintenance interval.

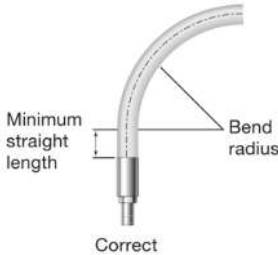



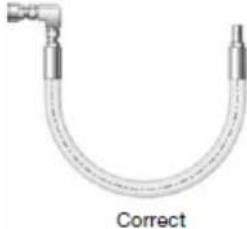



APPENDIX B

Hose Inspection Criteria & Preventative Maintenance – Hoses in Service

Example Only

Hose inspection interval and replacement is predicated by Swagelok's position that symptoms like leaks or hose issues are safety incidents. Hoses should be inspected when installed and regularly when in service, for the following conditions. More frequent spot inspections might be necessary for unforeseen circumstances.

Condition	Correct Installation	Incorrect Installation	Remedy
Minimum Bend Radius Follow minimum bend radius requirements for your hose. Installing hose with smaller bends may kink hose and reduce hose life. Hose rupture or leakage may result from bending too close to the hose/fitting connection.			Reinstall the hose to correct the installation. A longer hose may be necessary to achieve the necessary bend radius.
			
Hose Strain Elbows and adapters should be used to minimize or relieve hose strain, especially at the end connections.			Reinstall the hose using an elbow or adapter to alleviate the strain on the hose. A different length hose may be necessary once the elbow or adapter is installed.



APPENDIX C

Hose Survey Bill of Materials

Example Only

Hose Bill of Materials is a spreadsheet detailing hose criteria for each hose, including, system parameters, hose parameters & construction, and testing requirements.

[illegible]

APPENDIX D

Hose Datasheets

Example Only

The Hose Datasheet provides detailed information on each hose including, system parameters, hose parameters & construction, testing requirements and installation notes.

Data Sheet for HOSE			
1	Tag No. :	05SP21935	Parent Tag No : AU05.05A040001A
2	Service :	LUBE OIL RETURN LINE	Equipment Class (SAP) : HSHY
3	P & ID No. :	EH2200XP1007.0001	Manufacturer : SWAGelok
4	Installation/Facility :	OKHA FPSO	Model: PB SERIES
5	Plant Location :	VRU BLOWER A, MODULE 7	Model Rev No. :
6	Project :		Serial No. :
7	Purchase Order No. :	4510207329	Year of Manufacture : 2012
8	Calculation Ref. :		Construction Type (SAP):
9	Project Equipment No.		Design Book No. Page:
10	Contr. Job No.		SAP Material No.
11 GENERAL DATA			
12	Design Code	AS 3791	
13	Design Specification	SAE 100R6	
14	Fluid Service	LUBE OIL	
15	Hose Size	mm	19
16	Hose Service	LUBE OIL RETURN LINE	
17			
18 PROCESS INFORMATION			
19	Maximum System Pressure	kPag	1500
20	Hose/End Connections Pressure Rating		2000
21	Fluid Temperature Range (min/max)	*C	0 90
22			
23 PIPING INFORMATION			
24	Piping Class	Vendor package	
25	Line Size	mm	19
26			
27 HOSE MATERIAL			
28	Core	SMOOTH BORE BUNA N	
29	Reinforcement	RAYON FIBER BRAID	
30	Cover	BUNA N	
31	*Additional Hose material information such as class, type or material, please add it to the Additional Data Section.		
32			
33 HOSE CONSTRUCTION DETAILS			
34	Working Pressure Max	kPag	2000
35	Burst Pressure Min	kPag	8000
36	Length of Hose	m	0.2
37	Min Bend Radius (without injury to hose)	178	
38	Type of Coupling/End Conn. (Note 3) - Upstream Conn	3/4" NPT MALE STRAIGHT	
39	Type of Coupling/End Conn. (Note 3) - Downstream Conn	3/4" NPT MALE STRAIGHT	
40	Coupling/End Connection Material	316SS	
41	Method of mounting coupling or end connection onto hose (Note 4)	PUSH ON	
42	Abrasion Resistant Internal Lining Required	Not Applicable	
43	Abrasion Resistant Body Cover Required	Yes	
44	Body Marking for Hose Required	No	
45	End Couplings/Connection Marking Required	No	
46	Fire Resistant Hose Required/Applicable Standard	No Not Applicable	
47	Electrical Characteristics	Antistatic	
48			
49 TESTING REQUIREMENTS			
50	Hydrostatic Test Pressure	kPag	0
51	Pneumatic Test at Design Pressure (Note 1)	Not Applicable	
52	Electrical Continuity Tests (AS1180.13) (Note 1)	Not Applicable	
53	Deformation Under Pressure Test (AS1180.5) (Note 1)	Note 1	
54	Burst Pressure Test (AS1180.5) (Note 1)	Note 1	

