JGB’s Audit Process

**Step 1. Detailed Observations**

*Our observations describe the necessary processes or products that are not in place or omitted in the hose policy, procedures and specifications.*

- **Current State**
- **Hose/Fittings - approved by manufacturer for intended application**
- **Hose routing and manifold configuration**
- **Working Pressure and temperature verification**
- **The Tracking and Lifecycle Management of assemblies**
  - Digital
  - Traceable
  - How deployed
  - Testing & Certification
- **Do hose assets comply with NAHAD Hose Safety Institute Handbook 1.2 and industry best practices?**
- **Complete catalog of all hose assets by unit, hose type, manufacturer, & applications**

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Some examples of hose & fitting problems:

- **This metal braided hose has stressed and kinked behind the weld collar, due to inadequate routing from flange connection.**
- **Black ¾” steam hose, with Ground Joint female coupling, attached by a 2-bolt Clamp, connected to pipe union at manifold**
- **Black chemical transfer hose, with exposed wires thru the cover, due to excessive abrasion and/or extreme handling**
- **Air/Water hose, with Crowsfoot coupling attached by one worm gear clamp. The crowsfoot to crowsfoot manifold adapter does NOT have required pin and could result in OSHA fines**
Step 2. Recommendations

- Assembly standardization with approved fittings
- Hose Policy & Specifications
  - Nahad and STAMPED data & best practices
  - Assistance in rewriting and improving site specs
- Visual Inspection Checklist
- Testing/Recertifications & Storage recommendations
- Process Improvement
- Cost Savings
- Hose Tracking System (HTS)
  JGB’s tracking system establishes management for traceability of each asset, determining life cycle, establishing visual inspection, preventive maintenance, hose testing protocols, and risk avoidance.
  It will:
  - Establish a tagging system and asset number for each hose onsite
  - Load each hose by asset number into the system and determine when asset is decommissioned and/or removed from plant and tracking system
  - Establish protocols for who gains access to tracking website
  - Determine frequency of hose visual inspection and hose testing for each hose asset; (annual hose testing for Steam, Water, Air, Nitrogen, Chemical & Metal Braided hoses)

Based on Mark’s Standard Handbook for Mechanical Engineers and the Grashof formula; steam leaks and cost savings are calculated as follows;

- Leak @ .17"/min, 10.2lbs/hr, 244.8/day (24hrs)
- $4.22/1000lbs, steam production costs
- 244.8lbs/day x .00422 ($4.22 ÷ 1000lbs) = $1.033/day per steam hose
- $1.033/day x 365days = $377.05/yearly per orifice leak
  - YTD, steam hoses = 851² assemblies (50% of hoses leak²)
  - 425.5(hoses) x $377.05/per yr. = $160,432.65/annually

*Example from 300,000+ bpd Refinery

JGB’s HTS Login Screen

User Login

Enter your User-Name & Password @
https://assemblytracking.jgbhose.com/

The link for login can also be found at the bottom of www.jgbhose.com.

OR

NOTE: If want to log in from mobile device you can also scan the QR code in the HTS LOGO, which will direct you to the Login Screen.

Your User Login / User Password will be provided to you by your Sales Representative.