

LOKRING LOKs **into** **SAFETY & SECURITY**

- **USCHAMBER.COM** Feature Article: “Focus on National Security, Chamber Pursues Aggressive Agenda”

(U.S. Chamber Chairman Larry Liebenow, Chairman of the Joint Chiefs of Staff Richard Myers, Colonel Kim Dougherty oversees the Chambers National security agenda)

Critical Infrastructure: “Terrorist groups could focus future attacks on America’s infrastructure - computer networks, electricity/power grids, water treatment facilities, bridges, etc. The protection of these assets is now a national imperative.

Recognizing that 85% of the national critical is owned by the private sector, the Chamber is playing a leading role in the Partnership for Critical Infrastructure Security (PCIS), an industry-government alliance formed to secure our country against potential cyberattacks and other unconventional threats. By working through PCI, the Chamber is bringing together interested stakeholders to share sound information security practices to help reduce vulnerabilities across industry sectors.”

- **LOKRING Technical Bulletin** “Points on LOKRING Advantages Over Flareless Bite-Type Fittings”

NAVSEA policy is to reduce or eliminate use of flareless fittings in new design ships

- There have been many documented instances by both NAVSEA and the British Royal Navy regarding blowout type failures in these types of connections

Sent: Wednesday, February 19, 2003 9:30 AM

Subject: MAIB Issues Report on 2001 Fire

The UK Marine Accident Investigation Board (MAIB) issued its report on the investigation of the fire on board HSS Stena Explorer entering Holyhead on September 20, 2001. The fire broke out in the engine room of the high-speed catamaran when a compression fitting in the fuel piping failed, allowing gas oil to be pumped onto the running engine. The fitting was found to have been incorrectly fitted at the last overhaul. The MAIB recommends that the IMO ban compression fittings from fuel lines of marine diesel engines and that extra care be exercised on ships with such fittings until the ban comes into effect.

CAUTION: Do not install ferrules of CRES 304 rather than the required CRES 17-4-PH. The softer CRES 304 ferrules may not obtain a satisfactory bite on hard materials (CRES and carbon steel) and shall not be used. To date, discrepant (CRES 304 ferrules have not been marked with the knurl used to indicate CRES 17-4-PH, so do not use CRES ferrules without the knurl. In case of doubt use a small

magnet to pick up the ferrule: CRES 17-4-PH is strongly magnetic and can be picked up, while CRES 304 is nonmagnetic and will not be picked up.

- With LOKRING the potential for mixing components is nonexistent / error proofed for installer

The fitting body seat may not be hard enough to properly form the conical ring seating surface on the tube end. As a result, the fitting body and tube and ferrule assembly may work properly only as a matched pair. Leaks may result if the tube and ferrule assembly is used with other fitting bodies, if the presetting fitting body is used with other tubes, or if the original matched pair are disassembled and reassembled in a slightly different orientation

- LOKRING IS A PERMANENT SEAL. Having to have a matched pair defeats the purpose of being able to disassemble.

WARNING: ...failed catastrophically under shock, vibration, or normal operating loads. Flareless fitting failures have caused personnel injury, damage to and unnecessary interruption of propulsion power

- LOKRING has one of the highest integrity seals under vibration. It has passed railroad certification, AAR, which is one of the most stringent vibration standards. The customer can't afford this type of failure or worry

➤ **Critical Foundations, Protecting America's Infrastructures; The Report of the President's Commission on Critical Infrastructure Protection (October 1997)**

Chapter 1, pg. 5: "Physical means to exploit physical vulnerabilities probably remain the most worrisome threat to our infrastructures *today*."

Chapter 2, pg. 6: "Our fundamental conclusion is this: ***Waiting for disaster is a dangerous strategy. Now is the time to act to protect our future.***"

Chapter 3, pg. 12: **Energy**: "Prolonged disruption in the flow of energy would seriously affect every infrastructure. The significant physical vulnerabilities for electric power are related to substations, generation facilities, and transmission lines. Large oil refineries are also attractive targets. The increase in transportation of oil via pipelines over the last decade provides a huge, attractive, and largely unprotected target array. Oil and gas vulnerabilities include lines at river crossings; interconnects; valves, pumps and compressors; and natural gas city gates. Large metropolitan areas could be deprived of critical fuel for an extended period by a properly executed attack."

Chapter 3, pg. 18: "Terrorists frequently choose prominent targets that produce little physical impact beyond the target itself, but widespread psychological impact. For a physical attack on infrastructures, less spectacular targets could be chosen, such as switching stations, communications antennas, pipelines, transformers, pumping stations and underground cables."

Chapter 7, pg. 48: “**Prevention and Mitigation** – Owners and operators will have to examine the vulnerabilities of their own assets and networks and put in place the protective measures and practices needed to achieve target levels of assurance. The government can and should support these efforts through R&D, awareness and education, threat assessments, initiatives to facilitate private sector adoption of best practices, and, possibly through direct financial assistance.”

Appendix A, Sector Summary Reports pg A-25 through A-36: “**Threats** – Threats to the US energy system arise from a number of sources including hostile governments, terrorist groups, other groups of individuals, disgruntled employees, malicious intruders, complexities, natural disasters, and accidents. More than a thousand reported incidents directed against the US energy system have been documented by the DOE over the last 15 years; some involved outages and significant damage.

Vulnerabilities – specific areas of vulnerability addressed by the Commission’s Energy team are categorized as:

- Electric power: power generation (including fuel supply) systems, transmission systems, distribution systems, electric network controls and protection systems.
- Oil and Natural Gas: supply, transportation, storage and distribution (pipelines are a joint effort with the Commission’s Physical Distribution team).

Oil and Gas Vulnerabilities – Large refineries (greater than 250,000 barrel capacity) in California, Texas, and Louisiana would be attractive targets for physical or cyber attack. The significant increase in the proportion of oil transported via pipelines over the last decade provides a huge, attractive, and largely unprotected target array for saboteurs. Elements of the pipeline system that could be targeted include lines at river crossings, interconnects, valves, pumps, and compressors. Three major pipelines in the country offer the greatest potential for significant impact if attacked successfully. However, on the positive side, over the last five years, many interconnections have been added to natural gas pipelines, making rerouting around a break easier, but this may not always be possible if the line is at capacity.

➤ **The Terrorism Research Center: Terrorism Defined**

➤ “**Certified, terrorist-free drinking water**”: “The water Quality Association is dedicated to building consumer confidence and trust in water treatment products and services, “ said WQA Technical Director Joseph F. Harrison, P.E., CWS-VI. He advised that, “The full scope and performance integrity of POU (point-of-use) and POE (point-of-entry). Drinking water treatment

➤ **OTHER ARTICLES of INTEREST**

- Tamperproof Screw Co., Inc – company that specializes in screws that are tamper proof
- U.S. Department of Labor: Construction: Fire Safety
- Technical Defense, Inc. – company that specializes in consulting on Security

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➤ **Safety Requirements for Welding, Cutting and Brazing (Kentucky OSHA Regulations)**

- Standards most frequently referenced in Welding Industry
 - 1910.253 (b)(4)(i), etc
- Sections referenced in questionnaire for General Industry
 - Installation and Operation of oxygen-fuel gas systems for welding and cutting (1910.253)
 - Manifold Systems
 - General Requirements
 - Acetylene Generators
 - Application, Installation and Operation of ARC welding and cutting equipment
 - Installation and operation of resistance welding equipment
 - Fire Prevention and Protection
 - Protection of Personnel
 - Health Protection and Ventilation

Of these (10) sections the last three is all you need to address to sell LOKRING – the risks and associated costs if nothing else is done are \$\$ TOO GREAT \$\$

- Sections referenced in questionnaire for Construction Industry
 - **Transporting, moving and storing compressed gas cylinders**
 - **Placing cylinders**
 - **Treatment of cylinders**
 - **Use of fuel gas**
 - **Fuel gas and oxygen manifolds**
 - Hose
 - Torches
 - Regulators and Gauges
 - **Oil and grease hazards**
 - Welding Cables and connectors
 - Operating Instructions
 - **Fire Prevention**
 - **Ventilation and Protection**
 - Preservative Coatings

Of these sections the bold bullets are enough to warrant the change to LOKRING

