

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
WASHINGTON, D.C. 20555

April 25, 1988

INFORMATION NOTICE NO. 88-18: MALFUNCTION OF LOCKBOX ON RADIOGRAPHY DEVICE

Addressees:

All NRC licensees authorized to manufacture, distribute, and/or operate radiographic exposure devices.

Purpose:

This notice is to advise licensees about a radiography incident that could have resulted in a significant radiation exposure to workers or members of the public. It is expected that licensees review this information for applicability to their program, distribute the notice to responsible radiation safety staff, and consider actions, if appropriate, to prevent a similar situation from occurring. However, suggestions contained in this notice do not constitute new NRC requirements, and no written response is required.

Description of Circumstances:

The State of Louisiana has reported the failure of a lockbox on a Gamma Century SA radiography camera at an offshore Texas job site. The work involved radiographic examination of welds on an oil and gas production platform. After one exposure, when the radiographer cranked the source back into the camera, the fixed insert, spring, and movable insert, along with the source assembly, came partially out of the lockbox. This left a partially unshielded radiography source, which is hazardous and could cause a serious radiation injury in a matter of seconds. The radiographer was able to secure the area and return the insert and source to the device without any overexposure. The lockbox was secured with tape and the camera returned to the manufacturer.

When the device was examined by the manufacturer, two of the roll pins that hold the fixed insert in the lockbox were missing. The third roll pin had partially come out, thus allowing the insert and the source assembly to come out of the lockbox. Since two of the pins were missing, it is believed that the other pin could have worked free due to the pivot action that might occur when cranking the source assembly in and out of the device. No explanation is offered for why two of the roll pins were missing.

Item number 2 of the attached diagram (Figure 1) shows the location of the bottom roll pin. The two other roll pins, one on each side, were located at a 45° angle from the bottom pin. The missing pins may have been identified and replaced, if this item had been added to the daily equipment checks.

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Discussion:

Section 34.28 of 10 CFR Part 34 requires daily radiographic equipment checks for defects. Licensees should verify that they have appropriate programs in place to promptly identify equipment problems and correct them immediately. Also note that potential generic defects must be reported to the NRC in accordance with 10 CFR Part 21. Licensees may also wish to review their emergency procedures to assure that their radiographers will respond properly and safely in any event such as the one described involving an unshielded source.

No written response is required by this information notice. If you have any questions regarding this matter, please contact the person listed below or the appropriate NRC regional office.

Richard E. Cunningham

Richard E. Cunningham, Director
Division of Industrial and
Medical Nuclear Safety
Office of Nuclear Material Safety
and Safeguards

Technical Contacts: Steven L. Baggett, NMSS
(301) 492-0613

R. J. Doda, Region IV
(303) 236-2805

Attachments:

1. Diagram of Affected Lockbox
2. List of Recently Issued NRC Information Notices

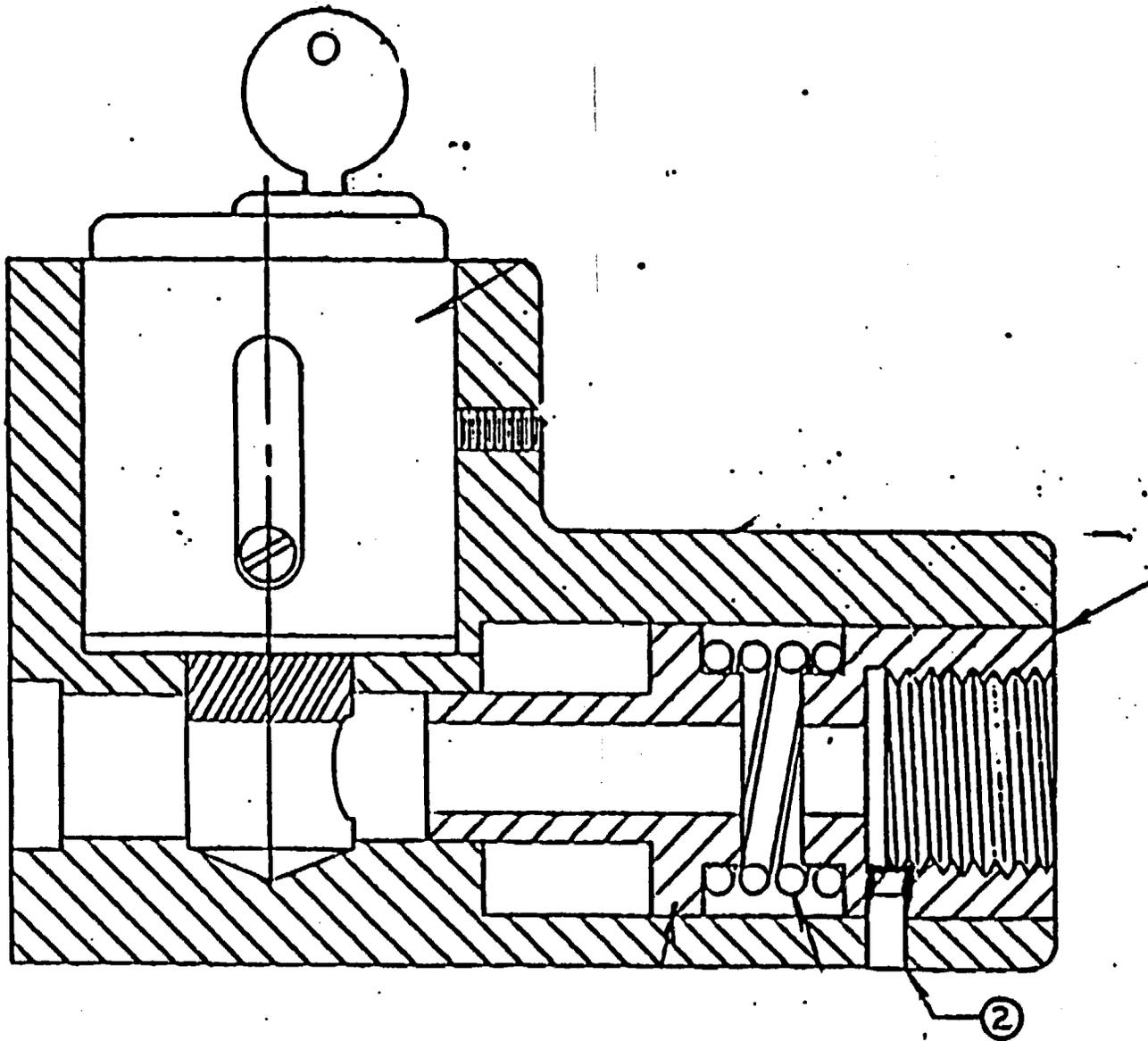


DIAGRAM OF AFFECTED LOCKBOX

Figure 1 Device, Showing Location of Bottom Roll Pin (No. 2)

LIST OF RECENTLY ISSUED
NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
88-17	Summary of Responses to NRC Bulletin 87-01, "Thinning of Pipe Walls in Nuclear Power Plants"	4/22/88	All holders of Ols or CPs for nuclear power reactors.
88-16	Identifying Waste Generators in Shipments of Low-Level Waste to Land Disposal Facilities	4/22/88	Radioactive waste collection and service company licensees handling prepackaged waste, and licensees operating low-level waste disposal facilities.
88-15	Availability of U.S. Food and Drug Administration (FDA)-Approved Potassium Iodide for Use in Emergencies Involving Radioactive Iodine	4/18/88	Medical, Academic, and Commercial licensees who possess radioactive iodine.
88-14	Potential Problems with Electrical Relays	4/18/88	All holders of Ols or CPs for nuclear power reactors.
88-13	Water Hammer and Possible Piping Damage Caused by Misapplication of Kerotest Packless Metal Diaphragm Globe Valves	4/18/88	All holders of Ols or CPs for nuclear power reactors.
88-12	Overgreasing of Electric Motor Bearings	4/12/88	All holders of Ols or CPs for nuclear power reactors.
88-11	Potential Loss of Motor Control Center and/or Switchboard Function Due to Faulty Tie Bolts	4/7/88	All holders of Ols or CPs for nuclear power reactors.
88-10	Materials Licensees: Lack of Management Controls Over Licensed Programs	3/28/88	All NRC licensees authorized to use byproduct material.

OL = Operating License
CP = Construction Permit

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(see previous concurrence*)

Editor*	DOEA*	IMAB*	IMAB*
EKraus	MKing	MALamastra	VLMiller
4/16/88	4/18/88	4/13/88	4/ /88

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OFC: IMAB*	:IMOB*	:IMOB	:IMAB*	:IMNS	:IMNS
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NAME: SBaggett/11	:JRMetzger	:DCool	:JHickey	:GSjoblom	:RECunningham
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4/16/88 1/88 4/13/88 4/14/88

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