

To: Vicki Birkland

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B. Document Number **KNF-1022-FP**

C. Title **Sharing Lessons Learned...What Have We Learned?**

D. Internal Address

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1. Is document potentially classified? No Yes (MANDATORY)

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If Yes _____ No Yes Classified
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6. Release Level? Public _____

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F. Complete for a Journal Article

1. Title of Journal

G. Complete for a Presentation

1. Title for Conference or Meeting **Pressure Safety Workshop**

2. Organ Sponsoring **Lawrence Livermore National Laboratory**

3. Date of Conference **Dec 2-4**

4. City/State **LIVERMORE, CA**

5. Will information be published in Proceedings? No Yes

6. Will material be Modified? No Yes

H. Author/Requestor?

Responsible Manager

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(Print and Sign)

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(Print and Sign)

I. Reviewers

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Sharing Lessons Learned.....What Have We Learned?

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Assistant Secretary for Environmental Management

 **Fluor Daniel Hanford, Inc.**
Richland, Washington

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HNF-1822-FP

Sharing Lessons Learned ... What Have We Learned?

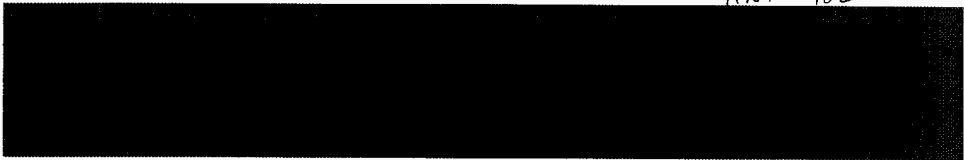
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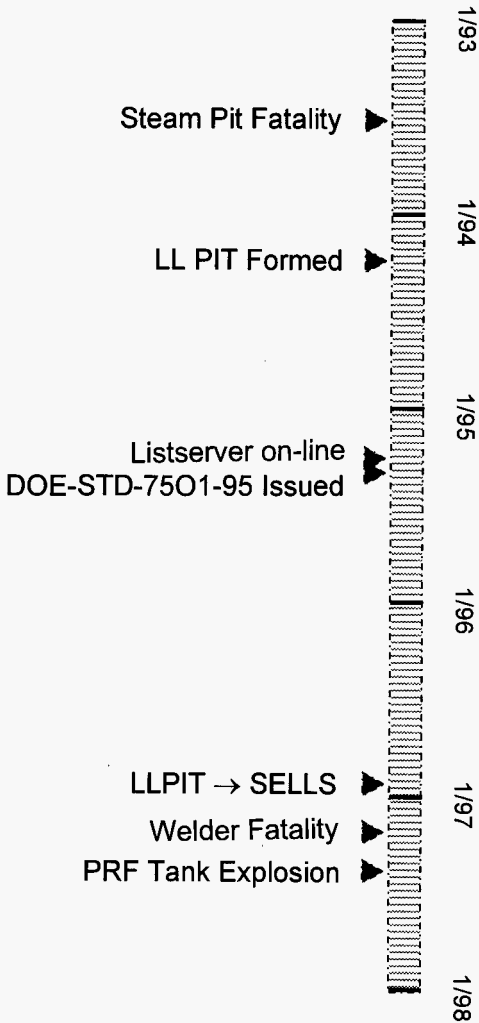
What We Will Cover

- Brief history
- The current program
- How Lessons Learned can help you

LINE-1822-FA



Lessons Learned Timeline



Definition

- A good work practice or innovative approach that is captured and shared to promote repeat applications
- An adverse work practice or experience that is captured and shared to avoid a recurrence

Hanford Sitewide Lessons Learned

TITLE: WATER HAMMER IN DRAIN PIPING IS PREVENTABLE

IDENTIFIER: 1996-RL-HNF-0062

DATE: December 18, 1996

LESSONS LEARNED STATEMENT:

Steam and water should not be mixed regardless of location. Although the steam and water were mixed in an "open-to-atmosphere" environment, steam bubbles were trapped in the return bend of the drain piping. The condensation induced water hammer occurred when those bubbles were quenched by the cooler water from the heating coils.

Steam should be introduced into drain systems slow enough to allow it to condense before reaching horizontal piping runs. Bypass valves and blowdown valves may need to be throttled as the steam header is reaching full warmup temperature and pressure. Large quantities of water should not be introduced into drain systems during steam system warmup.

For tasks that involve bringing in steam to more than one system, steam must be brought to full charge in only one system at a time if sharing a common drain header.

DISCUSSION OF ACTIVITIES:

SUMMARY:

The Waste Encapsulation and Storage Facility (WESF) recently experienced condensation induced water hammer in a drain line when water was drained into the same drain funnel that was receiving steam from steam blowdowns.

DETAILS:

On December 2, 1996, steam was being introduced to the WESF Aqueous Makeup Room (AMU) steam piping and to tank 201 (TK-201) to warm up the tank. All required blowdown valves were open and the procedure was followed as written.

The steam was introduced to the AMU slowly by cracking open the main supply valve, waiting 10 to

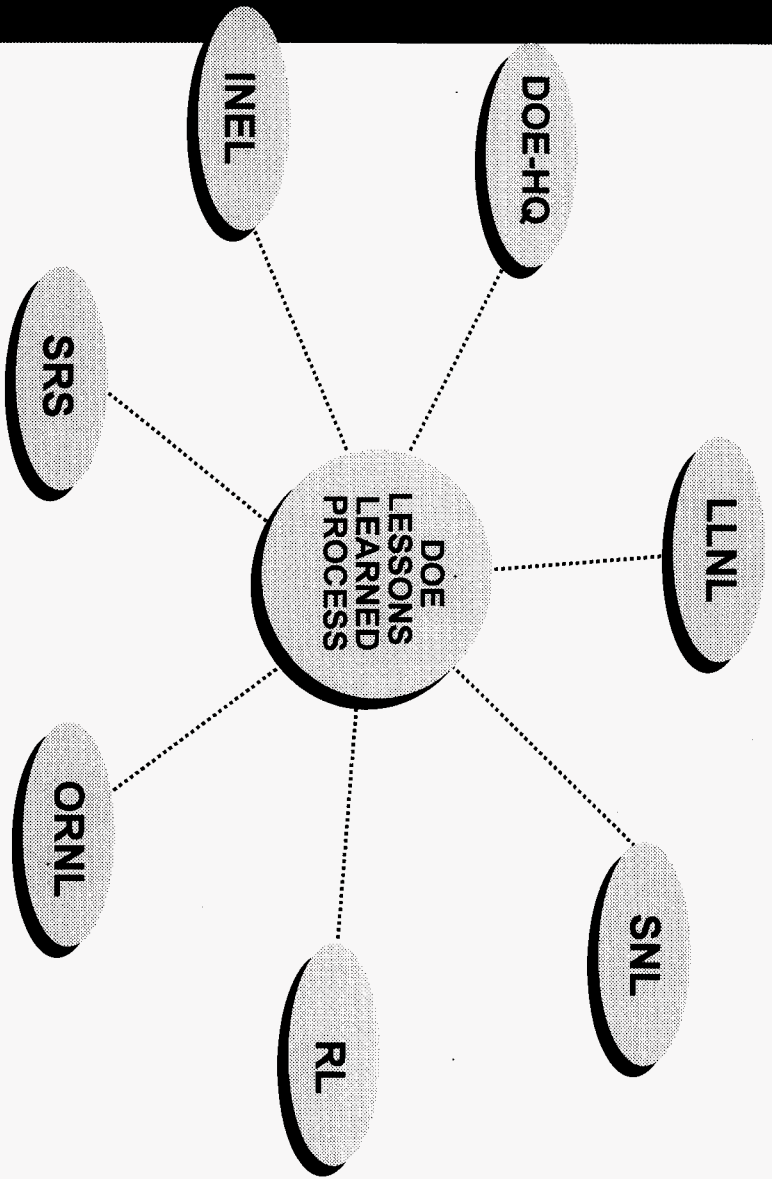
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Reasons to Share Lessons Learned

- **Safety** of our workers
- DNFSB criticism of DOE
- PAAA implications
- Saving \$\$\$
- Required by ~21 DOE Orders or Standards
- DOE-STD-7501-95

Sharing Across DOE



HNF-1822-FF

Information Sharing Tools

- Lessons learned listserver
 - ◆ Internet e-mail
 - ◆ Over 350 subscribers
- Lessons learned Web site
- Weekly conference calls
- Semiannual meetings
- Internet Newsgroup

Lessons Learned On-line

■ Listserv

- ◆ Send the message: *subscribe doe_ll_listserv*
- ◆ To: *ListManager@info-server.lanl.gov*

■ Home page

- ◆ <http://www.tis.eh.doe.gov/others/ll/ll.html>

■ Newsgroup

- ◆ News.tis.eh.doe.gov