From:	Allen Howe, Nmss
To:	Internet:pnl.gov:sr_doctor, internet:inel.gov:mta2
Date:	3/3/98 5:44pm
Subject:	UT Issues - Questions

Sorry this took so long. I walked out of the call and found out I was invited to brief management on weld issues. Please get me comments ASAP as I now need to call them anyway. Thanks -Allen

### Proposed questions:

# UT "near field" effects

The structural-lid weld examination technique, as currently described (a 10Mhz, 0.5 in. diameter transducer) would result in examination of the weld volume that was well within the near-field range of the equipment. It is known in the UT industry that the characteristics of sound waves in the near-field range are not well-behaved and that it is more difficult to obtain reliable and repeatable results from near-field examinations. From ASNT Volume 7, page 8-31, Second Edition - Examinations within the near field and test may not be reliable. Examinations within this range will need a high level of control on equipment and process to produce a reliable test.

While UT examination in the near field is possible, it is not clear what measures have been taken to address UT examination in the near-field regime to assure reliable and repeatable examination results. The owners group should be prepared to address concerns with the near-field effects during the inspection.

#### Transducer size

The size of the transducer and the resultant sound beam cross sectional area is much greater than most of the flaws that are being sized. It is known that better accuracy in flaw sizing is obtained with UT equipment that produces a sound beam cross sectional area at the flaw location that is the minimum practicable. The owners group should be prepared to address concerns with the flaw sizing accuracy of the equipment selected for this UT examination technique.

### **Examination Procedure**

Is the owners group adopting one examination method that will be uniformly implemented at the three sites or are licensee specific techniques planned?

## Schedule

Is March 16 still a valid inspection date?

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