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KERR-McGEE CORPORATION

INTERNAL CORRESPONDENCE

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RETURN ORIGINAL TO PDR, HQ.

TO S. D. Emerson DATE January 29, 1986

FROM L. S. Surtees/D. J. Milton SUBJECT Sequoyah: Agenda for Initial Plant Site Meeting with Failure Analysis Testing Laboratory Principal Investigator

The initial meeting of NRC, SFC, and Materials Engineering (ME) representatives with Battelle failure analysis investigators is scheduled for the plant site at 9:00 a.m. Friday, January 31.

Battelle will be sending two men (Buchheit and one other). Attending for Materials Engineering will be Surtees, Milton and Weinbel. Dale Smith (NRC) and W. L. Utnage (SFC) should ensure that their representatives will also be present.

Attached are:

A copy of the overall plan for conducting the failure analysis on the UF_6 shipping cylinder. This document covers objectives to be accomplished, scope of the work, and an outline of the methodology to be used.

An agenda for the meeting. This essentially covers Item 1 of the Methodology section of the above document.

Personnel scheduled to attend the above meeting should be familiar with both documents.

L. S. Surtees D. J. Milton

LSS/DJM:jks

cc: Dale Smith (NRC)
W. L. Utnage
Battelle P.I.

DESIGNATED ORIGINAL

Certified By

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Plan for Conducting Failure Analysis of UF_6 Shipping Cylinder

The failure analysis on the UF_6 shipping cylinder is to be carried out by a laboratory having recognized national stature. The laboratory and the investigators used must be acceptable to both NRC and SFC.

All proposed test work is to be documented in detail by the selected laboratory and approved by both NRC and SFC prior to starting any work on the cylinder.

The scope of this project, the methodology which will be used to carry out this work, and the management controls which will be used to expedite the work and ensure its accuracy are detailed below.

Scope of Work

The failure analysis will be conducted and managed so as to provide the following information.

(1) Mode of failure. Identify fracture initiation site(s), fracture sequencing, location of maximum strain, etc.

(2) Internal pressure required to cause failure under both design and "as-built" conditions.

(3) Whether materials of construction and fabrication met design requirements.

(4) An interpretation of vessel failure in terms of vessel design and above points (1), (2) and (3).

The study will not address factors or events leading up to the vessel failure nor will it include any recommendations on possible design changes.

Upon completion of the work all test samples will be returned to SFC. These and remaining portions of the failed cylinder will be preserved in a manner and for a time period satisfactory to NRC.

Both verbal and written interim reports, as well as a final written report, will be provided for NRC and SFC by the laboratory selected to perform the test work.

Methodology

(1) Initial meeting held at the plant site. In attendance to be the principal investigator (P.I.) from the testing laboratory, an NRC representative designated by Mr. Dale Smith, the SFC facility manager (or designated representative) and one or more representatives of the Kerr-McGee Technology Division Materials Engineering (ME) staff. Objective of the meeting will be to familiarize the P.I. with the cylinder and agree on:

a. What specific tests are to be performed, how this work will be done, what standard procedures will be used, etc. This includes all field and laboratory tests and both non-destructive and destructive tests.

b. What specific cutting operations will be made on the cylinder, how they are to be done, and by whom.

c. Procedures for decontaminating and shipping sectioned test samples.

d. What specific laboratory tests NRC and SFC representatives want to witness and the amount of advance notice they will require. A schedule will be provided so that NRC, SFC, and ME personnel may observe them as they desire.

e. An overall schedule for all test work.

f. Type and frequency of interim reports by the P.I. and the communication channels by which this information will be relayed to concerned NRC, SFC and ME personnel.

(2) P.I. returns to his laboratory and writes up proposal for doing work agreed on in Item (3). NRC, SFC and ME representatives review, amend, and/or approve the test proposal document.

(3) On approval of test proposal document, P.I. returns to the SFC facility and performs the agreed to non-destructive tests and measurements. Tank sectioning then take place. Work will be scheduled to permit witnessing by NRC, SFC and ME personnel.

(4) Sectioned tank test specimens are decontaminated by plant personnel under the direction of the P.I. and prepared for shipment to the test laboratory. Remaining tank sections are protected and stored in a manner satisfactory to NRC representatives.

(5) Samples are shipped to P.I. laboratory facility.

Methodology Continued

(6) Agreed to (Item 2) laboratory test program is carried out by the P.I. and other laboratory personnel acceptable to NRC, SFC, and ME observers per previous agreement. P.I. to provide adequate notice of test times to all concerned NRC, SFC, and ME personnel.

(7) P.I. to provide to ME verbal interim status reports on an agreed to frequency (Item 1.f above). Significant findings are to be verbally reported immediately. All verbal reports will be relayed promptly (same day) to designated NRC and SFC personnel.

(8) P.I. to provide a written status report to NRC, SFC and ME on February 17. A final written report will be due two weeks after completion of all laboratory test work.

(9) NRC and SFC review, comment and/or approve the report. Following approval, and upon notification by NRC that no further testing will be required, the P.I. will be instructed to return all test samples to SFC. Test samples will be preserved in a safe manner until advised by NRC that they can be disposed of.

Agenda

UF_6 Cylinder Failure Analysis
Initial Meeting Between NRC, SFC, ME and Test Lab Representatives

I. Site inspection

II. Meeting

(1) Introduction (review of objectives and methodology)

(2) Tests and measurements

a. On site non-destructive

b. Laboratory

c. Stress analysis

(3) Operations

a. Vessel location and support

b. Marking and cutting cylinder

c. Movement of cylinder on site if required

d. Decontamination of samples

e. Preparation of samples for shipment (packaging)

f. Shipment of samples (method and custody transfer)

g. Protection and storage of remaining cylinder parts

h. Return of samples to SFC

(4) Laboratory test witnessing (by who, which tests, advance notice requirements).

(5) Schedule preparation (major milestones from time of this meeting).

(6) Communications

a. Interim reports (type, frequency and communication channels)

b. Final report