

REQUEST FOR RECORDS DISPOSITION AUTHORITY <i>(See Instructions on reverse)</i>		LEAVE BLANK	
TO GENERAL SERVICES ADMINISTRATION NATIONAL ARCHIVES AND RECORDS SERVICE, WASHINGTON, DC 20408		JOB NO NCL-142-85-1	DATE RECEIVED 12-11-84
1. FROM <i>(Agency or establishment)</i> Tennessee Valley Authority		NOTIFICATION TO AGENCY	
2. MAJOR SUBDIVISION Office of Engineering		In accordance with the provisions of 44 U.S.C. 3303a the disposal request, including amendments, is approved except for items that may be marked "disposition not approved" or "withdrawn" in column 10. If no records are proposed for disposal, the signature of the Archivist is not required.	
3. MINOR SUBDIVISION			
4. NAME OF PERSON WITH WHOM TO CONFER Ronald E. Brewer	5. TELEPHONE EXT FTS 858-2520	DATE 10-31-85	ARCHIVIST OF THE UNITED STATES <i>Frank A. Bunker</i>
6. CERTIFICATE OF AGENCY REPRESENTATIVE			

I hereby certify that I am authorized to act for this agency in matters pertaining to the disposal of the agency's records, that the records proposed for disposal in this Request of _____ page(s) are not now needed for the business of this agency or will not be needed after the retention periods specified, and that written concurrence from the General Accounting Office, if required under the provisions of Title 8 of the GAO Manual for Guidance of Federal Agencies, is attached

A GAO concurrence is attached, or is unnecessary

B DATE 12-5-84	C SIGNATURE OF AGENCY REPRESENTATIVE <i>Ronald E. Brewer</i>	D TITLE Assistant TVA Archivist
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7 ITEM NO	8 DESCRIPTION OF ITEM <i>(With Inclusive Dates or Retention Periods)</i>	9 GRS OR SUPERSEDED JOB CITATION	10 ACTION TAKEN <i>(NARS USE ONLY)</i>
1.	<p><u>Records of Tornado Missile Penetration Testing</u></p> <p>This record series consists primarily of audiovisual records documenting tornado simulation tests conducted for the purpose of finding an economical barrier that would eliminate the danger of tornado missiles to structures, systems, and components important to the safety of nuclear plants without the loss of capacity to perform safety functions.</p> <p>Five, 16-mm color films were made and approximately 1,000 color slides were taken by the Civil Engineering Branch Research and Development Staff during tests conducted at Muscle Shoals Reservation (October 1975), Tellico site (September 1976), and Courtland Air Force Base (August 1977). During these tests, telephone poles, pipes, and steel rods were dropped from a helicopter to accelerate the missiles to a velocity required to study their dynamic penetration into various surfaces. 1500 pound telephone poles, one-inch steel rods, and standard pipes (3", 6", and 12") were dropped into soil, crushed limestone, and concrete. Fast action cameras were used to create the motion picture film; this film provided raw data in measuring deceleration curves and</p>		

Request for Records Disposition Authority - Continuation

JOB NO

PAGE OF
2 of 4

7 ITEM NO	8 DESCRIPTION OF ITEM (With Inclusive Dates or Retention Periods)	9 SAMPLE OR JOB NO	10 ACTION TAKEN
1.	<p>penetrations. Color slides were also made during the testing to document the falling of the missiles and the structural damage caused by the missiles. A slide index listing by test numbers of the tornado missile penetration testing includes the location of each test, the dates of testing, type of missile, and number of slides in each box.</p> <p>Also included in this record series is a copy of the Civil Engineering (CEB) Report documenting the results of the tornado missile penetration testing. This report will be used for reference on which data was extracted from the tests and on data which could be extracted in the future. (The record copy CEB Report is microfilmed in the Management and Engineering Data Systems (MEDS) scheduled in NCI-142-77-8.)</p> <p>Because the data obtained from these testing records was used in developing the design criteria for the protective barriers for the emergency cooling water lines at TVA's Watts Bar and Sequoyah nuclear plants, these records are considered quality assurance (QA) records (ANSI N45.2.9-1974, App. A.1) and require QA storage.</p> <p>These records were created during the years 1975-1977 and have a total volume of approximately 2 cu.ft., arranged by location of test, date of test, and then test number.</p> <p><u>Disposition:</u></p> <p>A. Originals - Destroy when last related nuclear facility is retired. (Transfer immediately to Federal Records Center at East Point, GA for QA storage. TVA to review retention requirements every 15 years.)</p> <p>B. Duplicates Destroy in agency when no longer needed for reference.</p> <p>2. <u>Records of Pipe Break Load Testing on Pipe Supports</u></p> <p>This record series consists primarily of audiovisual records created during pipe break load testing on pipe supports. This pipe break load testing was conducted in</p>	<p>GRS 21:8 (slides) GRS 21:26 (film)</p> <p>GRS 21:19 (film)</p>	

Request for Records Disposition Authority - Continuation

JOB NO

PAGE OF
3 of 4

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	<p>1982 by the Civil Engineering Branch Research and Development Staff. Testing consisted of connecting a 1" pipe to a steam extraction line, pressurizing the line to 1000 lbs. per square inch. Instrumentation connected to a 14 channel recorder was then placed on the support and pipe, pressure applied to the pipe, recording equipment brought up to speed and the end blown off the pipe. The time history of stress, strain, and acceleration during the next 100 milliseconds provided basic data regarding the structural response of the system. Testing of the pipe supports was recorded on 16mm motion picture film; testing of pressure and temperature gauges was recorded on video tape.</p> <p>Data from these records aided in the design of pipe support systems in nuclear plants, providing important information on the survivability of supports and aiding in determining the input parameters for computer modeling of the pipe breakevent.</p> <p>The test program was initially conceived as part of an overall program which would: (1) Provide insight into analysis techniques which would allow the analyses to better predict the actual phenomenon; (2) Provide insight into the area of adding realism to impact load factors; (3) Provide guidance for the design of pipe rupture mitigating devices; and (4) Allow significant savings in design, construction, material utilization, and overall operation and maintenance costs. This information is being evaluated by the Electrical Power Research Institute (EPRI) to assist in guidance for further research in pipe support behavior. EPRI is a professional association of power companies of which TVA is a member.</p> <p>This series includes a copy of the Civil Engineering Branch (CEB) Report documenting the results of the pipe break load testing on piping supports. (The record copy CEB Report is microfilmed in the Management and Engineering Data Systems (MEDS) scheduled in NC1-142-77-8.)</p> <p>Because this testing data was used to support the design of pipe supports at several TVA nuclear plants, the records are considered quality assurance (QA) records (ANSI N45.2.9-1974, App. A.1) and require QA storage. There is approximately .5 cu.ft. of material (one 16mm, 100 ft. film and one 3/4" video cassette tape).</p>		

Request for Records Disposition Authority – Continuation

JOB NO

PAGE OF
4 of 4

7 ITEM NO	8 DESCRIPTION OF ITEM (With Inclusive Dates or Retention Periods)	9 SAMPLE OR JOB NO	10 ACTION TAKEN
2.	<p><u>Disposition</u></p> <p>Destroy when last related nuclear facility is retired. (Transfer immediately to Federal Records Center at East Point, GA for QA storage. TVA to review retention requirements every 15 years.)</p>	<p>GRS 21:26 (film) GRS 21:45 (video)</p>	