

# TENNESSEE VALLEY AUTHORITY

CHATTANOOGA, TENNESSEE 37401  
1110 Chestnut Street Tower II

October 14, 1981

Mr. Earl Wright  
U.S. Nuclear Regulatory Commission  
Division of Fuels Cycle and Material Safety  
Material Certification and Procedures Branch  
Washington, DC 20555

Dear Mr. Wright:

## RAPID SULFUR METER (RSM) BYPRODUCT MATERIAL LICENSE INFORMATION

This letter is to document recent telephone conversations between you and Gary MacDonald of my staff and to clarify several points regarding the RSM license review.

As discussed, enclosed is a schematic drawing of the pneumatic neutron source retractor mechanism. If air pressure drops, enough air remains in the system to retract the source. The source can also be retracted by manually pulling the source back. Also enclosed are sketches of the main and remote panels of the RSM. Tables 1-4 list the sequence of events, logic, and indicator lights on the panels for: (1) normal operation, (2) plug-induced shutdown or chute gate fault, (3) surge-induced temporary bypass, and (4) calibration with boxed coal samples. The RSM's limiting temperature range can best be described as the maximum continuous service temperature (92°-200°C, 197°-392°F). This temperature is based on the maximum service temperature for the high density polyethylene coal chute through the center of the device. As an added safety feature, the paraffin shielding contains borax as a fire retardant and TVA will install a sprinkler system above the device. As discussed, due to the RSM's environment and location in the building, the potential for vibration, corrosion, and impact damage is minimal. The high standards placed on the electrical system surrounding the device make the probability of explosion from electrical fire extremely remote. As stated in previous correspondence, leak testing will be performed every six months until sufficient data is collected to support lengthening the testing intervals. At the time of delivery and before acceptance by TVA, the source will be checked physically and radiologically by both TVA's Radiological Hygiene Branch and the manufacturer.

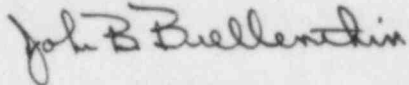
On the original license application we listed a Cobalt 60 sealed source. We are not planning to use this source and request that it be removed from the application.

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NMSS LIC30  
41-08165-12 PDR

Mr. Earl Wright  
October 14, 1981

If you have any questions or require any further explanation, please feel free to contact me or Gary MacDonald at FTS 857-6531, 1110 Chestnut Street Tower II, Chattanooga, Tennessee 37401.

Sincerely,

A handwritten signature in dark ink, appearing to read "John B. Brellenthin". The signature is written in a cursive style with a large initial "J" and a prominent "B".

J. B. Brellenthin  
Chief, Environmental Support Staff

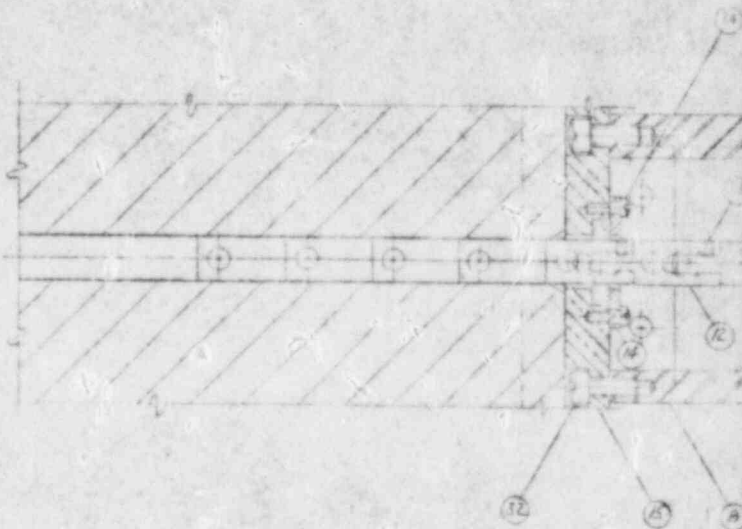
Enclosures

Added by  
EAW 12/7/81

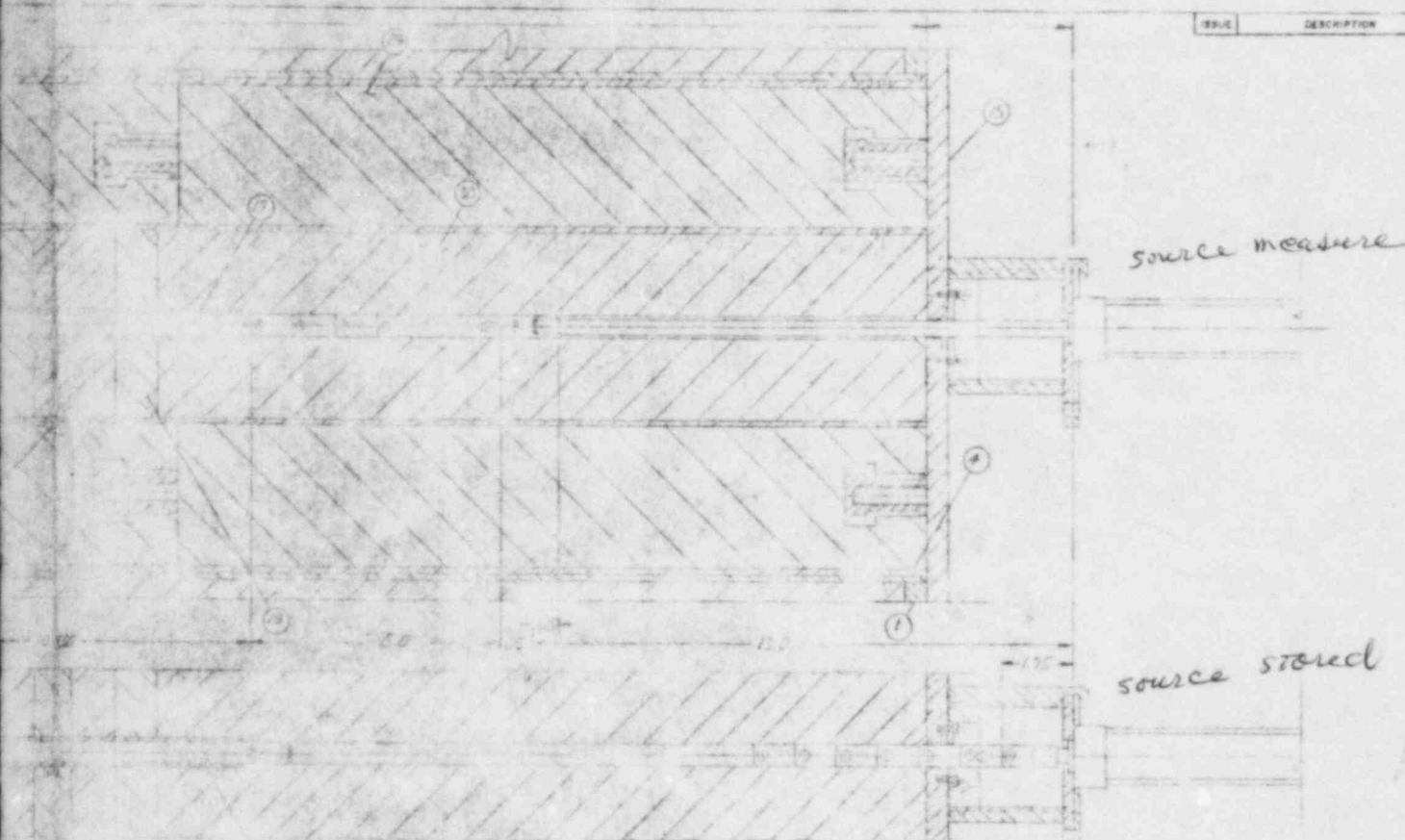
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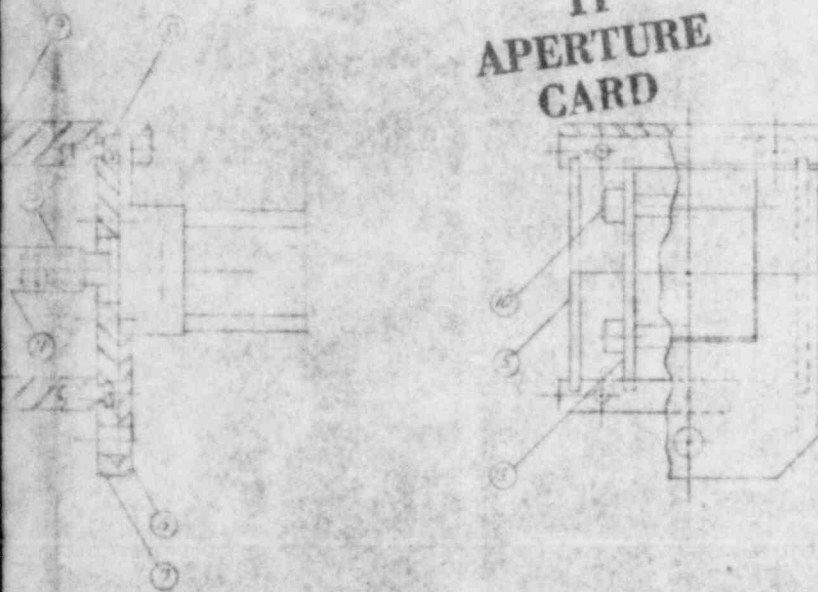


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# TI APERTURE CARD



SCALE: FULL

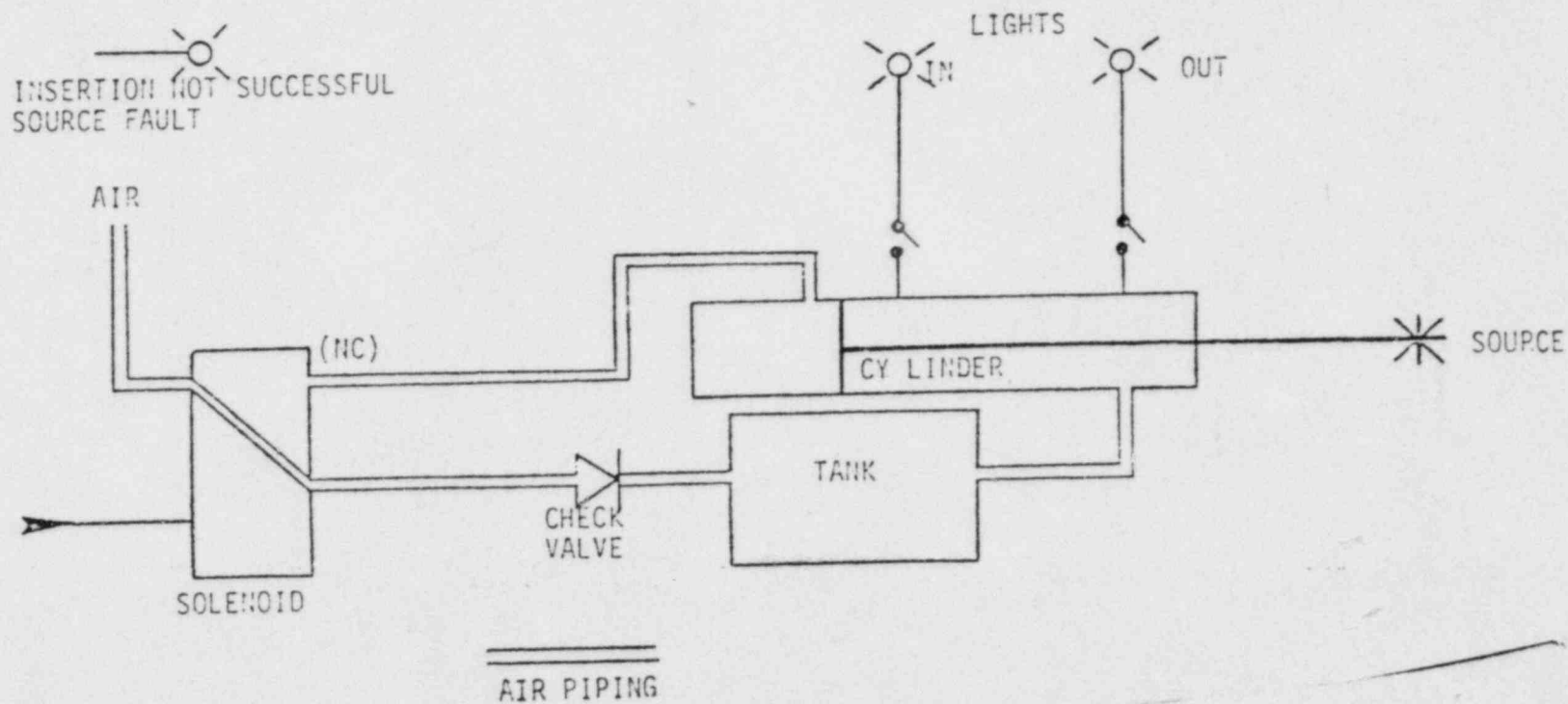
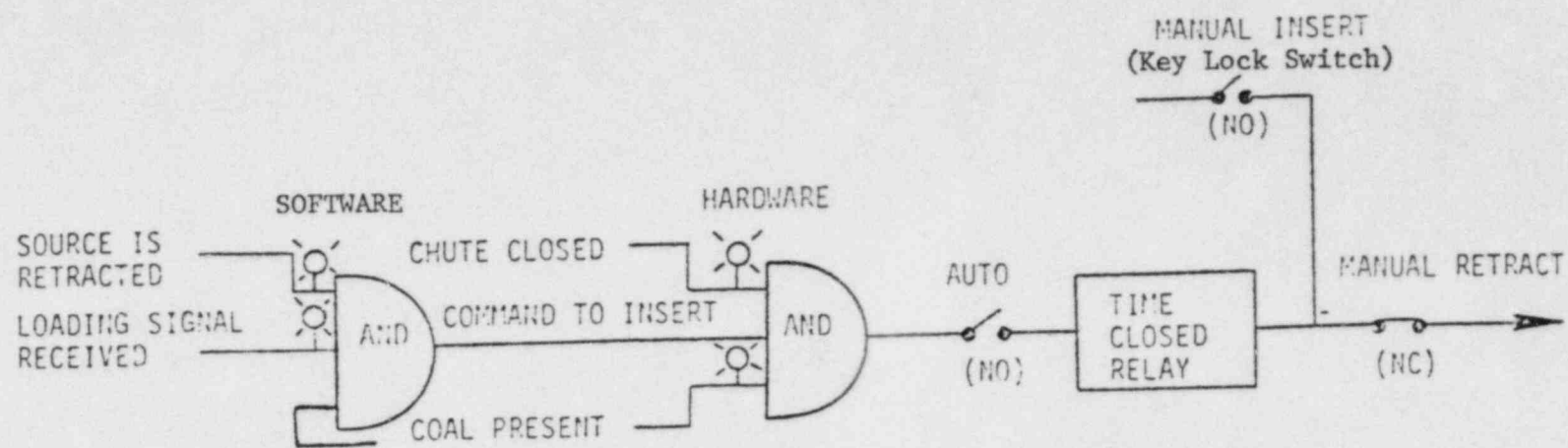
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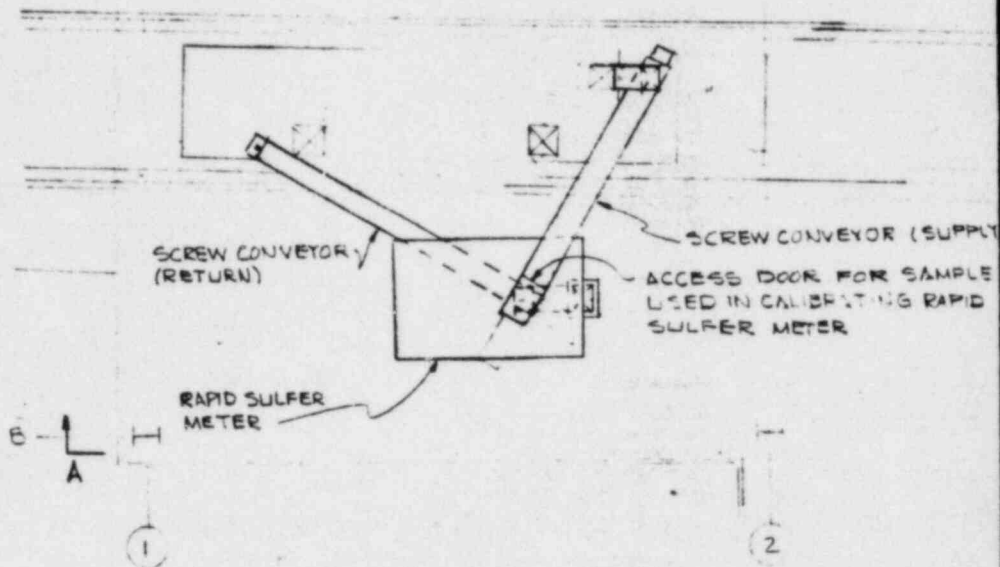
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Science Applications Inc.  
Sunnyvale, Calif.



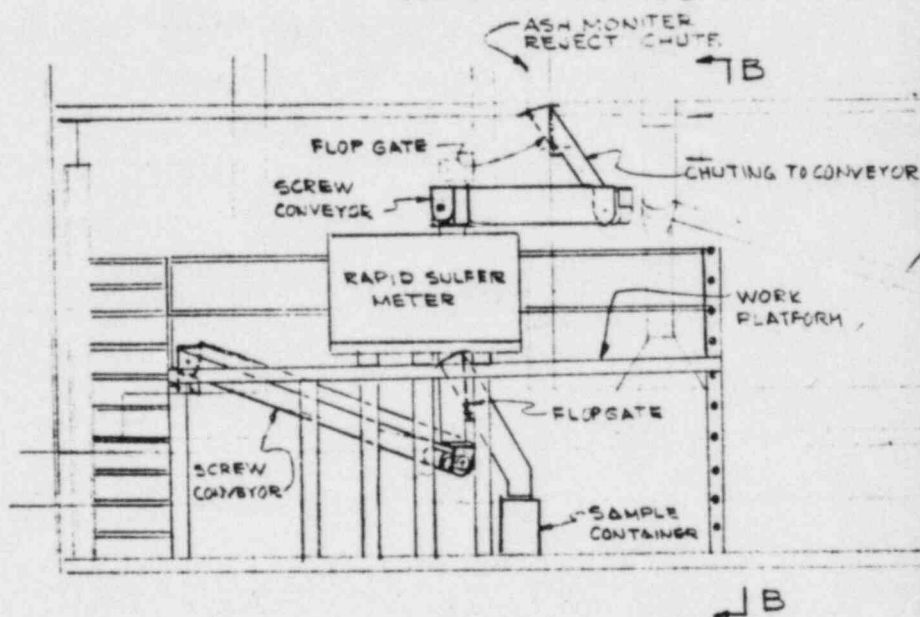
# LOGIC DIAGRAM FOR SOURCE INSERTION



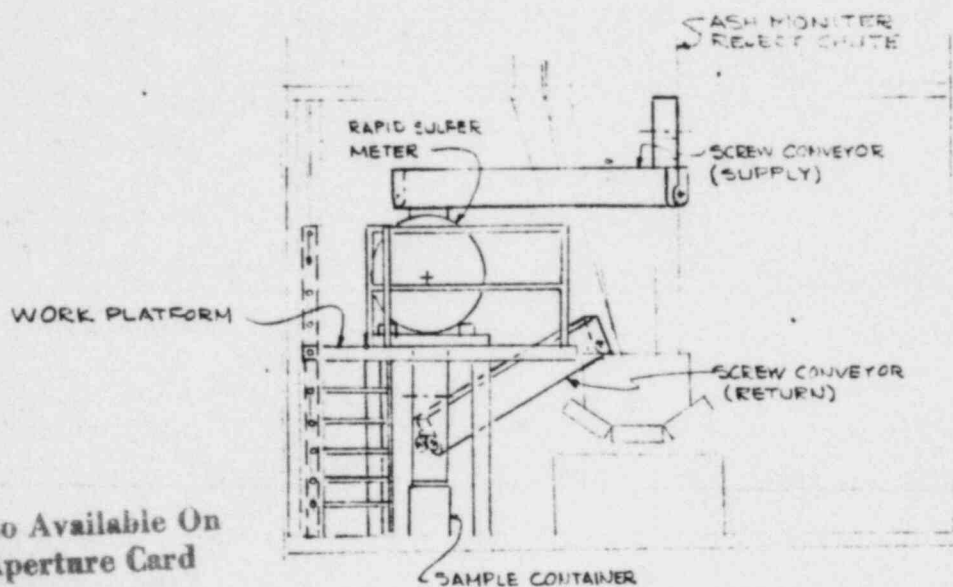


WORK PLATFORM NOT SHOWN FOR CLARITY

PLAN- SAMPLE BUILDING  
ELEVATION 428'-6 1/2"



ELEVATION A-A



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### ELEVATION B-B

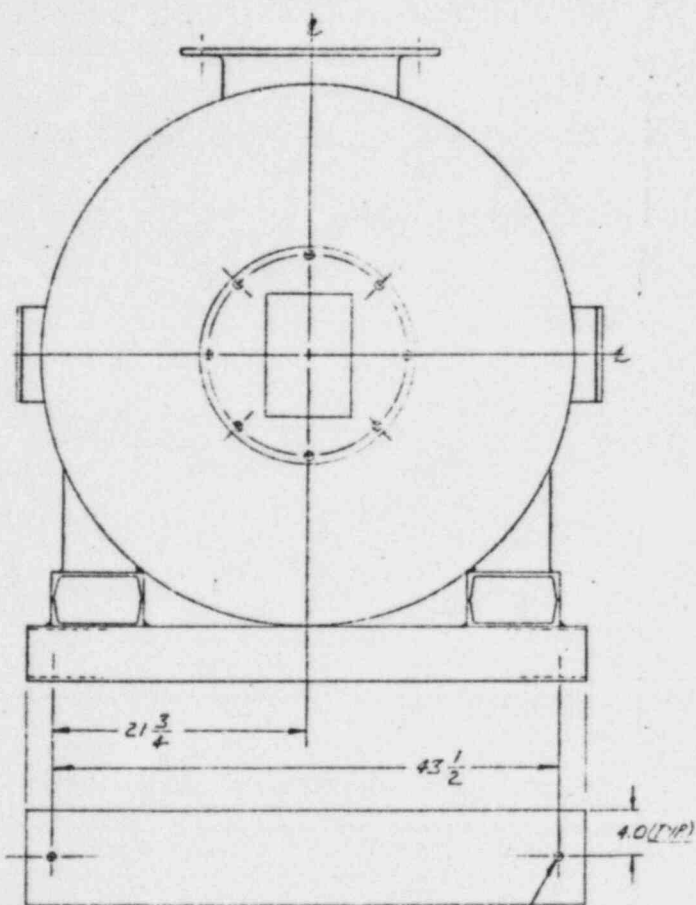
NOTE:  
THIS DRAWING IS FOR GENERAL  
ARRANGEMENT PURPOSES ONLY

TENNESSEE VALLEY AUTHORITY  
DIVISION OF POWER PRODUCTION

PROPOSED INSTALLATION OF  
RAPID SULPHUR METER  
PARADISE FOSSIL PLANT

SCALE: 1" = 1'-0"	SUBMITTED	APPROVED	DATE: 1-10-68
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TRACED: J. G. S.			08-64
CHECKED: J. G. S.			TSS: J. G. S.

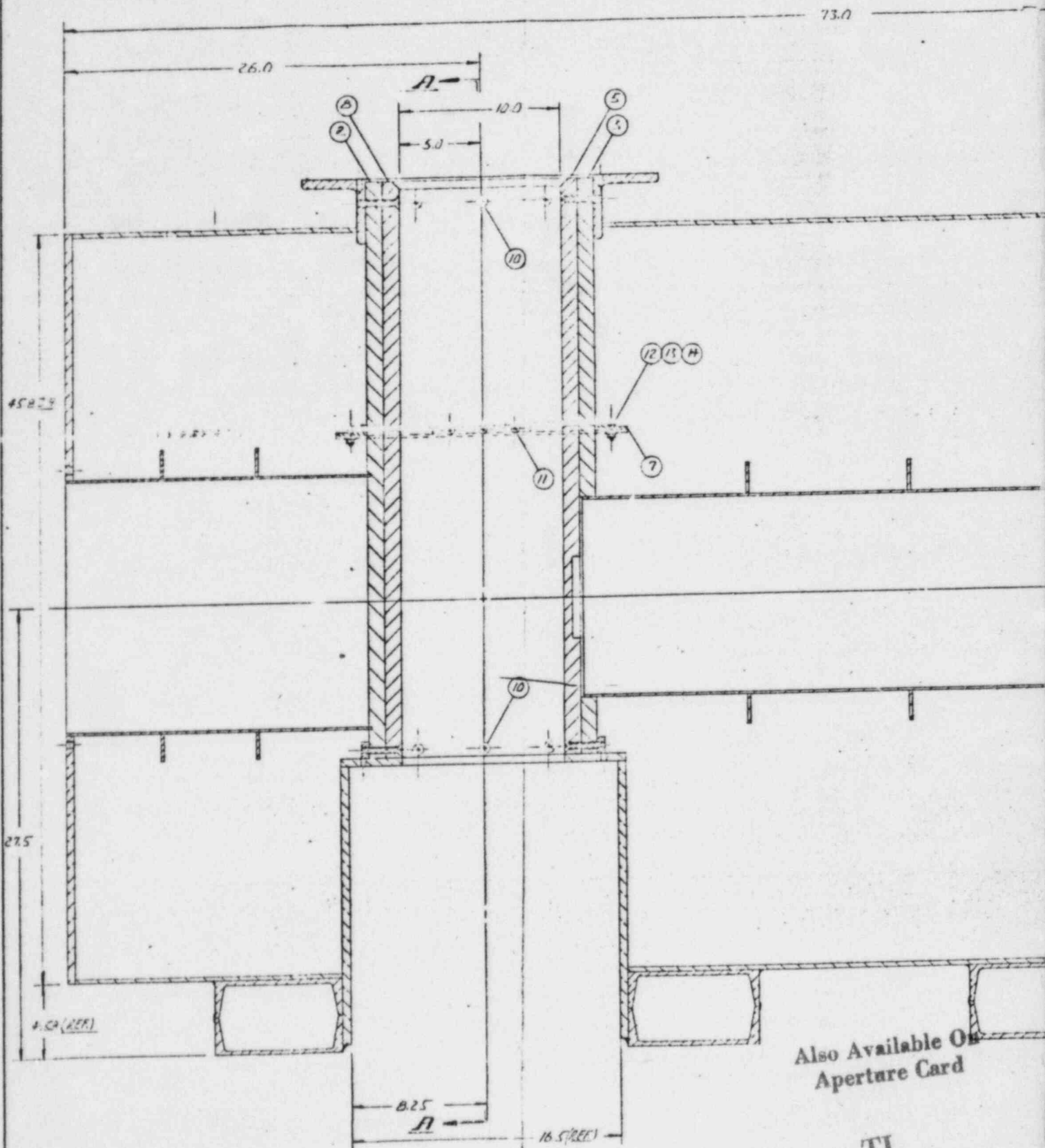
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Technical drawing of a mechanical assembly. Dimensions shown include  $12 \frac{1}{4}$ ,  $26.0$ ,  $13 \frac{1}{4}$ , and  $2.9$ . Callouts 3 and 4 point to specific components. The drawing includes a cross-section of a cylindrical part and a detail view of a rectangular component with four screws.







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