



LONG ISLAND LIGHTING COMPANY

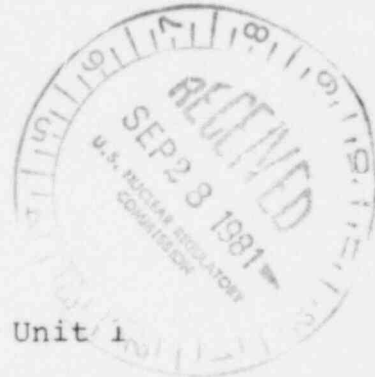
SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

September 25, 1981

SNRC-622

Mr. Harold R. Denton, Director
Office Of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555



Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Dear Mr. Denton:

Enclosed herewith are fifteen (15) copies of the items listed below, submitted in response to issues identified in the SER Supplement as requiring additional information:

- (1) Course Outline for Core Damage Mitigation Training
(SER Supplement Item II.B.4)
- (2) As Built Drawings of Fire Damper Assembly
(SER Supplement Item 45)
- (3) Air Balance Inc. letter containing damper operating
sequence (SER Supplement Item 45)

If you require additional information or clarification, please do not hesitate to contact this office.

Very truly yours,

B. R. McCaffrey
B. R. McCaffrey
Manager, Project Engineering
Shoreham Nuclear Power Station

RW/pg

Enclosures

cc: J. Higgins

Boo 5/1

CORE DAMAGE MITIGATION TRAINING

I PURPOSE:

The purpose of this Program is to provide Shift Technical Advisors and operating personnel from the Plant Manager through the operations chain to licensed operators, instruction related to degraded core recognition and methods for recovery from the degraded core condition. Managers and technicians in the Instrumentation and Control, Health Physics, and Radiochemistry Sections will participate in the program to a degree commensurate with their responsibilities.

II OBJECTIVE:

The Program objective is to increase participant awareness of the methods available for use in recognizing the degraded core condition. In addition, participants will receive hands on experience in the use of Emergency Procedure Guidelines - a logical approach to core transient and damage mitigation.

III PROGRAM DESCRIPTION:

Approximate Contact Hours

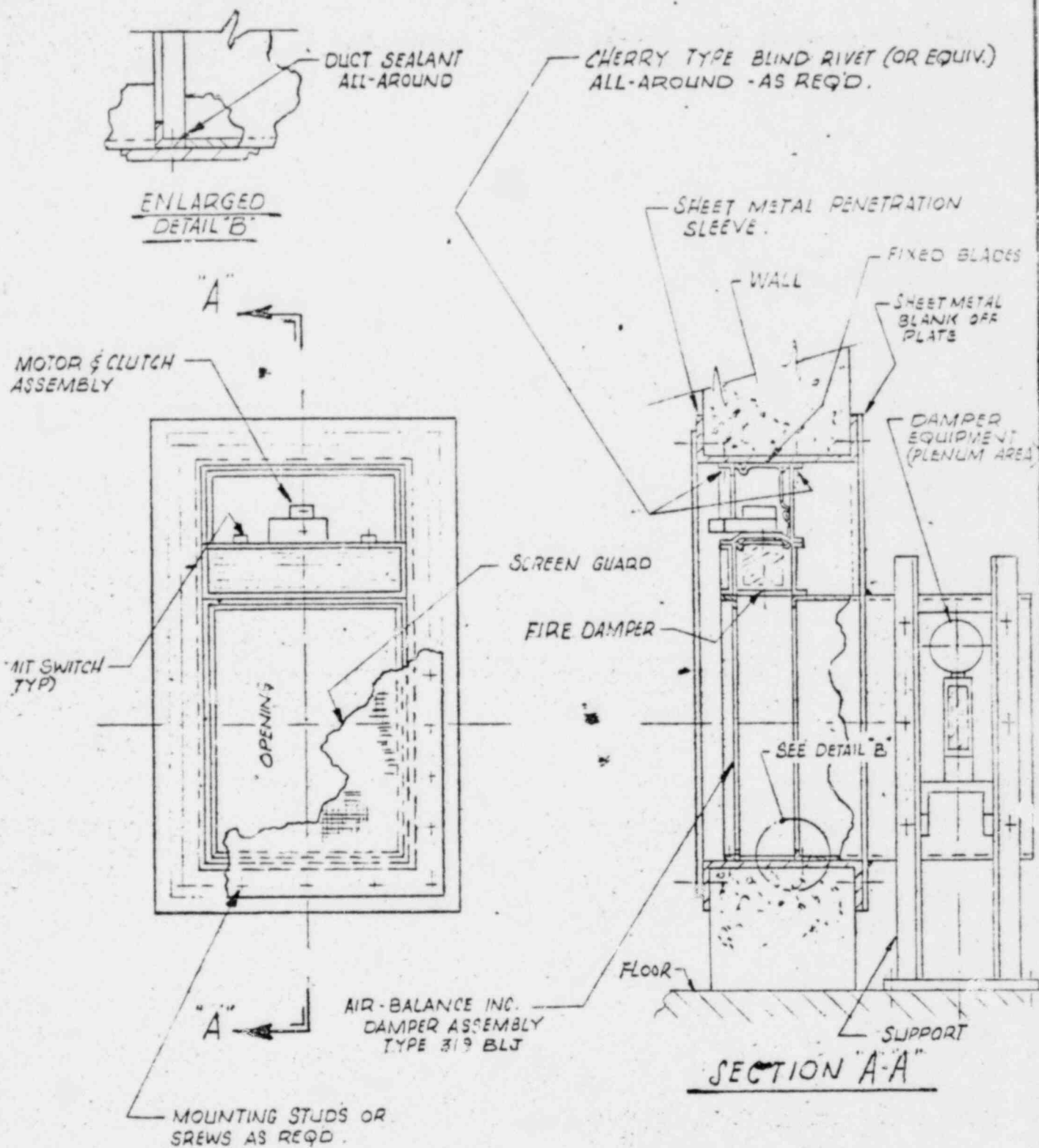
Day 1: Core Cooling Mechanics/Accident Recognition

- Introduction - Adequate Core Cooling 1 hour
- Heat Sources - Residual and Decay 1 hour
- Core Cooling Mechanism - Liquid vs. Vapor Cooling 1 hour
- Fuel and Core Damage Thresholds - Safety Limits 1 hour
- Inadequate Core Cooling Condition Recognition 2 hours
 - 1. Critical Parameter Identification
 - 2. Critical Parameter Monitoring Methods
- Accident Recognition Review 2 hours

Day 2: Core Damage Mitigation

- Fixed/Moveable Nuclear Instrument Use 1 hour
- Process Instrument Response in an Accident Environment 1 hour
- Alternative Parametric Measurement Methods 1 hour
- Degraded Core Effects on Reactor Plant Chemistry (expected contaminant isotopic breakdown) 1.5 hours
- Process/Area Radiation Monitor Response 1 hour
- Accident Environment Dose Rate Determination .5 hour

• Corrosion effects on materials immersed in reactor coolant	.5 hour
• Gas Generation Sources and Disposal Techniques	2 hours
Day 3: Core Damage Mitigation (continued)	
• Review of Core Damage Mitigation Techniques	2 hours
• Examination	1 hour
• Examination Review	1 hour
Core Transient Identification and Damage Mitigation - Use of Emergency Procedure Guidelines	4 hours
• Affected Systems Identification	
• Mitigating Systems Availability	
• Containment Integrity Control	
• Action Level Limit Identification	
1. Reactor Water Level Control	
2. Cold Shutdown Establishment	
3. Containment Integrity Control	
Day 4: Core Transient Identification and Damage Mitigation - Use of Emergency Procedure Guidelines (continued)	8 hours
Day 5: Core Transient Identification and Damage Mitigation - Use of Emergency Procedure Guidelines (continued)	4 hours
• Emergency Procedure Guidelines - Walkthrough Examination	2 hours



TYPICAL INSTALLATION FOR FLUSH MOUNTED FIRE DAMPER
(DAMPER INSIDE WALL)

DRAWN BY: J.A.P.

DATE: 9-13-81

SCALE: NONE

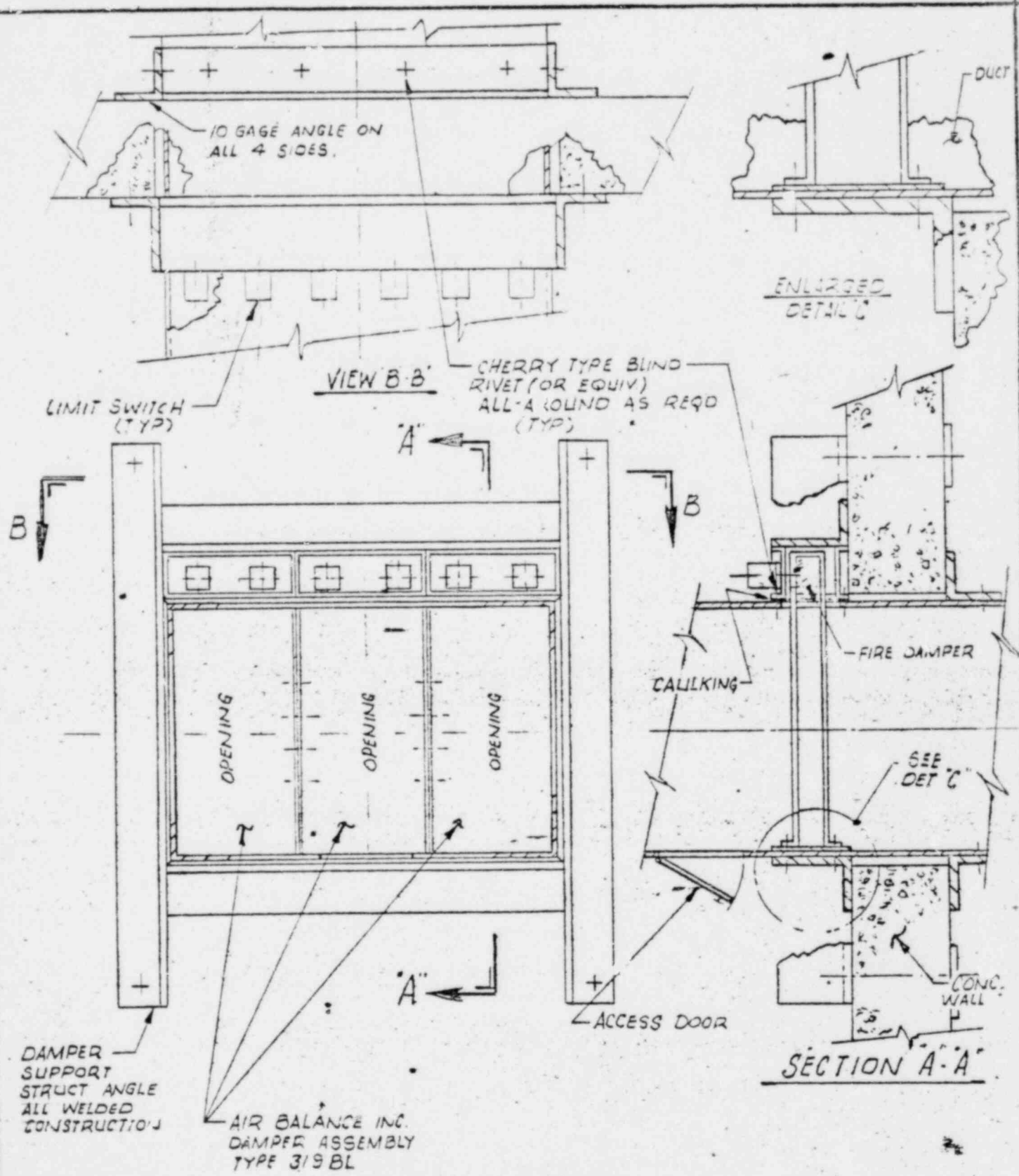
CHECKED BY: R.L.V.

DATE: 9-18-81

APPROVED BY: YV

DATE: 9-18-81

586

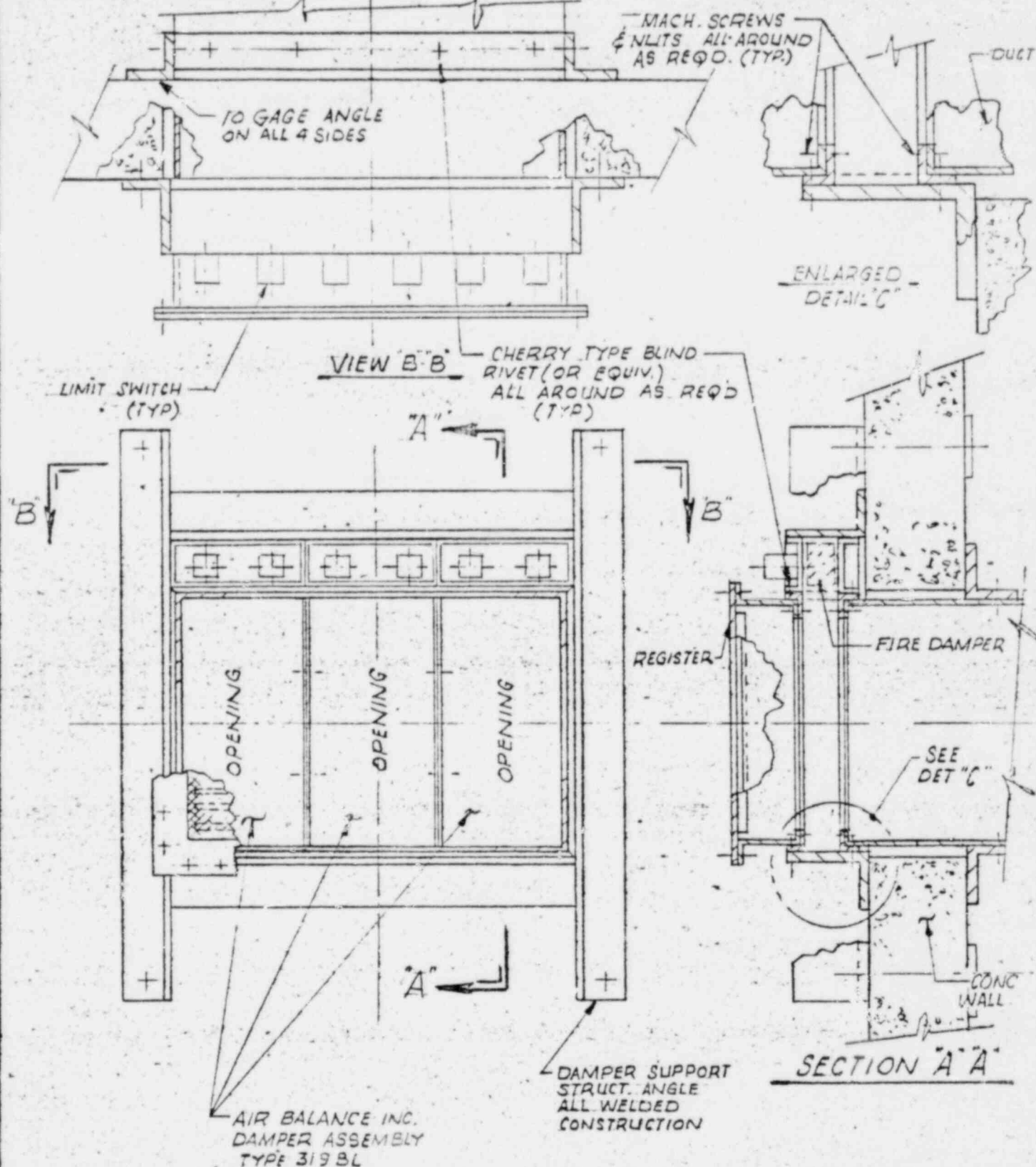


TYPICAL INSTALLATION FOR FIRE DAMPER MOUNTED IN DUCT
(DAMPER OUTSIDE WALL)

DRAWN BY: J.A.P. DATE: 9-18-81
 CHECKED BY: R.L. DATE: 9-18-81
 APPROVED BY: J.W. DATE: 9-18-81

SCALE: NONE

585



TYPICAL INSTALLATION FOR FIRE DAMPER MOUNTED IN DUCT WITH REGISTER
(DAMPER OUTSIDE WALL)

DRAWN BY: JAP

DATE: 9-18-81

SCALE: NONE

CHECKED BY: JPL

DATE: 9-18-81

APPROVED BY: JPL

DATE: 9-18-81

587



air balance inc.

260 NO. ELM STREET, WESTFIELD, MASS. 01085

Phone: (413) 568-9571

Telex: 95-6444

September 2, 1981

Mr. Ram Kohli
Stone & Webster Engineering Co.
245 Summer Street
Boston, Mass. 02107

Subject: Shoreham Nuclear Power Plant Unit No. 1

Dear Mr. Kohli:

At the request of Mr. Nulty, I am writing to clarify the conditions of fire damper installations.

The suggested installations for Model 319BLJ damper are not new in the Industry. The 1975 Michigan State Fire Marshal Fire Damper Guide entertains a similar wall installation in Figures 32 and 33 (copy attached).

UL has approved Operator #2430 (UL-6) and the solenoid concept under File R7408. The damper is approved for both 1½ HRS and 3 HRS under File R4708.

In accordance with Diagram Dwg. #B30-1716 Rev. ____ (copy attached), the following is a sequence of operations (Note that the operator is not energized when the damper remains open):

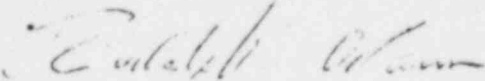
1. Power is supplied as required.
2. The motor and solenoid are energized. The clutch engages and the motor opens the fire damper.
3. When the damper is full open, the normally closed contact of Switch PNS-1 opens to de-energize the motor and the normally open contact of Switch PNS-1 closes to light the red "Remote Status Light". The normally closed contact of Switch PNS-2 opens. The solenoid remains energized and the damper remains open.
4. When power to the solenoid is interrupted, either through the opening of the CO₂ initiated switch or by interruption of the power supply, the solenoid is de-energized and the damper closes. The CO₂ initiated switch opens to prevent the motor operator from being re-energized when the closing damper returns Switch PNS-1 to its closed position.
5. The closing damper extinguishes the red "Remote Status Light" through the opening of Switch PNS-1. Switch PNS-2 returns to its normal closed position.

Stone & Webster
Page 2.
9/2/81

While individual components or concepts have UL approval, the total damper and control arrangement does not have a composite approval.

I trust that this will meet your needs.

Very truly yours,



Rudolph J. Adams
Chief Engineer
RJA:lms
enclosures

cc: Mr. G. Nulty/ABI NYC

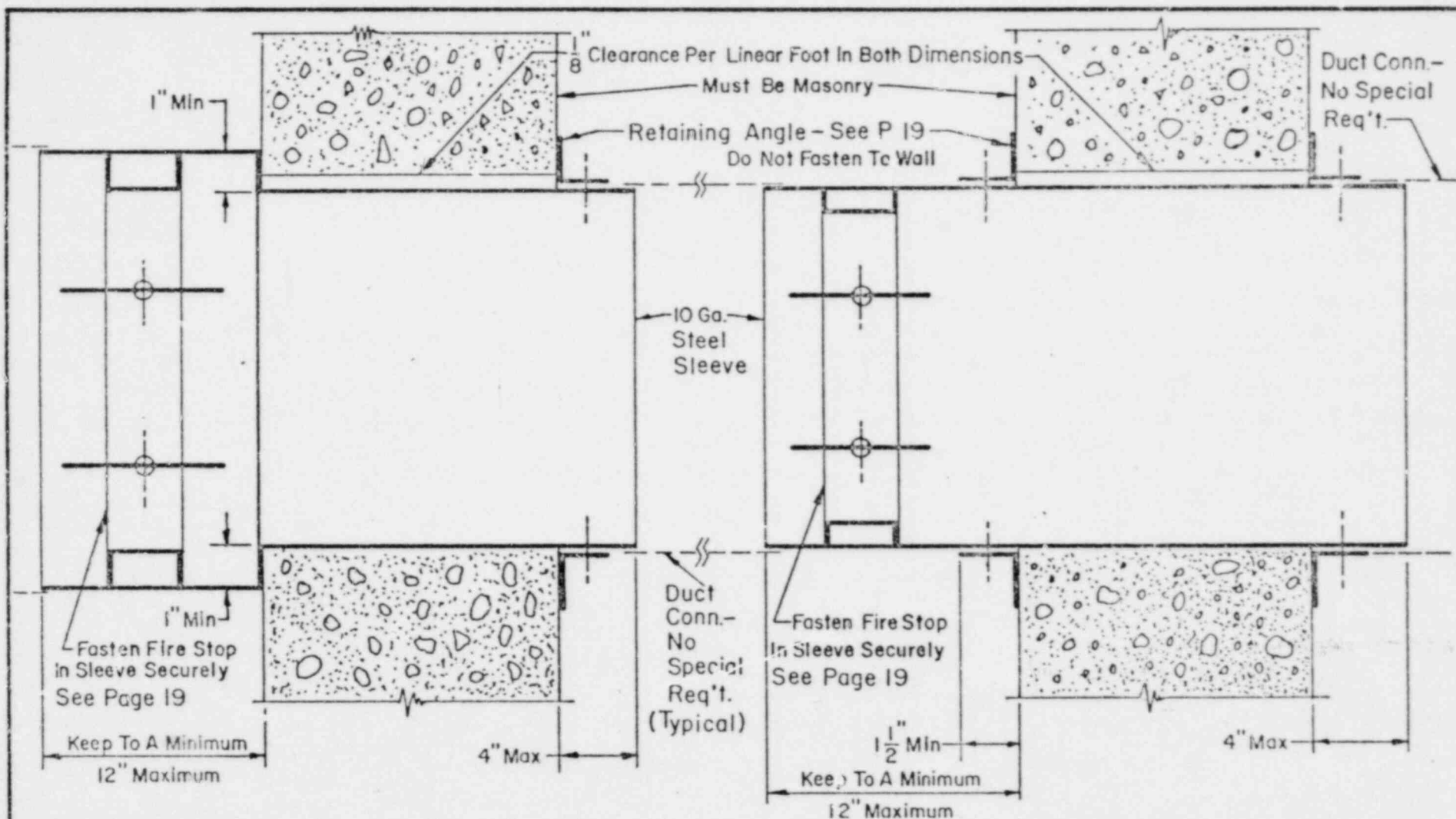


Figure 32

Figure 33

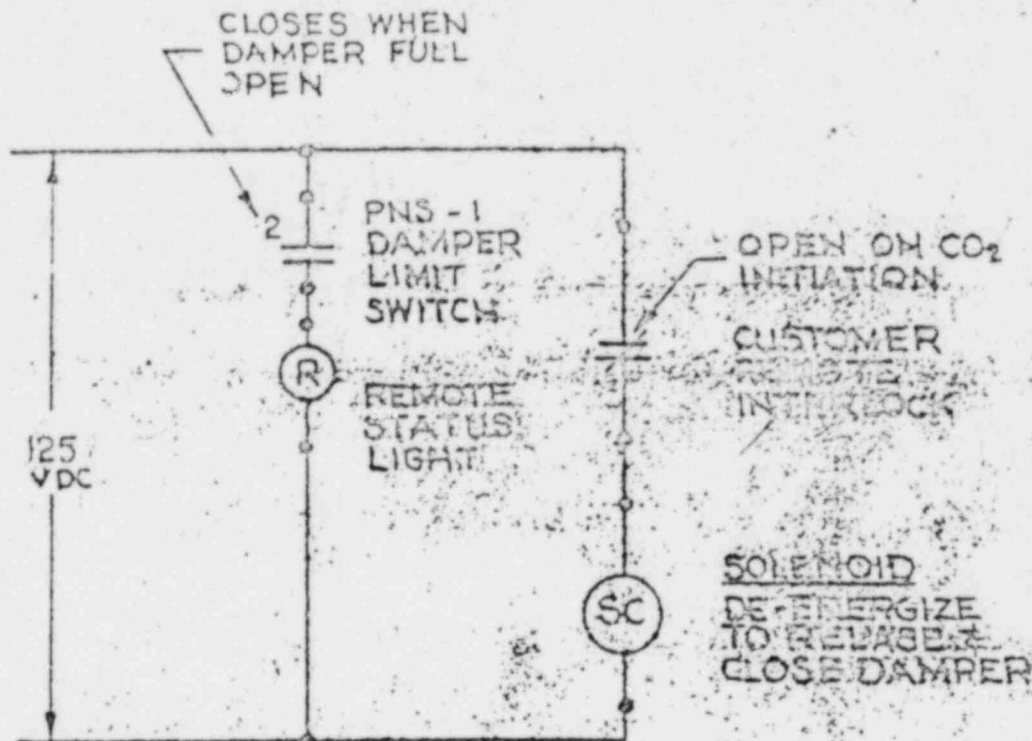
NOTE

USE FIGURES 32 & 33 WITH CAUTION WHEN PHYSICAL OBSTRUCTIONS PRECLUDE THE USE OF OTHER METHODS SHOWN ON PAGES 19, 20 & 21



WALL INSTALLATION DETAILS

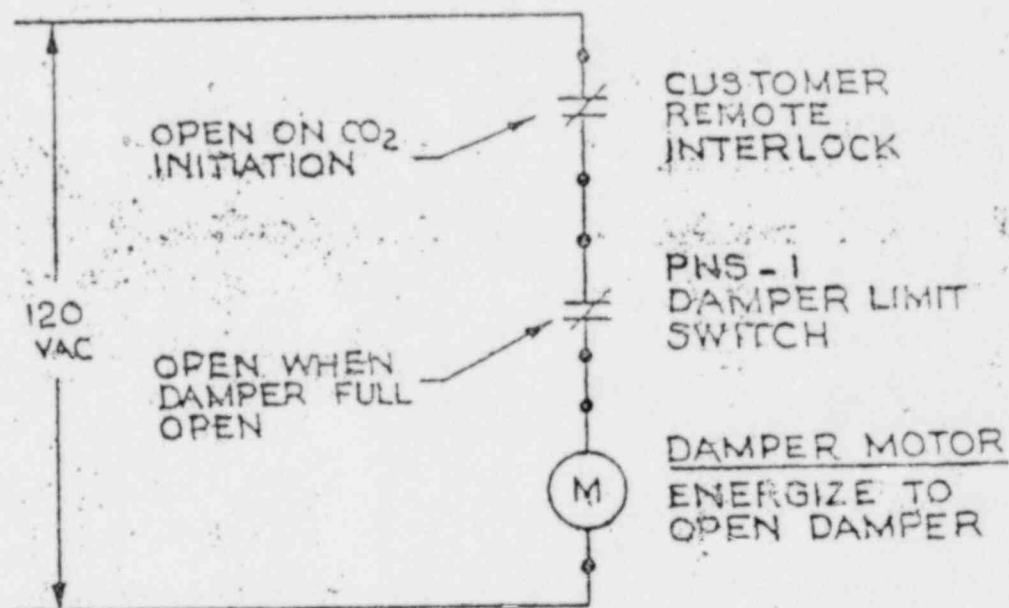
WITH SLEEVES

B30-1716



SOLENOID RELEASE CIRCUIT

THIS DRAWING REPRESENTS PROPRIETARY AND CONFIDENTIAL DESIGN INFORMATION ORIGINATED BY AIR BALANCE INC. AND WHICH SHALL NOT BE DISCLOSED OR UTILIZED IN ANY MANNER WITHOUT PROPER WRITTEN AUTHORIZATION.		SYM.	DATE	DESCRIPTION OF REVISION	NAME	
		 airbalance inc. CHICAGO, ILLINOIS				
MATERIAL <i>AL</i>	USED ON	CLASS 1E - Q.A. CATEGORY I FIRE DAMPER CONTROL CIRCUIT				
HEAT TREAT	FINISH  UNLESS OTHERWISE NOTED	QUANTITY PER	DESIGNED BY	DRAWN	CONCHECKED	
TOLERANCES UNLESS OTHERWISE SPECIFIED		NAME DATE 5/23/77				
DECIMAL 1 PLACE - ± .015 2 PLACE - ± .010 3 PLACE - ± .005		SUB-ASSEMBLY SCALE <i>AL</i>				
THDS CLASS & FIT ANGULAR ± 1°		NEXT ASSEMBLY NO. B30-1716				
DO NOT SCALE - REPORT ERRORS BREAK ALL SHARP CORNERS CRANK ALL TAPPED HOLES 1/32 x 45° REMOVE BURRS						



MOTOR CIRCUIT

NOTE : PNS-1 & PNS-2 ARE SEPARATE SWITCH UNITS

