SCOPE

This Scope Definition Document applies to the 'Mini' Decay Heat System intended for cooling the TMI Unit 2 reactor core through defueling.

PURPOSE

Define and assign responsibilities to the participants referenced herein, for accomplishment of the specification, design, engineering, procurement, fabrication, installation and check out of the 'Mini' Decay Heat System.

PARTICIPANTS

GPU - Includes all personnel providing technical, administrative and construction support, to and controlled by GPU.

Babcock and Wilcox (B&W)

Westinghouse (W)

Burns and Roe (B&R)

SCOPE DEFINITION AND ASSIGNMENT

TASK	SPEC	DESIGN & ENGR.	PROCURE-MENT	FABRICA-TION	INSTALL-ATION	START-UP TEST	INTERFACE REQUIREMENTS
B. Pipe hangers and supports	B&R	B&R	B&R	-	GPU	GPU	↓
3. Documents							
A. System design description	B&W						
B. Flow diagram (P& ID)	B&W						
C. Criteria Document	GPU						
D. Procedures, Operating, Startup	GPU						
4. Project Control							
A. Project Manager/Project Engineer	GPU						

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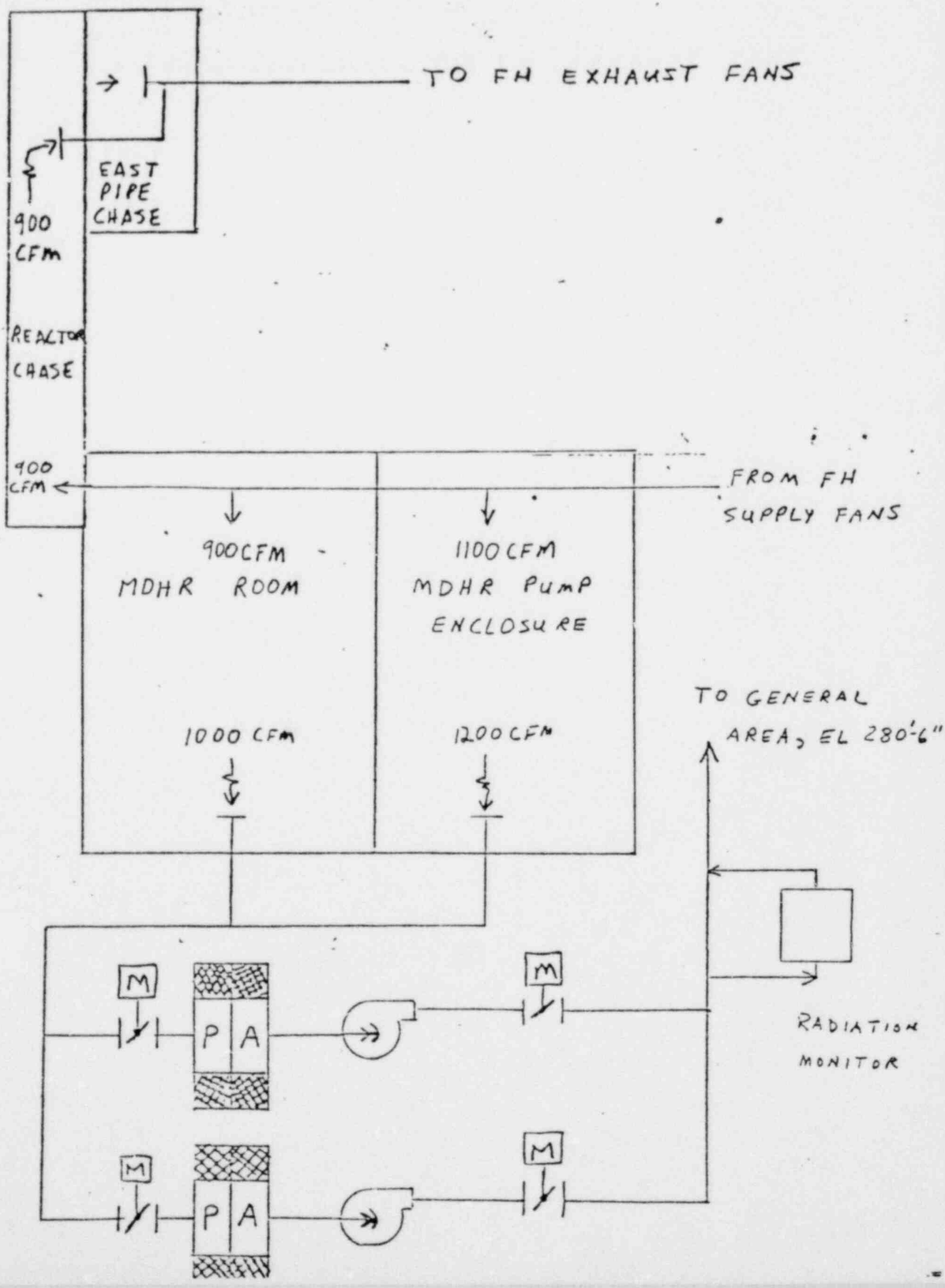
Drawing No. _____ Calc. No. _____ Sheet _____ of _____
By _____ Checked _____ Approved _____
Title _____



ATTACHMENT 4

Date 9/20/79

Task No. TS-27

File No. R-1005

TO: S. Dam (B&R)

SUBJECT: A/E Work Assignment

References/Attachments: Mini-Decay Heat System.

You are requested to perform the following work: per attachment.

Required completion date for this assignment is 10/28/79.
Your acknowledgement/acceptance of this assignment, by return copy of this memo, is requested.

ORIGINATOR

CC: J. C. DeVine
J.G. Herbein

GPUSC TECH SUPPORT SUPV.

A/E Acknowledgement

Scheduled completion date _____

Approximate A/E manhour/other costs _____

A/E Project Representative

Final Disposition

Assignment completed via _____

Work completed _____
A/E Project Representative

GPUSC Acceptance: _____

ATTACHMENT 4

Review existing in-plant ventilation system design with respect to facilitating personnel access to the MDHS equipment for inspection and maintenance and recognizing the potential for RC leakage from the system from, e.g., a pump mechanical seal or valve packing.

If H&V system modifications are considered warranted, provide conceptual definition.

ATTACHMENT 5

MEMORANDUM

BURNS and ROE, Inc.

DATE 10/2/79

TO H. R. Lane

FROM H. W. Young

SUBJECT W.O. 3475
TMI #2 Recovery Program
A/E Work Assignment R-1005
MDHR HVAC Modifications

COPIES TO:

All w/att.
WRCobean, Jr.
ASDam
HWYoung
LHegyi
EEng
RPBrownewell
FASpangenberg
CWHess
pf (2), db

Please find attached the results of a study which we performed in response to the referenced A/E work assignment.

Please transmit a copy of this attachment to GPU for comment. If you have any questions, please contact myself or Mr. E. Eng.

Harry Young
Harry Young

HY/sjm

ATTACHMENT 6

Inter-Office Memorandum

TMI-II-R-2111

GPU Service

Date: October 4, 1979

Subject: Mini Decay Heat System - Airborne Leakage

To: Branch Elam

Location: TMI/WMA
Trailer 102

Per your request, we have performed an analysis to determine airborne contamination in the vicinity of the Mini Decay Heat System pumps. Leakage was assumed to be 0.13 ml/sec. (approximately 1 pint/hr) of primary coolant. The results of this analysis indicate that MPC's for particulates will be exceeded at the specified leak rate. For this reason, it is recommended that:

1. HVAC exhaust hoods be installed over each of the pumps in question, with an exhaust rate of approximately 250 cfm.
2. Air flow be directed to flow from areas of low contamination toward the two pumps, to prevent spreading contamination in event of leakage.
3. Positive means of collecting leakage be installed. The purpose of this recommendation is to prevent water from collecting and standing around the pump, which would represent a hazard to maintenance personnel. This should be done with an easily removable drip tray with a hose connection to a drain.
4. Strippable vinyl coating be applied to all surfaces in vicinity of pump - i.e., concrete surfaces likely to be wetted, contiguous equipment, etc.
5. Surveillance program be established to determine leakage rate, levels of contamination, and dose rate build-up.

If there are any questions, please call.

Approved: J. J. Barton

J. A. Daniel by J. Dekmer

cc: R. C. Arnold
J. J. Barton
D. K. Croneberger
J. C. DeVine, Jr.
W. T. Gunn
J. G. Herbein
R. W. Heward
G. A. Kunder
P. E. Ruhter
B. C. Rusche
E. E. Walker
R. F. Wilson
W. Zurliene

ATTACHMENT 1

MEMORANDUM

BURNS and ROE, Inc.

DATE 10/26/79

TO H. R. Lane ✓

FROM C. W. Hess

SUBJECT W.O. 3475
TMI Recovery Program
TS-27 HVAC Proposal

COPIES TO:
All w/att.
WRCobean, Jr.
ASDam
FASpangenberg
DAMiller Dan
LHegyi
HYoung
CWHess
NLacy
MPettigrew
pf (3)
db

REFERENCES: (a) B&R Memo, H. W. Young to H. R. Lane, dated 10/2/79
(b) GPU Memo, D. A. Koch to H. R. Lane, dated 10/23/79
(c) B&R Memo, C. W. Hess to H. R. Lane, dated 10/24/79

ATTACHMENT: (1) Ventilation for MHDR System

Attached, you will find the Burns & Roe proposal for the air handling unit for the Mini-Decay Heat Removal Pump Enclosure described in Reference (c).

This, along with the proposal described in Reference (c), represents the complete HVAC package proosal for TS-27 requested by Reference (b).

Engineering and design for this effort can begin immediately upon receipt of a work request from GPU.

C. W. Hess

CWH/sjm

CW Hess

Ventilation for MDHR System

Our proposal for modifying the existing H & V system will adequately cool and decontaminate the areas, as well as prevent the spread of radioactive contamination. Our proposal is similar in concept to Proposal #2 in the memo from H. W. Young to H. R. Lane dated 10/2/79. One essential difference is that charcoal filters have not been included as a result of GPU memo, D.A. Koch to H.R. Lane dated October 23, 1979. The other is that redundant trains have been added for greater system reliability.

Due to conversations with filter enclosure manufacturers, we feel it would be too costly and take too long to procure complete fan-filter trains. It has been indicated by MSA that they can provide us with single HEPA enclosures with a relatively short lead time. The fan can be purchased separately, and the plenums can be furnished by the sheet metal contractor.

The following items are involved with this proposal:

1. Hard duct the supply and exhaust transfer grills from the Reactor Building Chase to their respective supply and exhaust ducts. This has the long term effect of preventing the spread of contamination from the MDHR room to the chase, after the chase has been cleaned up. It also has the short term effect of isolating the chase from the rest of the building, ventilation-wise.

2. Provide the enclosure discussed to create a sweep area around the pumps.

3. Provide new ducting to supply 900 CFM supply to the MDHR room and 1100 CFM to the pump enclosure. The rest of the supply ductwork must be rebalanced to provide the same supply CFM.

4. Provide an exhaust system consisting of redundant exhaust filters and fans, sheet metal ductwork, and instrumentation and controls as required.

The price of the MSA enclosures with filters will be approximately [redacted]. Fans and misc. H & V equipment will be approximately [redacted]. Ductwork and installation cost will be approximately [redacted].

MEMORANDUM

Ned! For your info. ATTACHMENT 8

BURNS and ROE, Inc. DATE 11/14/79

TO H. R. Lane

FROM G. J. Sadauskas

SUBJECT W.O. 3475
Metropolitan Edison Company
Three Mile Island Recovery
Task TS-27
MDHR R&V System Radiation Monitoring

COPIES TO:
All w/att
HRLane
RPBrownewell
GSadauskas
RSGagliardo
JHennessy
WRichardson
HYoung
LHegyi
JCarscadden
pf 2
db

In accordance with GPU's request, we have evaluated the air monitoring requirements for the subject system. We would propose an isokinetic sampling system consisting of two nozzles. One nozzle would be installed at the inlet to the filter train and the other at the outlet. Normally the downstream nozzle would be connnected to the Particulate, Iodine and noblegas monitor (PIG). A valve scheme at the PIG unit would allow the operator to monitor the incoming stream if he so desired. The PIG would provide remote readout and alarm at the local TS-27 control panel for each stream component and on the TS-27 control room panel. Attachment 1 is a sketch of the proposed system. Attachment 2 is a cost breakdown.

I apologize for the delay in providing you with this information and trust that our lack of response did not inconvenience you or the client to a significant degree. If you have any questions regarding this matter, please contact me.

G. Sadauskas

GS/gg

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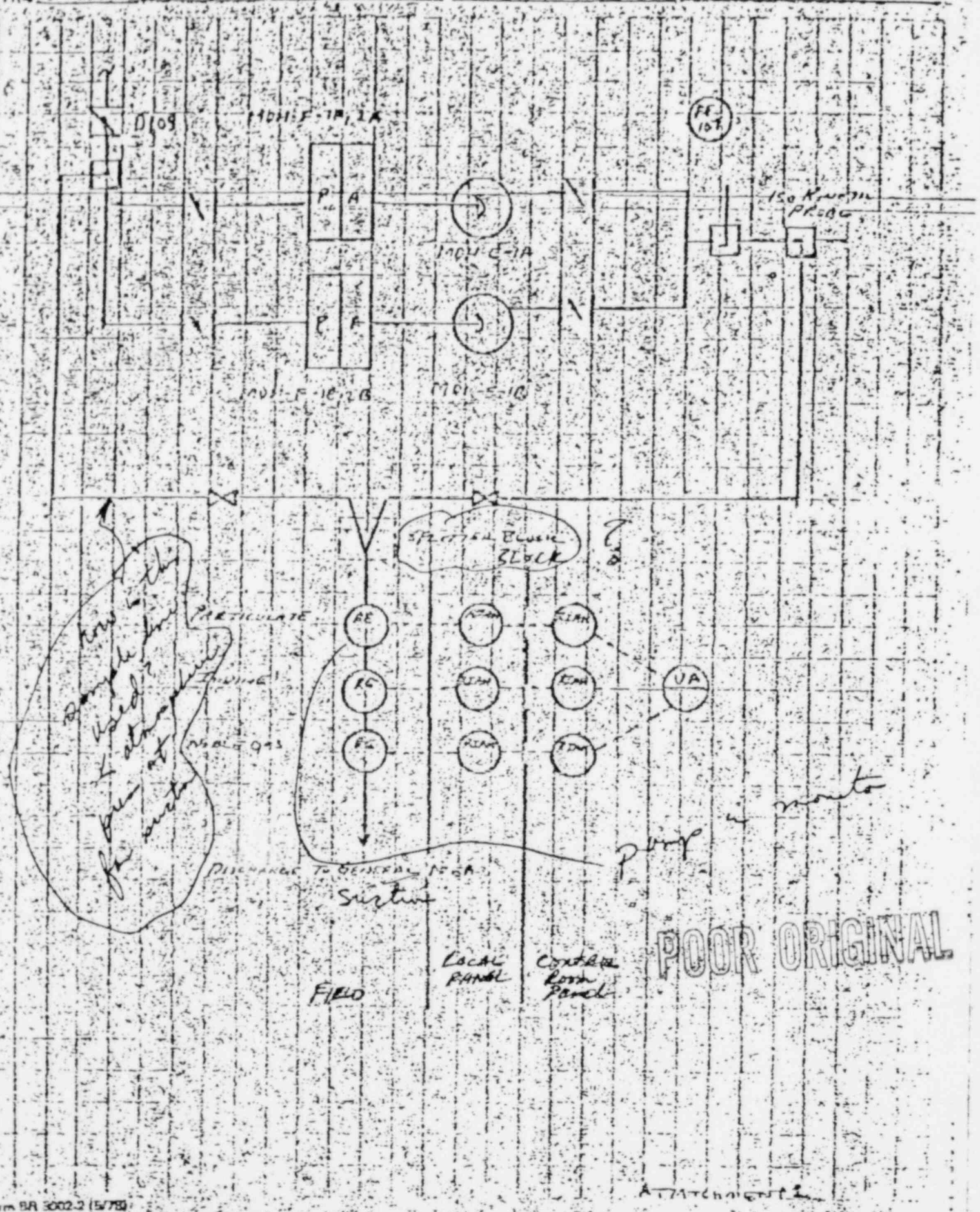
By _____ Checked _____ Approved _____

Title MDHR HEV ARRANGEMENT



Form BR 3002-2 (5/78)

ATTACHMENT 2

Equipment Summary Tor TS-27

Item	Quan.	Description	Manufacturer	Model
1	2	Isokinetic Nozzles	Nuclear Measurements Corp.	
2	1	PIG Unit	Victoreen	840
3	2	Alarm Rate meter Local	Victoreen	842
4	2	Alarm Ratemeter Remote	Victoreen	842
5	1000 ft.	Cable	Victoreen	50-100

Total cost for material for the above system is [redacted].