

INSPECTION REPORT NO. 77-01

Page 1 of 8

Attached

☐ Appendix A

☐ Appendix B

☐ Appendix C

☒ Memo 1 & 2

Union Carbide Corporation
Chemicals & Plastics Operations Division
Technical Center, P.O. Box 8361
South Charleston, West VA.

Licensee contact: C.R. Landfried Telephone no. (304) 747-5414

License no. 47-00260-09 Last amendment and date: 08, dated 4/4/77

Category: E, and Priority: IV, as of last amendment.

Inspection date(s): May 12, 1977 Type of inspection: Routine unannounced

SUMMARY OF FINDINGS AND ACTION

☒ No noncompliance, clear 591 issued

☐ Noncompliance, Appendix A

☐ Action on previous noncompliance, Appendix B

☐ Noncompliance, 591 issued

☐ Regional action Hq action

☐ Supplemental info, Appendix C

RECOMMENDATIONS

See basis in Appendix C or attached memo.

☐ Change Category to: NA

☐ Change Priority to: NA

☐ Next inspection date: 5-80

PERSONS CONTACTED

C.R. Landfried, R.P.D.

R.V. Sealy, Asst. R.P.D.

R.D. Stief, Director of Engineering

D.G. Allport, Technician in Radiation Safety

Inspector: Richard L. Wendruff

5/18/77

Approved: J.B. Kahle

6/13/77

A-143

Plan approved: _____

Date: 5/12/77Licensee: Union Carbide Corp.License no: 47-00260-09

Inspection Items	Scheduled for inspection	Post-inspection status	Module no.	766 Time Info
Management meeting - Entrance and Exit Interviews [REQUIRED]	<u>yes</u>		30703B	<u>30 min</u>
Initial Management Meeting				
Program requirements, MC 28 <u>50</u> [REQUIRED]	<u>yes</u>		<u>77710 B</u>	<u>2 hours</u>
Licensee Event Followup			92700B	
Followup on Inspector-identified problems			92701B	
Followup on Noncompliance and Deviations			92702B	
IE Bulletin/Immediate Action Letter Followup			92703B	
Followup on Headquarters Requests			92704B	
Followup on Regional Requests			92705B	
Independent Inspection Effort [REQUIRED]	<u>No</u>			<u>none</u>
Inspector Dispatched to Site			93700B	
Followup on Significant Event Occurring During Inspection			93701B	

Plan approved: _____

Date: 5/12/77Licensee: Union Carbide Corp.License no: 47-00260-09

Inspection Items	Scheduled for inspection	Post-inspection status	Module no.	766 Time Info
Management meeting - Entrance and Exit Interviews [REQUIRED]	<u>yes</u>		30703B	<u>30 min</u>
Initial Management Meeting				
Program requirements, MC 28 <u>50</u> [REQUIRED]	<u>yes</u>		<u>77710B</u>	<u>2 hours</u>
Licensee Event Followup			92700B	
Followup on Inspector-identified problems			92701B	
Followup on Noncompliance and Deviations			92702B	
IE Bulletin/Immediate Action Letter Followup			92703B	
Followup on Headquarters Requests			92704B	
Followup on Regional Requests			92705B	
Independent Inspection Effort [REQUIRED]	<u>No</u>			<u>hours</u>
Inspector Dispatched to Site			93700B	
Followup on Significant Event Occurring During Inspection			93701B	

AREAS INSPECTED AND FINDINGS

Licensee: Union Carbide Corporation License no: 47-00010-02 Amendment no: 8

INSPECTION ITEMS	CRITERIA	FINDING
1. <u>Organization</u> Management organization. Radiation protection organization.	Lic Cond _____	<u>OK</u>

NOTES & REMARKS:

see memo #1 for management and Radiation Protection organizational structures.

2. <u>Licensee internal audits</u> Scope and frequency. ✓ Management controls. ✓	Lic Cond _____	<u>OK</u>
--	----------------	-----------

NOTES & REMARKS:

The Environmental Protection/Occupational Health Committee reviews health Physics activities and reports directly to corporate management.

3. <u>Training and instructions to employees</u> Training program, scope and frequency, retraining. ✓ Required tests administered; scores satisfactory. Instructions to workers. ✓	Lic C Lic Cond _____ 19.12	<u>OK</u>
---	----------------------------------	-----------

NOTES & REMARKS:

all areas are secured and each laboratory and building is secured by lock & key. Operating procedures are available in each area.

4. <u>Radiation protection procedures</u> Operating & emergency procedures implemented. Security.	Lic Cond _____ 20.207	<u>OK</u>
---	--------------------------	-----------

NOTES & REMARKS:

formal 40 hour training program for all workers employed in (radiation) restricted areas.

Inventory

^{241}Am - 1,0001 mCi. (Deposited)
SU Am 601 on 5/21/70
Calibration Source

^{210}Po
No Po

^{241}Am - 2.37 Ci. on 6/19/74
(in storage)

^{241}Am - 1.3 Ci. on 9-6-65 (storage)
Model 5010

^{241}Am - 930 mCi. on 10/75 (storage)

AREAS INSPECTED AND FINDINGS

Licensee: Union Particle Corporation License no: 47-0260-09 Amendment no: 8

INSPECTION ITEM	CRITERIA	FINDING
5. Materials, facilities and instruments		
		<u>OK</u>
Authorized uses and quantities. <u>OK</u>	Lic Cond _____	
Restricted areas, posting requirements. <u>OK</u>	20.203	
Survey instruments & dosimeters; operable, properly calibrated. <u>OK</u>	Lic Cond _____	
NOTES & REMARKS:		
<i>see back of page 3 for inventory</i>		
<i>see Memo #2 for list of instrumentation</i>		
6. Receipt and transfer of materials		
		<u>OK</u>
Procedures implemented, adequate. <u>OK</u>	20.205, 71.51	
Transfer of byproduct material. <u>OK</u>	30.41	
Labeling and packaging. <u>OK</u>	71.5, 49CFR 170-189	
Records of receipt, transfer, storage, survey, and monitoring. <u>OK</u>	30.51	
NOTES & REMARKS:		
<i>sources were pulled at random to see if records of receipt, use, label test, survey, transfer or disposal were present.</i>		
7. Personnel protection - external		
		<u>OK</u>
Personnel monitoring control; minimize exposures, control of accumulated dose. <u>OK</u>	20.101, 20.102, 20.202	
Surveys conducted, adequate. <u>OK</u>	20.201	
Records of monitoring, surveys, disposals. <u>OK</u>	20.401, Lic Cond _____	
Levels in unrestricted areas. <u>OK</u>	20.1, 20.105	
NOTES & REMARKS:		
<i>Landauer film badge service on a 2wk frequency. Maximum exposure any person = 110 mrem/year. 12 persons on film badge service.</i>		
8. Personnel protection - internal		
		<u>OK</u>
Airborne concentrations in restricted areas. <u>None</u>	20.103	
Exposure of minors. <u>None</u>	20.104	
Posting of airborne radioactivity areas. <u>NA</u>	20.203	
Survey, monitoring requirements; records. <u>NA</u>	20.201, 20.401	
Leak tests of sealed sources. <u>OK</u>	Lic Cond _____	
NOTES & REMARKS:		

AREAS INSPECTED AND FINDINGS

Licensee: Union Carbide Corp. License no: 47-00260-09 Amendment no: 8

INSPECTION ITEM	CRITERIA	FINDING
9. <u>Effluent control, waste disposal</u>		<u>OK</u>
Release of effluents. <u>None</u>	20.106	
Waste disposal. <u>OK</u>	20.301, 20.303, 20.304, 20.305	
Procedures, records. <u>OK</u>	20.401, Lic Cond _____	

NOTES & REMARKS:

all waste disposal is sent through a commercial company. Records on file for each shipment.

10. <u>Shipping, shipping incidents</u>		<u>OK</u>
Procedures for pickup, receipt, monitoring of packages. <u>OK</u>	20.205(b) & (c)	
Transportation of licensed material. <u>OK</u>	71.5	
Incidents, reports, corrective actions. <u>None</u>	49CFR 170-189	

NOTES & REMARKS:

Procedures contain direction for receipt, pick-up, monitoring, and transportation of materials. Sample packages labeling were observed.

11. <u>Notifications and reports</u>		<u>OK</u>
To individuals. <u>None</u>	19.13	
Overexposures, excessive levels & concentrations, incidents. <u>✓</u>	20.403, 20.405	
Personnel exposures and monitoring, termination reports. <u>✓</u>	20.407, 20.408	
Theft or loss of licensed material. <u>None</u>	20.402	

NOTES & REMARKS:

OK

12. <u>Posting of notices</u>		<u>OK</u>
Part 20, license & documents, procedures, notice of violations. <u>✓</u>	19.11(a)	
NRC-3. <u>✓</u>	19.11(c)	

NOTES & REMARKS:

AREAS INSPECTED AND FINDINGS

777108 - Industrial-Academic

Licensee: Union Carbide Corp. License no: 47-00260-09 Amendment no: ✓

INSPECTION ITEM	CRITERIA	FINDING
13. <u>Environmental monitoring program</u>	Lic Cond _____	<u>NA</u>
Implementation of program, scope and frequency as required. <u>NA</u>		
Records maintained, reviewed by management. <u>NA</u>		
NOTES & REMARKS:		

14. <u>Emergency preparedness</u>	Lic Cond _____	<u>OK</u>
Procedures available for incidents and accidents. <u>✓</u>		
Training for personnel; coordination with supporting groups and agencies. <u>✓</u>		
NOTES & REMARKS:		

Personnel are formally trained in procedures before adding to license and they are retained as needed.

15. <u>Other license conditions</u>	Lic _____	<u>OK</u>
-------------------------------------	-----------	-----------

NOTES & REMARKS:

all license conditions were reviewed

16. <u>Confirmatory measurements</u>	_____
Licensee's surveys verified on sampling basis.	20.105, 20.201
NOTES & REMARKS:	

no measurements under this license

17. <u>Independent inspection effort</u>	_____
--	-------

NOTES & REMARKS:

no effort under this license, but independent effort was performed under 47-00260-02

APPENDIX A - DOCUMENTATION OF NONCOMPLIANCE

Licensee: Union Carbide Corporation
South Charleston W. Va.License no: 47-00260-09

Reference

Basis for noncompliance

Report item _____

10 CFR _____

Lic Cond _____

Type n/c _____

None

Report item _____

10 CFR _____

Lic Cond _____

Type n/c _____

Report item _____

10 CFR _____

Lic Cond _____

Type n/c _____

Report item _____

10 CFR _____

Lic Cond _____

Type n/c _____

Report item _____

10 CFR _____

Lic Cond _____

Type n/c _____

APPENDIX C - SUPPLEMENTARY INFO

Licensee: Union Carbide CorporationLicense no: 47-00260-09☐ Uncorrected/repeated noncompliance☐ Unresolved items☐ Unusual occurrence, conditions, etc☒ Inspector's comments☐ Basis for change of Category or Priority

During the exit interview Mr. Landfried mentioned that the waste liquid materials could no longer be shipped with vermiculite as an absorbent. He wanted to know how to ship their waste in a manner that would be acceptable (acceptable ^{absorbent} material that can not be compressed) to D.O.T.

The inspector informed the Licensee that we would determine if guidance was available from D.O.T.

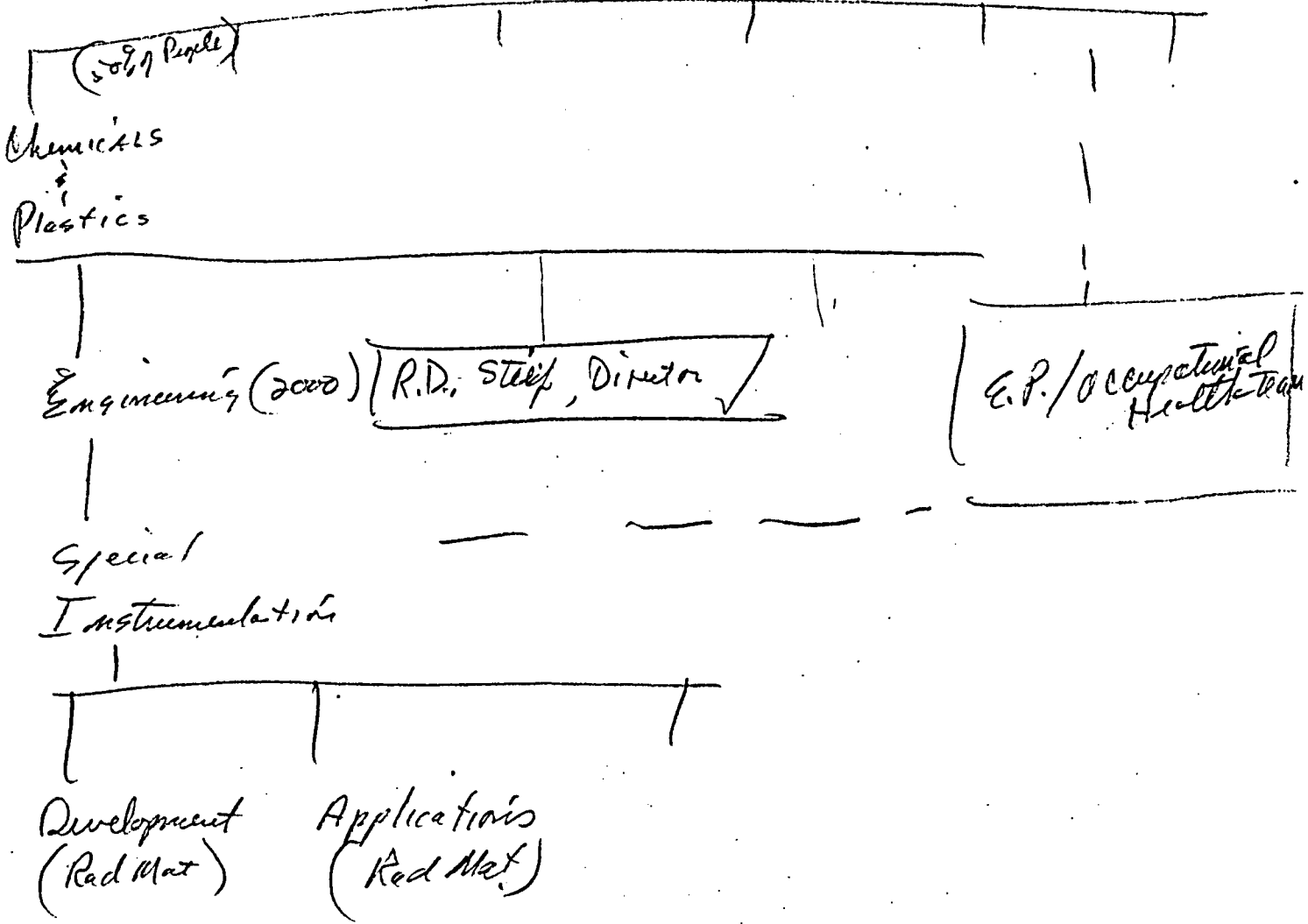
D.O.T.

Low level waste have to be in materials
that can't be compressed — What are the
above requirements

[burnable 3 or 4 x 8 ft. inside
30 gal drum inside 50 gal. pig.]

Union Carbide

Corporate V.P.



SPECIAL INSTRUMENTATION
DEVELOPMENT
R. V. Sealey

SECRETARY Sharon Mulder

INSTRUMENT DEVELOPMENT

T. M. Austin

INSTRUMENT DEVELOPMENT

E. G. Trawick

INSTRUMENT DESIGN

C. R. Landfried

R&D COORDINATOR

G. A. Gillis

RADIATION
PROTECTION

M. C. Bowen
E. T. Carroll
H. Senman
R. C. Barker

~~M. L. Green~~

R. S. Berry
W. S. Kennedy →
B. C. Petersen

D. G. Allport

G. L. Baker
C. E. Frick
J. R. Moss
J. F. Petersen
E. G. Trawick
I. E. Williams

H. W. Withrow

R. D. Dillon
R. S. Calloway
F. A. Coon, III
J. F. Fisher
E. C. Lawson
T. O. Maki
S. T. Martin
P. P. Mierau

D. J. Beach
D. L. Brinkley
R. N. Peay
D. R. Spradling
A. R. Rogers

*Nucleonic Development
Radiation Protection
Electrochemical
Optics
Physical Chemistry
Physical Methods
Chromatography*

*Air and Water Quality Monitoring
Industrial Hygiene Support*

*Chemical
Mechanical
Electronic
Drafting*

SPECIAL INSTRUMENTATION
APPLICATION ENGINEERING

C. Richards Fried
~~R. C. Lawrence~~

SECRETARY Kathy Starr

PROJECT, PLANT AND BUSINESS
TEAM COORDINATORS

W. M. Barrows - 510,526
J. E. Reed - 515

D. R. Pauley - 512,514

A. L. Young - 511

W. H. Wagner - 312
J. M. Berry - 293, 312, Ohio Valley

M. E. Carter - LDPE
C. E. Dunn

H. F. Bailey - HDPE

J. E. Johnson
S. F. Downs - 519,513
J. S. Beeby
R. E. Reiter

Jean Sealey - Training

Liaison and Consultation
Plant Working Budget
Capital Projects
Measurement Problems
Sample Systems
Special Instrumentation Training

ANALYTICAL LABORATORY

W. L. Bare

B. L. Beckett
F. F. Campbell
J. L. Chapman
J. F. Cole
J. W. Gardner
R. A. Hastings
L. W. Hatcher
D. L. Huffman
D. L. McTeer
D. F. Osborne
C. E. Parsons
C. B. Peters
D. R. Smith
M. K. Wing

Customizing Commercial Equipment
Calibration of Process Analyzers
Chromatographic-Moisture-
Ultraviolet-Infrared-Oxygen, etc.
Evaluation
Analyzers
Components
Field Service
Installation and Startup
Contract Service
Revisions and Repair

ELECTRONICS AND NUCLEONICS
LABORATORIES

M. E. Cavender

INSTALLATION

J. A. Boggess
L. B. Rodgers
R. W. Stanton } *Tech.*

Level
Density
Moisture

Capital Project
Plant Working
Budget
Field Service
Startup
Contract

SPECIAL INSTRUMENTATION
MEASUREMENT ENGINEERING
AND SERVICES

T. E. Gallagher

SECRETARY Wanda Myers

STAFF ASSISTANT -
SPECIAL ASSIGNMENTS

W. R. Thompson

FABRICATION

G. B. LeRoy

M. D. Harper

E. R. Bailey
B. J. Hartley
H. F. Montgomery
P. E. Nunley
D. M. Siers

A. F. Skidmore

E. C. Bennett

P. M. Hutzler

D. T. Davis
R. C. Krebs
R. C. Sweeney

SHOPS:

Model
Prototype
Electronics
Static Pressure Calibration
to 100,000 lbs/in²

TEST INSTRUMENT
CALIBRATION AND
REPAIR

J. C. Chapman

Standards Lab
Test Equipment

ACOUSTICS AND
ENGINEERING MEASUREMENTS

C. H. Davidson
R. H. Hudson
Linda Redd
L. F. Swann
J. K. Thompson

J. D. Steele

Dynamic Measurements:

Vibration Displacement-
Velocity-Acceleration
Strain Shock-Pressure
Pulsation-Force
Noise Surveys
Architectural Acoustics
Noise Control

Capital Projects
Existing Plant Problems
Community Noise Problems

Development of Special Silencers:
Visco-Elastic Dampening Systems
Acoustic Enclosures
Lagging Systems

OPERATIONS OFFICE

C. G. Carte

Beverly Jones
Norma Taylor
Mary Jean Wickert

Work Orders/TLSO
Accounting
Purchasing
Expediting
Shipping
Cost Library
Time Distribution
Central File System
Budget
Cost Feedback
Vehicles

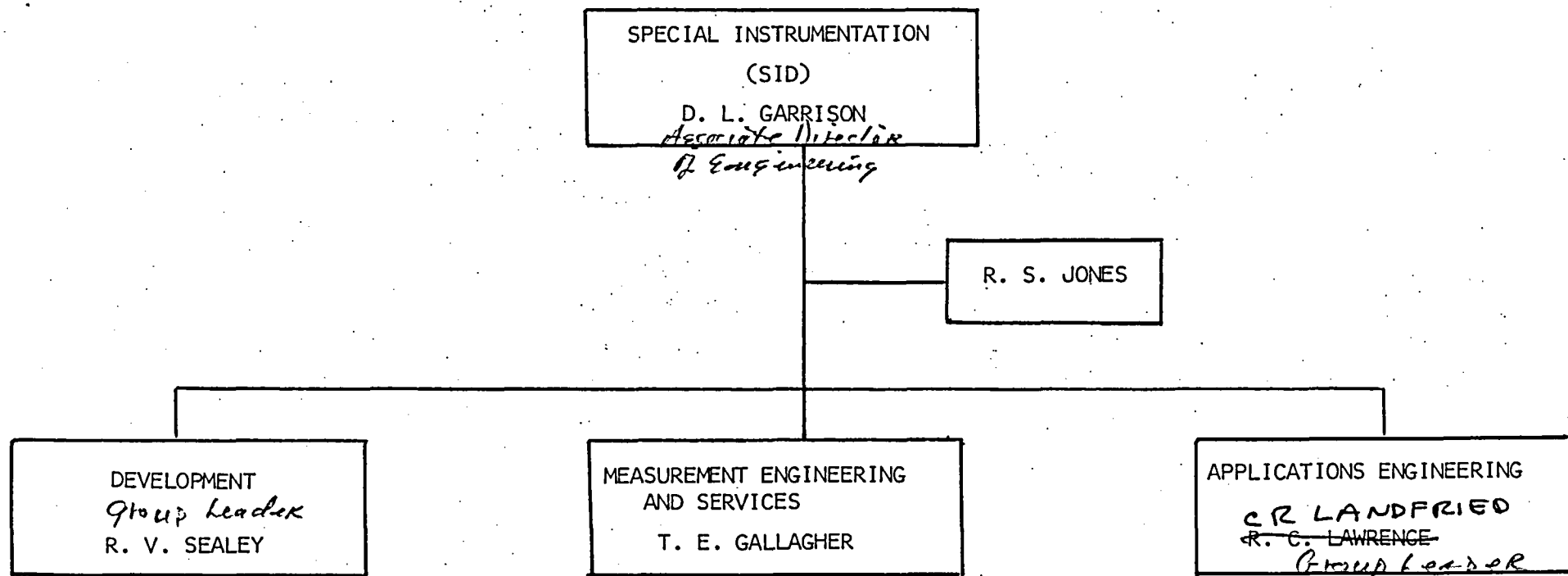
GAS MIXING
LABORATORY

W. R. Jordan

E. M. Babcock
C. L. Nelson

Gravimetric and
Partial Pressure
Gas Samples
Chromatographic
Columns

Pilot Plant Feed
Stock
Calibration Samples



- 1 ea PNR4 - Eberline, 0-5,000 R/h, 4 ranges - 00
- 2 ea PNC-4 Eberline, 0-500,000 cpm
- 2 ea 2592 - Texas Nuc, 0-1 R, 3 ranges
- 4-5 ea E-520 - Eberline, 0-200 mR/h, 5 ranges
- 1 ea PNR - Eberline, 500,000 cpm scintillator
- 2 ea Tekelors, 0-70,000 R/h. β , γ
- 2 ea R-meters Victoreen, with appropriate probe
- several Neutron dosimeters 0-200 rad
- several β , γ dosimeters 0-200 mR
- 1 ea low β , Beckman