

INTERNATIONAL LEAD ZINC

RESEARCH ORGANIZATION, INC.

LEAD ZINC RESEARCH COMMITTEE

1950-1951 ANNUAL AUTHORIZATION

OCTOBER 1, 1951

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

292 MADISON AVENUE NEW YORK, N.Y. 10017
TELEPHONE (212) 377-2273 CABLE ADDRESS
CABLE ADDRESS: IZRO INC NEW YORK

September 25, 1969

To: All Members of the Lead Program Review Committee

From: K. J. Altorfer

Subject: Fall PRC Meeting

The Lead Program Review Committee will meet on October 7 and 8, 1969 at the Parco dei Principi, Villa Borghese, Rome, Italy. An agenda for the meeting is enclosed. We would like to call your attention to the reception and dinner on the evening of October 8, 1969, the details of which are included in the agenda.

You were previously sent a copy of the Proposed 1970 Research Program as submitted to the technical committees. The technical committees have since reviewed the Proposed Program. Their recommendations are reflected on the enclosed sheets. In their review of the program the technical committees put their greatest emphasis on the technical aspects of the program and secondarily considered the budgetary aspects. It will be the responsibility of this committee to evaluate the program on its marketing merit and to review the program with an eye toward meeting our budget objectives.

We look forward to seeing you in Rome.


K. J. Altorfer
Secretary

AGENDA

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

LEAD PROGRAM REVIEW COMMITTEE

Parco dei Principi, Villa Borghese, Rome, Italy

October 7, 1969, 9:30 a. m.

- 9:30 Meeting Called to Order by Chairman
A Review of the Zn-75
- 9:45 Election of Officers
- 10:00 A Review of Commercial Developments
- 10:15 Authorizations Recommended for 1970 R&D Projects
- 12:30 Lunch
- 2:00 Authorizations Recommended for 1970 R&D Projects - continued
- 5:00 Adjournment
- 7:30 Reception and dinner - Parco dei Principi

AGENDA

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

LEAD PROGRAM REVIEW COMMITTEE

Parco dei Principi, Villa Borghese, Rome, Italy

October 8, 1969, 9:30 a. m.

- 9:30 Meeting Called to Order by Chairman
Authorizations Recommended for 1970 R&D Projects - continued
- 12:30 Lunch
- 2:00 Authorizations Recommended for 1970 R&D Projects - continued
- 5:00 Adjournment

N 3859.02

ISR000061

International Lead Zinc Research Organization, Inc.

September 25, 1969

1970 LEAD R&D AUTHORIZATIONS RECOMMENDED
BY THE TECHNICAL COMMITTEES

SUMMARY

I	Chemical Innovations	\$ 157,500
II	Architectural	107,500
III	Non-Toxic Lead Shot	
IV	Cable Sheathing	84,000
V	Batteries	352,500
VI	Paints & Pigments	32,000
VII	Corrosion Protection	27,610
VIII	Fundamental	76,000
IX	Fellowships	31,750
X	Environmental Health	246,389
XI	Abstracting	11,820
XII	Undesignated Research Authorization	<u>50,000</u>
		<u>\$ 1,177,069</u>

N 3859.03

ISR000062

I. CHEMICAL INNOVATIONS

A. ORGANOLEAD APPLICATIONS

LC 15h	Organoleads for Tropical Disease Control	5,000	-	5,000	5,000	-	Yes
LC 4g	Organolead Lubricant Additives	10,000	2,500	10,000	7,500	2,500	No.
LC 8g	Lead Compounds as Wood Impregnants Against Marine Boreas	6,000	1,600	3,500	2,625	875	Yes
UIC 45	Organolead Polymers	-	-	10,000	7,500	2,500	?
UIC 46	Lead Additives for Paper	-	-	20,000	6,700	13,300	Yes
UIC 47	Lead Mildicides in Roofing	-	-	15,000	5,000	10,000	Yes
UIC 48	Organolead Terrestrial Wood Preservation	-	-	15,000	5,000	10,000	Yes
UIC 55	Electrolytic Antifouling Coatings	-	-	12,000	9,000	3,000	At red.

B. ORGANOLEAD SYNTHESIS

LC 18 Organolead Chemistry	40,000	9,519	46,000	34,500	11,500	Yes
LC 28 Synthesis of Organolead Compounds	12,200	-	12,200	12,200	-	Yes
UIC 54 Organolead Research Fellowship	8,800	6,000	8,800	2,800	6,000	No
TOTAL CHEMICAL INNOVATIONS		19,619	157,500	97,825	59,675	

(1)

September 12, 1969

1970
PROJECTS

1971
PROJECTS

15R000064

NOTES

II. ARCHITECTURAL

A. PRODUCTS

LM 77 Lightweight Lead Sheet Roofing Systems
LM 147 Lead Curtain Walls
LM 122 Lead Plastic Composites for Packaging and Barrier Applications
ULM 53 Lead for Impact Noise Attenuation

B. METHODS & PROCEDURES

LM 121 Reinforced Lead Applications
LM 119 Particulate Lead Sheet
LM 123 Field Tests on Adhesive Lead Cladding
LM 58 Plumbing Applications of Lead
ULM 52 Lead Coated Aluminum

C. FINISHES

LE 100 Protective and Decorative Finishes for Lead

TOTAL ARCHITECTURAL

(1) To be cancelled 12/31/69 if program not initiated by that date; if initiated, the 1970 authorization will be cancelled 1/1/70.

(2)

1970 EXPENDITURES REMAINING ON			1970 PROJECTS			1971 PROJECTS	
AUTHORIZED PROJECTS 1969 OR PRIOR AUTHORIZATION			Recommended by the Technical Committee 1970 AUTHORIZATION			COMMITMENT ANTICIPATED	
1969 OR PRIOR AUTHORIZATION	1970 IN EXPENDITURES		1970 AUTHORIZATION	1970 IN EXPENDITURES	1971 IN EXPENDITURES		
(1)	(2)		(3)	(4)	(5)	(6)	
28,694	11,000		-	-	-	At reduced level	
10,000 (1)	-		10,000	5,000	5,000	Yes	
22,000	5,500		25,000	18,750	6,250	No	
-	-		20,000	15,000	5,000	?	
10,000	2,500		10,000	7,500	2,500	No	
25,000	6,250		-	-	-	No	
U.R.A.	-		10,000	4,000	6,000	Yes	
-	-		10,000	7,500	2,500	No	
-	-		10,000	4,000	6,000	?	
12,500	1,000		12,500	11,500	1,000	At reduced level	
	26,250		107,500	73,250	34,250		

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

September 12, 1969

	1970 EXPENDITURES REMAINING ON		1970 PROJECTS		1971 PROJECTS	
	AUTHORIZED PROJECTS		Recommended by the Technical Committee			
	1969 OR PRIOR AUTHORIZATION	REMAINING EXPENDITURES IN 1970	1970 AUTHORIZATION	EXPENDITURES		
	(1)	(2)	(3)	(4)		
					(5)	(6)

(1) To be cancelled 12/31/69 if not initiated by that date; if initiated, the 1970 authorization will be cancelled 1/1/70

TECHNICAL LEAD ZINC RESEARCH ORGANIZATION, INC.

September 12, 1969

1970 EXPENDITURES REMAINING ON		Recommended by the Technical Committee				1971 PROJECTS ANTICIPATED
AUTHORIZED PROJECTS 1969 OR PRIOR AUTHORIZATION		1970 AUTHORIZATION		EXPENDITURES		Yes No
(1)	IN 1970 (2)	(3)	IN 1970 (4)	IN 1971 (5)		
35,000	3,000	37,500	34,500	3,000	Yes	
20,000	10,000	20,000	10,000	10,000	No	
4,000	-	-	-	-	No	
-	-	58,000	58,000	-	No	
-	-	5,000	5,000	-	No	
-	-	150,000	75,000	75,000	Yes	
12,500	-	25,000	20,000	5,000	Yes	
-	-	7,000	4,000	3,000	No	

(4)

NOTES

A. BATTERIES

A. S. L. I.

LE 84 Pastes and Grids for the
Lead Acid Battery

B. PROPULSION & PORTABLE

LE 156 Lead Air Battery

LE 143 Battery Powered Vehicle

ULE 64 Charger-Controller for Electric
Vehicle

ULE 62 Procurement and Evaluation of
Lead Battery Powered Vehicles

C. FUNDAMENTAL

LE 128 Support of Battery Research at NRL

ULE 62 The Effect of Aging on Anodic
Corrosion

September 12, 1969

	1970 EXPENDITURES REMAINING ON AUTHORIZED PROJECTS			1970 PROJECTS			1971 PROJECTS
	1969 OR PRIOR AUTHORIZATION (1)	REMAINING EXPENDITURES IN 1970 (2)	1970 AUTHORIZATION (3)	EXPENDITURES		ARTICULATED	
				IN 1970 (4)	IN 1971 (5)		
ULE 42 Effect of Composition & Structure on Corrosion of Lead Calcium Alloys	-	-	20,000	7,000	13,000	Yes	
ULE 57 Exploitation of Patent Literature on the Lead-Acid Battery	-	-	5,000	2,500	2,500	No	
ULE 60 Lead Lithium Binary & Other Lithium Alloys for Battery Grids	-	-	20,000	10,000	10,000	No	
ULE 67 A Standard Reference Book on the Lead-Acid Battery	-	-	5,000	2,000	3,000	Yes	
TOTAL BATTERIES		13,000	352,500	228,000	124,500		

NOTES

ULE 42 Effect of Composition & Structure
on Corrosion of Lead Calcium
Alloys

ULE 57 Exploitation of Patent Literature
on the Lead-Acid Battery

ULE 60 Lead Lithium Binary & Other
Lithium Alloys for Battery Grids

ULE 67 A Standard Reference Book on
the Lead-Acid Battery

(5)

NOTES

September 12, 1969

December 12, 1967

1970 EXPENDITURES REMAINING ON	Recommended by the Technical Committee				1971 PROJECTS
	1970 PROJECTS		1971 PROJECTS		
	1969 OR PRIOR AUTHORIZATION (1)	1970 REMAINING EXPENDITURES IN 1970 (2)	AUTHORIZATION (3)	IN 1970 (4)	
	12,000	3,500	12,000	11,000	1,000
	20,000	2,000	20,000	18,000	2,000
		<u>5,500</u>	<u>32,000</u>	<u>29,000</u>	<u>3,000</u>
10,000	-		27,610	21,000	6,610
	-		<u>27,610</u>	<u>21,000</u>	<u>6,610</u>
2,500	-		20,000	7,000	13,000
2,500	-		-	-	-
-	-		20,000	7,000	13,000
-	-		10,000	7,000	3,000
-	-		10,000	5,000	5,000
-	-		16,000	8,000	8,000
	-		<u>76,000</u>	<u>34,000</u>	<u>42,000</u>
			</		

(6)

NOTESVI. PAINTS & PIGMENTS

- LC 61 Antifouling Paint Formulations
LC 127 Lead Pigments in Paints

TOTAL PAINTS & PIGMENTSII. CORROSION PROTECTION

- LM 153 Explosive Cladding of Lead to
Steel

TOTAL CORROSION PROTECTIONII. FUNDAMENTAL

- IM 155 Cryogenic Properties of Lead &
Lead Alloys
UR 1 Fundamentals of Lead Corrosion
UR 49 Electrical Properties of Lead
ULM 53 Lead Alloy Phase Diagrams
ULM 60 Aging Study of Pb-Sb Alloys

URA

TOTAL FUNDAMENTAL

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

IX. FELLOWSHIPS

LM 141	Industrial Application of Lead	
LC 134	Electrochemistry of Organolead Compounds	
LC 137	Opacification of Leaded Porcelain Enamels by Liquid Immiscibility	(1)
LC 139	Oriented High Lead Ferrites	
LC 150	Photochemical Reactions of Lead Oxide	
LC 108	Study on Lead-Bearing Colored Aluminum	
ULC 52	Phase Diagrams of Leaded Glass Systems	
ULC 53	Crystallization of Magnetic Lead Ferrites	

TOTAL FELLOWSHIPS

NOTES

1970 EXPENDITURES REMAINING ON AUTHORIZED PROJECTS		1970 PROJECTS	
1969 OR PRIOR AUTHORIZATION	REMAINING EXPENDITURES IN 1970	Recommended by the Technical 1970 AUTHORIZATION	IN 1970 EXPENDITURES
(1)	(2)	(3)	(4)
2,500	-	2,500	2,500
5,340	-	-	-
5,800	-	-	-
7,500	-	7,500	7,500
5,200	-	8,950	8,950
3,190	-	-	-
-	-	6,800	6,800
-	-	6,000	6,000
	-	31,750	31,750

(1) Project completed - 1969 authorization cancelled.

1970 EXPENDITURES REMAINING ON	1970 PROJECTS				1971 PROJECTS
	AUTHORIZED PROJECTS		RECOMMENDED BY THE TECHNICAL COMMITTEE		
	1969 OR PRIOR AUTHORIZATION	REMAINING EXPENDITURES IN 1970	1970 AUTHORIZATION	EXPENDITURES	
	(1)	(2)	(3)	(4)	
					1971 ANTICIPATED (5)
					(6)

NOTES

X. ENVIRONMENTAL HEALTH

A. AIR POLLUTION

LH 109 Study of Relationship Between TEL
Lead in Motor Vehicle Exhaust
& That in Consumer Crops
LH 115 Seven Cities Survey TEL

B. OCCUPATIONAL HEALTH

LH 79A & B Toxicity Testing for Organo-
Lead Compounds
LH 152 Blood-Lead Analysis Study TEL
LH 157 Health Study of Lead Workers TEL

- (3) Project to be initiated and carried out as rapidly as possible if preliminary study, underway, indicated it is feasible.
 (2) 1968 project extended through 1969. 1969 authorization to be cancelled 12/31/69.
 (1) Contract = \$5,000; remainder of authorization to be cancelled 12/31/69.
 TEL = cosponsored by producers of lead antiknock compounds.

(8)

September 12, 1969

NOTES	1970 EXPENDITURES REMAINING ON		1970 PROJECTS		1971 PROJECTS	
	AUTHORIZED PROJECTS		RECOMMENDED BY THE TECHNICAL COMMITTEE		COMMITTEE'S ANTICIPATED	
	1969 OR PRIOR AUTHORIZATION (1)	REMAINING EXPENDITURES IN 1970 (2)	1970 AUTHORIZATION (3)	IN 1970 (4)	IN 1971 (5)	(6)
C. PUBLIC HEALTH						
LH 75 Human Exposure to Particulate Lead Compounds in the Air Under Experimental Conditions	58,000	14,500	-	-	-	No
LH 94 Study of Biological Basis for Lead Intoxication	51,976	-	52,240	52,240	-	At reduced level
LH 106 Kettering Lead Abstracts	2,500	-	2,500	2,500	-	Yes
LH 151 Study of Atmospheric Contaminants in Animals & Man	34,385	-	URA if Required (1)	-	-	No
LH 114 The Effects of Chronic Plumbism on Neurological Behavior in the Rhesus Monkey	20,000	8,404	-	-	-	No
LH 158 Information on Lead Environmental Health Activities in Europe	2,500	250	3,500	3,500	-	Yes
ULH 17 Study of the Effects of Lead on the Respiratory Activity of Erythropoietic Cells	-	-	7,790	7,790	-	No
ULH 20 Effect of Particle Size on the Absorption of Lead in Humans	-	-	37,500	28,125	9,375	Yes
ULH 21 Health Effects of Lead Workshop	-	-	1,700	1,700	-	No
ULH 22 Human Variations in Susceptibility to Lead	-	-	12,500	12,500	-	Yes
ULH 23 Study of Lead Nephropathy in Australia	-	-	URA as required (2)	-	-	?

(2) Project approved in principle; initiation subject to resolution of methodology questions.

(1) PHS expected to assume entire project cost in 1970. IL210 share to be \$20,000 if PHS does not finance en toto.

TEL = cosponsored by producers of lead antiknock compounds.

(9)

(2) Project approved in principle; initiation subject to resolution of methodology questions.

(1) PHS expected to assume entire project cost in 1970. IL230 share to be \$20,000 if PHS does not finance en toto.

TEL = cosponsored by producers of lead antiknock compounds.

(9)

September 12, 1969

	1970 EXPENDITURES REMAINING ON AUTHORIZED PROJECTS 1969 OR PRIOR AUTHORIZATION (1)	Recommended by the Technical Committee			1971 PROJECTS
		1970 AUTHORIZATION	EXPENDITURES IN 1970 (4)	II. 1971 (5)	
D. MISCELLANEOUS					
	LH 138 Study of Lead Release from P.V.C. Piping	10,000	1,500(1)	-	No
	E. UNDESIGNATED RESEARCH AUTHORIZATION	25,000	-	-	Yes
TOTAL ENVIRONMENTAL HEALTH		246,389	180,355	33,534	
XI. LEAD ABSTRACTING SERVICE					
LP 52 Lead Abstracting Service	10,000	11,820	11,820	-	Yes
	50,000	50,000	As required	-	Yes
TOTAL 1970 AUTHORIZATION		1,177,069			
			23,523	770,500	
				93,523	
TOTAL 1970 ESTIMATED BUDGET				864,023	
PROJECTED EXPENDITURES INTO 1971				324,069	

(1) \$1,500 required for standard tests program at NSF. If results favorable, no further funding required.
TEL = cosponsored by producers of lead antiknock compounds.

(10)