

INTERNATIONAL LEAD ZINC

RESEARCH ORGANIZATION, INC.

LEAD ZINC RESEARCH ORGANIZATION

1960 PATENT AUTHORIZATION

OCTOBER 1, 1960

N 3859

ISR00058

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

292 MADISON AVENUE NEW YORK, N.Y. 10017
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September 25, 1969

To: All Members of the Lead Program Review Committee

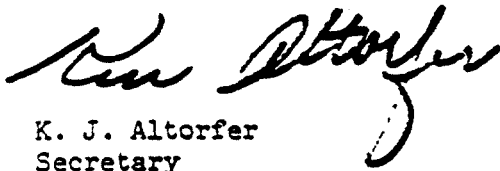
From: K. J. Altorfer

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

N 3859.01

ISR000060

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 15d Organoleads for Tropical Disease Control
 LC 49 Organolead Lubricant Additives
 LC 89 Lead Compounds as Wood Impregnants Against Marine Borers
 ULC 45 Organolead Polymers
 ULC 46 Lead Additives for Paper
 ULC 47 Lead Alkyls in Roofing
 ULC 48 Organolead Terrestrial Wood Preservation
 ULC 55 Electrolytic Antifouling Coatings

B. ORGANOLEAD SYNTHESIS

LC 18 Organolead Chemistry
 LC 28 Synthesis of Organolead Compounds
 ULC 54 Organolead Research Fellowship
 TOTAL CHEMICAL INNOVATIONS

NOTES

AS RECOMMENDED BY THE TECHNICAL COMMITTEE	1970		1970		1971	
	EXPENDITURES REMAINING ON	AUTHORIZED PROJECTS	1970 AUTHORIZATION	IN 1970 EXPENDITURES	IN 1971 EXPENDITURES	PROJECTS ANTICIPATED
	1969 OR PRIOR AUTHORIZATION (1)	REMAINING IN 1970 EXPENDITURES (2)				
LC 15d Organoleads for Tropical Disease Control	5,000	-	5,000	5,000	-	Yes
LC 49 Organolead Lubricant Additives	10,000	2,500	10,000	7,500	2,500	No
LC 89 Lead Compounds as Wood Impregnants Against Marine Borers	6,000	1,600	3,500	2,625	875	Yes
ULC 45 Organolead Polymers	-	-	10,000	7,500	2,500	?
ULC 46 Lead Additives for Paper	-	-	20,000	6,700	13,300	Yes
ULC 47 Lead Alkyls in Roofing	-	-	15,000	5,000	10,000	Yes
ULC 48 Organolead Terrestrial Wood Preservation	-	-	15,000	5,000	10,000	Yes
ULC 55 Electrolytic Antifouling Coatings	-	-	12,000	9,000	3,000	At reduced level
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
ULC 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

15R000064

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 149 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		1970		1971	
	EXPENDITURES REMAINING ON	1970	EXPENDITURES REMAINING ON	1970	EXPENDITURES REMAINING ON	1971
	1969 OR PRIOR AUTHORIZATION	1970	1970	1970	1971	1971
	(1)	(2)	(3)	(4)	(5)	(6)
LM 77	28,694	11,000	-	-	-	-
LM 147	10,000(1)	-	10,000	5,000	5,000	Yes
LM 122	22,000	5,500	25,000	18,750	6,250	No
ULM 53	-	-	20,000	15,000	5,000	?
LM 121	10,000	2,500	10,000	7,500	2,500	No
LM 149	25,000	6,250	-	-	-	No
LM 123	U.R.A.	-	10,000	4,000	6,000	Yes
LM 58	-	-	10,000	7,500	2,500	No
ULM 52	-	-	10,000	4,000	6,000	?
LE 100	12,500	1,000	12,500	11,500	1,000	At reduced level
TOTAL ARCHITECTURAL		26,250	107,500	73,250	34,250	

INTERNATIONAL LEAD ZINC RESEARCH ORGANIZATION, INC.

September 12, 1969

	1970 EXPENDITURES REMAINING ON		Recommended by the Technical Committees				1971 PROJECTS
	AUTHORIZED PROJECTS		1970		EXPENDITURES		COMMITMENT ANTICIPATED
	1969 OR PRIOR AUTHORIZATION (1)	REMAINING EXPENDITURES IN 1970 (2)	AUTHORIZATION (3)	IN 1970 (4)	IN 1971 (5)		
<u>NOTES</u>							
II. <u>NON-TOXIC LEAD SHOT</u>							
	LM 145	Non-Toxic Lead Shot	URA as required				No
IV. <u>CABLE SHEATHING</u>							
	LM 55	Lead Composite Cable Sheathing	24,000	2,000	24,000	22,000	2,000
	LM 142	Extrusion of High Strength Cable Sheathing Alloy	50,000	-	50,000	37,500	12,500
	ULM 49	Lead Cable Splicing	-	-	10,000	4,000	6,000
	TOTAL CABLE SHEATHING			2,000	84,000	63,500	20,500

NOTES

(1)

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

(3)

TECHNICAL LEAD ZINC RESEARCH ORGANIZATION, INC.

September 12, 1969

1970 EXPENDITURES REMAINING ON	Recommended by the Technical Committee				1972 PROJECTS ANTICIPATED
	1970 PROJECTS		EXPENDITURES		
	AUTHORIZATION		IN		
	1969 OR PRIOR AUTHORIZATION (1)	1970 REMAINING EXPENDITURES IN 1970 (2)	1970 (3)	1970 (4) 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)

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

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September 12, 1969

	1970				1971	
	EXPENDITURES REMAINING ON		PROJECTS		PROJECTS	
	1969 OR PRIOR AUTHORIZATION (1)	1970 REMAINING EXPENDITURES IN 1970 (2)	1970 AUTHORIZATION (3)	1970 IN 1970 (4)	1971 IN 1971 (5)	1971 ANTICIPATED (6)
LC 61 Antifouling Paint Formulations	12,000	3,500	12,000	11,000	1,000	No
LC 127 Lead Pigments in Paints	20,000	2,000	20,000	18,000	2,000	Yes
TOTAL PAINTS & PIGMENTS		5,500	32,000	29,000	3,000	
LM 153 Explosive Cladding of Lead to Steel	10,000	-	27,610	21,000	6,610	No
TOTAL CORROSION PROTECTION		-	27,610	21,000	6,610	
UM 155 Cryogenic Properties of Lead & Lead Alloys	2,500	-	20,000	7,000	13,000	No
UM 1 Fundamentals of Lead Corrosion	2,500	-	20,000	7,000	13,000	No
UM 19 Electrical Properties of Lead	-	-	10,000	7,000	3,000	Yes
UM 50 Lead Alloy Phase Diagrams	-	-	10,000	5,000	5,000	No
UM 60 Aging Study of Pb-Sb Alloys	-	-	16,000	8,000	8,000	No
TOTAL FUNDAMENTAL		-	76,000	34,000	42,000	

(6)

NOTES

VI. PAINTS & PIGMENTS

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

TOTAL PAINTS & PIGMENTS

II. CORROSION PROTECTION

- LM 153 Explosive Cladding of Lead to Steel

TOTAL CORROSION PROTECTION

II. FUNDAMENTAL

- UM 155 Cryogenic Properties of Lead & Lead Alloys
- UM 1 Fundamentals of Lead Corrosion
- UM 19 Electrical Properties of Lead
- UM 50 Lead Alloy Phase Diagrams
- UM 60 Aging Study of Pb-Sb Alloys

TOTAL FUNDAMENTAL

URA

September 16, 1969

	1970 EXPENDITURES REMAINING ON				1970 PROJECTS				1971 PROJECTS
	AUTHORIZED PROJECTS				Recommended by the Technical Committee				
	REMAINING				EXPENDITURES				
	EXPENDITURES				EXPENDITURES				
	IN				IN				
	1969	OR	1970	1971	1970	1970	1971	1971	
	AUTHORIZATION	PRIOR	IN	IN	AUTHORIZATION	IN	IN	IN	
	(1)	(1)	(2)	(2)	(3)	(4)	(5)	(5)	
	2,500	-	-	-	2,500	2,500	-	-	Yes
	5,340	-	-	-	-	-	-	-	No
	5,800	-	-	-	-	-	-	-	No
	7,500	-	-	-	7,500	7,500	-	-	No
	5,200	-	-	-	8,950	8,950	-	-	At reduced level
	3,190	-	-	-	-	-	-	-	No
	-	-	-	-	6,800	6,800	-	-	Yes
	-	-	-	-	6,000	6,000	-	-	Yes
					31,750	31,750	-	-	
IX. FELLOWSHIPS									
NOTES									
(1)									
L4 141	Industrial Application of Lead								
LC 134	Electrochemistry of Organolead Compounds								
LC 137	Opacification of Leaded Porcelain Enamels by Liquid Immiscibility								
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									

1970 EXPENDITURES REMAINING ON		Recommended by the Technical Committee			1971 PROJECTS ANTICIPATED
AUTHORIZED PROJECTS	1970 PROJECTS	1970 AUTHORIZATION	IN 1970	IN 1971	
1969 OR PRIOR AUTHORIZATION	REMAINING EXPENDITURES IN 1970	(3)	(4)	(5)	(£)
(1)	(2)				
7,000	-	-	-	-	No
35,000 ⁽²⁾	-	34,659	23,000	11,659	No
10,000	-	10,000	2,500	-	Yes
12,500 ⁽¹⁾	2,500	9,000	9,000	-	No
		50,000 ⁽³⁾	37,500	12,500	

ossible if preliminary study, underway, indicated it is feasible.
to be cancelled 12/31/69.
illed 12/31/69.

NOTES

X. ENVIRONMENTAL HEALTH

A. AIR POLLUTION

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

B. OCCUPATIONAL HEALTH

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

- (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			COMMITMENT ANTICIPATED
		1969 OR PRIOR AUTHORIZATION (1)	REMAINING EXPENDITURES IN 1970 (2)	1970 AUTHORIZATION (3)	EXPENDITURES IN 1970 (4)		
						(6)	
C. PUBLIC HEALTH							
LH 75 Human Exposure to Particulate Lead Compounds in the Air Under Experimental Conditions	TEL	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	TEL	34,385	-	URA if Required (1)	-	-	No
LH 114 The Effects of Chronic Plumbism on Neurological Behavior in the Rhesus Monkey	TEL	20,000	8,404	-	-	-	No
LH 158 Information on Lead Environmental Health Activities in Europe	TEL	2,500	250	3,500	3,500	-	Yes
ULH 17 Study of the Effects of Lead on the Respiratory Activity of Erythropoietic Cells	TEL	-	-	7,790	7,790	-	No
ULH 20 Effect of Particle Size on the Absorption of Lead in Humans	TEL	-	-	37,500	28,125	9,375	Yes
ULH 21 Health Effects of Lead Workshop	TEL	-	-	1,700	1,700	-	No
ULH 22 Human Variations in Susceptibility to Lead	TEL	-	-	12,500	12,500	-	Yes
ULH 23 Study of Lead Nephropathy in Australia	TEL	-	-	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. ILZRO 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		1970 PROJECTS		1971 PROJECTS
	AUTHORIZED PROJECTS 1969 OR PRIOR AUTHORIZATION (1)	REMAINING EXPENDITURES IN 1970 (2)	1970 AUTHORIZATION (3)	EXPENDITURES IN 1970 (4)	1971 EXPENDITURES (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	-	25,000	As required	Yes
TOTAL ENVIRONMENTAL HEALTH		27,154	246,389	180,355	33,534
XI. LEAD ABSTRACTING SERVICE					
LP 52 Lead Abstracting Service	10,000	-	11,820	11,820	Yes
XII. UNDESIGNATED RESEARCH AUTHORIZATION	50,000	-	50,000	As required	Yes
TOTAL 1970 AUTHORIZATION		23,523	1,177,069	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)