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UNIVERSITY OF CALIFORNIA

Radiation Laboratory  
Berkeley, California

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LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF JANUARY 1-15, 1956

January 17, 1956

LIST OF CODES FOR REPORT NUMBERS

ACCO	-American Cyanimid Company
AEP	-Monsanto Chemical Company
ALCO	-American Locomotive Company
AMF	-American Machine & Foundry Co.
ANL	-Argonne National Laboratory
ANP	-Aircraft Nuclear Propulsion Project
APEX	-General Electric Company, ANP Project
BAW	-Babcock & Wilcox
BDX	-Bendix Aviation Corp., Detroit
BMI	-Battelle Memorial Institute
BNL	-Brookhaven National Lab.
BRB	-Bridgeport Brass Company
BSC	-Bethlehem Steel Company
CENP	-Combustion Engineering, Inc.
COO	-Chicago Operations Office
CU	-Columbia University
DCDE	-Atomic Power Development Associates
DLWK	-Duquense Light Co-Walter Kidde
DOW	-Dow Chemical Company
DP	-E.I. duPont deNemour & Co.
FWE	-Foreign Weapons Effects
GAT	-Goodyear Atomic Corporation
GEAP	-General Electric Company
GEL	-General Electric Co., General Engineering Laboratory
HEC	-Hooker Electrochemical Co.
HO	-Hanford Operations Office
HW	-Hanford Works, Richland
IDO	-Idaho Operations Office
ISC	-Iowa State College
K	-Carbide and Carbon Chemicals Co. (K-25 Plant)
KAPL	-Knolls Atomic Power Laboratory
KLX	-The Vitro Corporation of America
KLXS	-Vitro Corporation of America (Study Group)
KY	-Carbide and Carbon Chemicals Co. (C-31 Plant)
LA&LAMS	-Los Alamos Scientific Lab.
MCW	-Mallinckrodt Chemical Works
MIT	-Massachusetts Inst. of Tech.
MLM	-Mound Laboratory
NAA-SR	-North American Aviation, Inc.
NBL	-New Brunswick Laboratory
NBS	-National Bureau of Standards
NEA	-Foster Wheeler-Pioneer Service
NLCO	-National Lead Company of Ohio
NMI	-Nuclear Metals Inc.
NNSD	-Newport News Shipbuilding and Dry Dock Co.
NPG	-Commonwealth Edison Co. (Nuclear Power Group)
NYO	-New York Operations Office
ORINS	-Oak Ridge Institute of Nuclear Studies

ORNL	-Carbide & Carbon Chemicals Co. (ORNL)
ORO	-Oak Ridge Operations Office
PWAC	-Pratt & Whitney Aircraft Division of the United Aircraft Corp.
RFP	-Rocky Flats Plant
RME	-Grand Junction Operations Office
RMO	-Division of Raw Materials
SAN	-San Francisco Operations Office
SC	-Sandia Corporation
SEP	-Sylvania Electric Products, Inc.
SFO	-Santa Fe Operations Office
SRO	-Savannah River Operations Office
SO	-Schenectady Operations Office
TEI(M)	-U. S. Geological Survey Trace Elements Reports
TID	-Technical Information Service
TVA	-Tennessee Valley Authority
UCLA	-University of California Medical Research Laboratory
UCRL	-University of California Radiation Laboratory
UR	-University of Rochester
UWFL	-University of Washington Applied Fisheries Laboratory
WAPD	-Bettis Plant
WASH	-AEC, Washington
WEC	-Westinghouse Electric Company Industrial Atomic Power Group
WIN	-National Lead Co., Inc. Winchester
WT	-Weapon Test Reports
Y	-Carbide and Carbon Chemicals Company (Y-12 Plant)

Many prefixes used for research and development reports cover a number of installations. NP("Non-Project") numbers are assigned by the Technical Information Service at Oak Ridge to those reports which it received from sources not under contract to the Atomic Energy Commission. The UCRL Information Division gives "Misc" numbers to any others received here that do not bear an identifying number. Many reports are grouped together under numbers corresponding to an AEC division or operations office. Some of these are as follows:

CO, COO	-Chicago Operations Office
IDO	-Idaho Operations Office
NYO, NYOO	-New York Operations Office
ORO	-Oak Ridge Operations Office
RMO	-Raw Materials Division
WASH	-Atomic Energy Commission, Washington

In our semimonthly "List of Reports Received" the originating installation will be placed in the author column whenever the report code number does not indicate a specific laboratory, or is obsolete or not given in the list.

Two series of translations are currently received, one sponsored by the AEC (AEC-tr), the other by the National Science Foundation (NSF-tr).

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF JANUARY 1-15, 1956

Radiation Laboratory, Department of Physics  
University of California, Berkeley, California

January 17, 1956

<u>Index Number</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
<u>BIOSCIENCES</u>			
MISC 1956-3	Sixth Conference on Radiation Cataracts; Abstracts and Proceedings	Nat'l Research Council	3-18-55
UR-295	The Effect of Polonium Alpha Particle Irradiation Upon Reticuloendothelial Function as Measured with P <sup>32</sup> Labeled Particulate Chromic Phosphate	L.W.Tuttle R.C.Baxter	10-10-55
UR-418	A Comparison of the Effects on Bare Porcine Skin of Radiant Energy Delivered in the Forms of Square and Simulated Field Pulses	T.P.Davis J.R.Hinshaw H.E.Pearse	11-29-55
<u>CHEMISTRY</u>			
AECD-3672	Some Attempts to Prepare Explosive Crystals of Uranyl Nitrate Hexahydrate	D.T.Copenhafer Mallinckrodt Chem.Works.	4-1-46
DP-132	Soluble Neutron Absorbers for Emergency Reactor Shutdown	W.T.Withers	9-55
HW-39170	Fluid Interface Monitoring by Capacitance Probe Method	C.A.Simsen	9-23-55
ADI-4566	Tables II Through IX, Supplementing the Article: Performance of Packed Columns. II. Wetted and Effective Interfacial Areas, Gas-and Liquid-Phase Mass Transfer Rates	H.L.Shulman C.F.Ullrich A.Z.Proulx, et al American Documentation Inst., Wash., D.C.	

\*Microcards

MISC 1955-183 (Translation)	The Radiochemical Investigation of the Fission of Tungsten with 280 Mev Deuterons, by B.V.Kourchatov, V.N.Mehedov, M.Y.Kouznetzova and L.N.Kourchatova. Translated from: Akademiia Nauk, SSSR. Conference on Peaceful Applications of Atomic Energy, July 1-5, 1955, Moscow. Meetings of the Div. of Chemical Sciences,		
MIT-NS-PR-Aug.31,1955	Progress Report	Mass. Inst. of Tech.	8-31-55
Monograph 2451	Temperature Gradient Zone Melting	W.G.Pfann Bell Telephone	9-55
Monograph 2478	Ferromagnetic Resonance in Two Nickel-Iron Ferrites	W.A.Yager J.K.Galt F.R.Merritt Same	8-15-55
Monograph 2479	Elastic Constants of Germanium Between 1.7° and 80°K	M.E.Fine Same	7-55
Monograph 2486	Odd Electrons in Polymer Molecules	F.H.Winslow W.O.Baker W.A.Yager Same	9-20-55
*SES-TN-2	A Feedback Voltage Supply Unit for use with a Photomultiplier Tube	W.L.Clink Canada.Experimental Station, Suffield, Alberta	3-9-54
TID-5217	Electromagnetic Separation of Isotopes in Commercial Quantities	R.K.Wakerling A.Guthrie Calif. Univ.	6-49
WIN-26	The Recovery of Uranium From Ore Pulps Using Fixed Ion Exchange Resin Beds	G.W.Clevenger J.T.Lynch Nat'l Lead Co. Winchester, Mass.	12-21-55

\*Micorcards

ENGINEERING

ATC

ARC-54-12

Design Study; 60 MW Closed Cycle Gas Turbine Nuclear Power Plant

American Turbine Corp.

12-54

DP-130

Mixer-Settler Development; Use of a Shrouded Paddle

W.J.Mottel

8-55

Monograph 2470

Atmospheric Galvanic Couple Corrosion

K.G.Compton  
A.Mendizza  
W.W.Bradley  
Bell Telephone

9-55

ORNL-1987

Analysis of Spherical Pressure Vessel Having an Energy Source Within the Wall

R.H.Chapman

10-26-54

GEOSCIENCES

\*RME-3106

Petrographical Investigations of the Salt Wash Sediments. Progress Report--April 1 to October 1, 1954

J.C.Griffiths  
J.A.Cochran  
D.W.Groff, et al  
Penn. State Univ.

12-54

\*RME-3110 (Pt. I)

Annual Report for June 30, 1954 to April 1, 1955. Part I. The Chemical Environment of Pitchblende

Leo J.Miller  
Columbia Univ.

5-55

\*RMO-555(Rev.)

Sources of Gadolinium

E.K.Judd  
Div. of Raw  
Materials, AEC

5-50

METALLURGY AND CERAMICS

AECD-3680

Tensile Properties of Zirconium and Zirconium Alloys. Part I. Zirconium and Alloys with Oxygen, Columbium, Tin, Copper, Vanadium, Tungsten, and Tantalum

C.R.Simcoe  
W.L.Mudge, Jr.  
Westinghouse

11-20-51

BMI-1056

Compositional Factors Affecting Corrosion Resistance of Zirconium in High-Temperature Water and Steam

W.K.Boyd  
D.J.Maykuth  
R.S.Peoples, et al

11-18-55

\*Microcards

Monograph 2485	Some Aspects of Slip in Germanium	R.G.Treuting Bell Telephone	2-55
Monograph 2510	Effect of Dislocations on Ultrasonic Wave Attenuation in Metals	W.P.Mason Same	9-55
Monograph 2511	The Electrical Effects of Dislocations in Germanium	W.T.Read, Jr. G.L.Pearson Same	7-55
*S & T Memo-8/54	Drilling Titanium Alloy Ti 150A	Production Engineering Research Assn. of Gt. Brit.	7-54

PHYSICS

AECD-3675	Thermal Utilization and Lattice Diffusion Length in Graphite-Uranium Lattices from Exponential Pile Measurements	C.R.Richey Hanford	4-1-54
CERN-PS/RH 9	Stability of Two-Dimensional Non-Linear Oscillations with Periodical Hamiltonian; Applied to the Non-Linear Betatron Oscillations of an Alternating-Gradient Synchrotron	European Organization of Nuclear Research, Geneva.	11-55
EDC-23	Effects of the Difference Between Open and Closed Sectors	E.D.Courant Brookhaven	11-23-55
IDO-16214	Temperature Distribution in a Fuel Plate with Exponentially Rising Power. Part I. Theoretical	H.L.McMurry	3-25-55
MHB-4	Magnet Model No. 2, Configuration No. 3; Its Computed Profile, Computed Fields and Gradients	M.H.Blewett Brookhaven	11-3-55
MISC 1955-216 (Translation)	Renormalization of Meson Charge in Pseudoscalar Theory with Pseudoscalar Coupling, by I.Pomeranchuk. Trans. from Akademia Nauk, SSSR. Doklady <u>104</u> , 51-3 (1955)		

\*Microcards

MISC 1955-217 (Translation)	Inelastic Electron Scattering in Nickel and Molybdenum Tragets, by A.R.Shulman and I.I.Farbshtein. Trans. from Akademiia Nauk, SSSR. Doklady <u>104</u> , 56-9(1955)		
MISC 1956-1 (Translation)	A Case of Fission of a Uranium Nucleus into Four Fragments of Comparable Mass, by Yu. S.Ivanov. Trans. from Akademiia Nauk, SSSR. Doklady <u>104</u> , 40-3 (1955)		
MISC 1956-2 (Translation)	Formation of Plasma Under the Influence of Electric Pulses, by G.V.Spivak and Ye L.Stolyarova. Trans. from Zhurnal Tekhnicheskoi Fiziki <u>20</u> , 501-15 (1950)		
MIT-NS-PR-Aug.31,1955	Progress Report	Mass. Inst. of Tech.	8-31-55
Monograph 2458	A Method for Synthesizing Sequential Circuits	G.H.Mealy Bell Telephone	9-55
Monograph 2462	Design of Alloyed Junction Germanium Transistors for High-Speed Switching	J.H.Ebers S.L.Miller Same	9-55
Monograph 2468	The Minimum Noise Figure of Microwave Beam Amplifiers	H.A.Haus F.N.H.Robinson Same	8-55
Monograph 2477	Avalanche Breakdown in Germanium	S.L.Miller Same	8-15-55
Monograph 2506	Queueing Systems for Single and Multiple Operation	R.E.Fagen J.Riordan Same	6-55
Monograph 2507	Arcing of Electrical Contacts in Telephone Switching Circuits Parts I - V	M.M.Atalla Same	9-55
Monograph 2508 *Microcards	Magnetic Pulse Modulators	K.J.Busch A.D.Hasley C.Neitzert Same	9-55

Monograph 2509	Conversion of Maxwell's Equations into Generalized Telegraphist's Equations	S.A.Schelkunoff Bell Telephone Labs., Inc.	9-55
NEVIS-15	A Model for Multiple Meson Production	E.M.Henley T.D.Lee Columbia Univ.	9-55
NRL-4666	Total Cross Sections for 14-Mev Neutrons-Comparison of Measured Values with Values Calculated from the Complex Square-Well Model	W.I.McGarry J.O.Elliot W.R.Faust	12-7-55
NYO-6481	On the Numerical Integration of the Neutron Transport Equation	H.B.Keller J.Heller New York Univ.	9-1-55
OSR-TN-55-447	Note on Gamma Angular Distribution in Coulomb Excitation	G.Breit M.E.Ebel J.E.Russell Yale Univ.	10-27-55

REACTOR SCIENCE

AECD-3668	Experimental Investigation of the Self-Limitation of Power Durin Reactivity Transients in a Subcooled, Water-Moderated Reactor; Borax-I Experiments, 1954	J.R.Dietrich Argonne	8-17-55
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MISCELLANEOUS

ASTIA-U-95	Title Announcement Bulletin No. U-95	Armed Services Tech. Info.Agency	12-6-55
MISC 1955-46 Vol. 17, No. 5	National Defense Review Volume 17, Number 5 Abstracts 17-2001 to 17-2650	Office of the Adjutant General Wash., D.C.	11-55

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Monograph 2512	Training Programs of Industry for Graduate Engineers'	M.J.Kelly	10-55
		Bell Telephone Labs.	
NP-5824	NRL Quarterly on Nuclear Science and Technology. Progress Report for the Period July - September 1955	Naval Research Lab.	10-1-55

LIST OF UNCLASSIFIED TRANSLATIONS ISSUED BY THE UCRL INFORMATION DIVISION

UCRL-Translation 239(L)	Chemical Theoretical Bases of the Extractational Recovery of Elements, by V.I.Kuznetsov. Trans. from Uspekhi Khimii <u>23</u> , 654-96 (1954)
UCRL-Translation 253(L)	Zero Equality of Re-Normalized Charge in Quantum Electrodynamics, by I.Pomeranchuk. Trans. from Akademiia Nauk, SSSR. Doklady <u>103</u> , 1005-8 (1955)
UCRL-Translation(L) (254)	A Highly Sensitive Light Receiver: The Electronic Telescope. Study and Improvement, by Maurice Duchesne. Trans. from Bulletin Astronomique <u>17</u> , 1-88 (1953)

LIST OF UNCLASSIFIED REPORTS ISSUED BY THE UCRL INFORMATION DIVISION

UCRL-3190	The Crystal Structure of Gold (III) Chloride (Thesis)	E.S.Clark	11-8-55
UCRL-3192	On Nucleon Scattering and the Feshbach-Loman Model	R.B.Raphael	11-9-55
UCRL-3203	Behavior: Imbalance in a Network of Chemical Transformations	D.F.Bradley M.Calvin	10-12-55
UCRL- <del>3213</del> 3212	Bevatron Operation and Development. VI May, June, July 1955	H.G.Heard	11-18-55
UCRL-3213	A Study of the Mechanism of Electroreduction at the Dropping Mercury Electrode (Thesis)	R.H.Sanborn	12-55
UCRL-3215	Electron Multiplier Fabrication	F.L.Reynolds	12-55
UCRL-3222	Energy Levels of $PU^{239}$ Populated by the Beta Decay of $NP^{239}$	J.M.Hollander W.G.Smith J.W.Mihelich	9-28-55

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UCRL-3251	List of Reprints Available in the Technical Information Division (Received July through December, 1955)		1-3-56
UCRL-3256	List of Unclassified Reports Received and Issued by the UCRL Information Division During the Period of December 14,31, 1955		1-12-56
UCRL-3257 Abstract	Crystal Chemistry of Potassium Sodium Cobaltinitrite	D.H.Templeton	1-10-56