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LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED IN THE UCRL
INFORMATION DIVISION DURING THE PERIOD JANUARY 16-31, 1955

January 31, 1955

Printed for the U. S. Atomic Energy Commission

LIST OF CODES FOR REPORT NUMBERS

ACCO -American Cyanamid Co.
AERE -Atomic Energy Research Establishment, Harwell, England
AFCRC -Air Force Cambridge Research Center
AMRL -Army Medical Research Lab., Fort Knox
ANL -Argonne National Lab.
ANP -Aircraft Nuclear Propulsion Project, Oak Ridge
APEX -General Electric Co., Aircraft Gas Turbine Div.
ASTIA -Armed Services Technical Information Agency
BM -Bureau of Mines
BM-II -Northwest Electrodevelopment Lab., Bureau of Mines,
Albany, Oregon
BMI -Battelle Memorial Institute
BNL -Brookhaven National Lab.
BRL -Ballistic Research Labs., Aberdeen Proving Grounds
CEA -Commissariat à l'Énergie Atomique, France
CEI, CRC, CRE, CRP, CRT and others
-Chalk River Project, Canada
CEPS -Commonwealth Edison Co.
CERN -European Council for Nuclear Research
CF -Oak Ridge National Lab., Central Files
CU -Columbia University
DC -General Electric Co., ANP Project
DOW -Dow Chemical Co.
DP -E. I. du Pont de Nemours and Co.
FMPC -National Lead Co. of Ohio
HW -Hanford Works, Richland, Wash.
ISC -Iowa State College
JENER -Jount Establishment for Nuclear Energy Research, Norway
K -Carbide and Carbon Chemicals Co., K-25 Plant
KAPL -Knolls Atomic Power Lab.
KLX -Vitro Corp. of America
LA, LADC, LAMS
-Los Alamos Scientific Lab.
LRL, LWS
-California Research and Development Co.
MIT -Massachusetts Institute of Technology
MLM -Mound Lab.
Monograph
-Bell Telephone System
MTA -California Research and Development Co.
NAA -North American Aviation, Inc.
NBS -National Bureau of Standards
NM -Naval Medical Research Institute
NRL -Naval Research Lab.
ONRL -Office of Naval Research, London
ORNL -Carbide and Carbon Chemicals Co., Oak Ridge National Lab.
PR -Chalk River Project, Canada

SEP -Sylvania Electric Products, Inc.
TEI, TEM
TID -U. S. Dept. of Interior, Geological Survey
UCLA -Univ. of California at Los Angeles
UR -Univ. of Rochester
USNRDL -U. S. Naval Radiological Defense Lab.
WAPD -Westinghouse Electric Corp., Atomic Power Division
Y -Carbide and Carbon Chemicals Co., 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 receives 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 this 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 IN THE UCRL
INFORMATION DIVISION DURING THE PERIOD JANUARY 16-31, 1955

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

January 31, 1955

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*AECU-2957	A. Study of the Effect of Radiation on Staphylococcus Enterotoxin. B. Radiation Studies on Surface Ripened Cheese	M. J. Surgalla R. O. Wagenaar Food Res. Inst.	9-30-54
BNL-317 (T-53)	Progress Report on Fission Products Utilization. VII. Status Report on the Gamma Ray Initiated Polymerization of N-Vinylpyrrolidone	D. S. Ballantine B. Manowitz	10-54
*BNL-2052	Genetic and Non-Genetic Effects of Radiations in Neurospora	V. W. Woodward C. M. Clark	1954
*BNL-2063	The Relationship Between Chromosome Fragmentation and Rejoining in Trillium Erectum Following Thermal Neutron and X-Irradiation	E. E. Deschner	1954
HW-33744	Gastro-Intestinal Absorption of Plutonium III. Comparison Between Rat and Pig	M. H. Weeks L. A. George W. D. Oakley L. K. Bustad R. C. Thompson	11-15-54
*NP-5412	Some Effects of a Lethal Dose of X-Radiation Upon Retention. Studies of Shock Avoidance Motivation	W. H. Melching S. J. Kaplan Radiobiological Lab., Univ. of Texas	8-54
*NP-5413	Some Effects of a Lethal Dose of X-Radiation Upon Retention in Monkeys	S. J. Kaplan M. Delit G. Gentry	8-54
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ORO-133	Agricultural Research Program / Semi-Annual Progress Report for January 1, 1954 to June 30, 1954	Tennessee Univ.	12-54
UCSF 10	Semiannual Report for Period Ending December 31, 1954	R. S. Stone G. D. Adams Cal. Univ. San Francisco, School of Medicine	1-55

CHEMISTRY

*AECU-2977	Radiation Chemistry; The Chemical Effects of Radiation on Matter; Training Program Lecture Notes	M. Burton Metallurgical Lab., Univ. of Chicago	5-3-43
*AECU-295	Correlation of Critical Temperatures With Thermal Expansion Coefficients of Liquid Fluorocarbons	G. P. Rutledge Carbide and Carbon Chemicals Corp., K-25	6-13-49
AECU-2950	Studies of Density Transients in Volume-Heated Boiling Systems Final Report	J. L. Greenfield R. P. Lipkis C. Liu N. Zuber Calif. Univ. Los Angeles	
*AECU-2953	The Determination of Hg-202 and Other Mercury Isotopes in Samples of Mercury Vapor by Mercury Resonance Radiation Absorbiometry	K. R. Osborn H. E. Gunning Illinois Inst. of Technology	1954
*AECU-2959	Metal Ion Chelate Complexes. Final Report Covering Period July 1, 1951 to August 31, 1954	R. T. Pflaum R. R. Miller P. E. Holkeboer B. A. Swinehart H. F. Waldron W. W. Brandt Purdue Univ.	
*AECU-2961	Interferometric Studies of the Refractive Indices of Some Fluorine Compounds	J. G. Malik Michigan State Coll.	8-54
*AECU-2962	An Investigation of the Electric Moments of Some Compounds of Fluorine	R. D. Pruett Michigan State Coll.	8-54
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*AECU-2970	The Preparation and Some Properties of Magnesium Hydride	F. H. Ellinger C. E. Holley, Jr. B. B. McInteer D. Pavone R. M. Potter Los Alamos Scientific Lab.	
ISC-553	Flooding Characteristics of a Pulse Extraction Column	G. H. Beyer R. B. Edwards Ames Laboratory	12-10-54
LA-1727	Values of Thermodynamic Functions to 12,000°K for Several Substances	W. Fickett R. D. Cowan	9-1-54
LA-1734	The Preparation of a Primary Standard of Tritium Water	J. Farr D. T. Vier	8-24-54
LA-1837	Argon Treatment of Liquid Scintillators to Eliminate Oxygen Quenching	D. G. Ott F. N. Hayes	1-13-55
*MCC-1023- TR-34	Some Reactions of the Boron Halides in Liquid Ammonia	W. J. McDowell Tennessee Univ.	3-54
*MCC-1023- TR-73	Electrolysis Studies in Organic Solvents	E. D. Fultz J. H. Wood Rensselaer Poly- technic Inst.	6-54
*MCC-1023- TR-75	Attempted Synthesis of Heterocyclic Compounds of Boron. Final Report	R. D. Sands Syracuse Univ.	6-54
*MCC-1023- TR-80	Boron Trihalides from Fused Salts	J. H. Wood C. Zabielski Rensselaer Poly- technic Inst.	9-54
MIT-RLE-TECH RPT. NO. 272	Thermoelectric Effects in Silver Halides	W. Grattidge Research Lab. of Electronics	5-16-54

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- *NP-5378 Development of Polynuclear Aromatic Compounds for Use as High-Temperature Lubricants and Related Materials. Quarterly Report No. 3 [for] February 1, 1954 to May 1, 1954 C. F. Raley, Jr. 1954 Southwest Research Inst.
- *NP-5416 Fundamental Studies in Electrodeposition. Final Report [for] February 1, 1952 to January 31, 1954 D. Trivich 10-54 Wayne Univ.
- *NP-5424 Hydrogen Peroxide. Part 2. (Chapters 5-6) Report No. 43 W. C. Schumb 12-1-53 C. N. Satterfield R. L. Wentworth Massachusetts Inst. of Tech.
- *NP-5425 Hydrogen Peroxide. Part 4. (Chapters 9-12). Report No. 45 W. C. Schumb 11-1-53 C. N. Satterfield R. L. Wentworth Massachusetts Inst. of Tech.
- NRL-4437 An Instrument for the Rapid and Continuous Determination of Low Concentrations of Water Vapor in Gases C. C. Minter 10-21-54
- *NYO-3917 Transition-Metal Hydrides. Status of Work on the Preparation of Iron, Nickel, and Manganese Hydrides. Progress Report for Year Ending June 1, 1954 M. J. Rice, Jr. 6-15-54 T. R. P. Gibb, Jr. Tufts Coll.
- NYO-6616 Electrochemical Studies of Non-Aqueous Melts Quarterly Progress Report for Period Ending October 1, 1954 R. F. Mehl 12-54 G. Derge Metals Research Lab. Carnegie Inst. of Tech.
- ORNL-1833 The Inhibition of Corrosion by the Pertchnetate Ion G. H. Cartledge 1-18-55
- *WAL-401/98-37 Evaluation of Titanium and Titanium Alloys. Spectrochemical Analysis of Titanium Metal and Alloys. Final Report J. H. Enns 7-54 Engineering Research Inst., Univ. of Mich.

GEOSCIENCES

- *NYO-3365 An Investigation of the Mineralogy, Petrography and Paleobotany of Uranium-Bearing Shales and Lignites. (Scope A--Shales). Quarterly Progress Report [for] Period of April 1, 1953 to June 30, 1953. T. F. Bates 7-22-53 H. D. Wright E. Camilli E. Silverman, E. Strahl L. Weiser, Penn. State Coll., Mineral Industries Exp. Sta.
- *Microcard

- *NYO-3366 An Investigation of the Mineralogy, Petrography and Paleobotany of Uranium-Bearing Shales and Lignites. (Scope B--Lignites). Quarterly Progress E. F. Koppe 1953
E. Erickson, et al.
Pennsylvania State Coll.
Mineral Industries Exp. Sta.
- *RME-4058 A Statistical Analysis of Contract Drilling on the Colorado Plateau. J. P. Kellogg 7-29-54
Grand Junction
Operations, AEC

METALLURGY AND CERAMICS

- *ATI-58194 An Investigation of the Gas Permeability of Base Coat Glasses. Report No. 40 D. G. Bennett 6-49
T. F. Newkirk
Illinois Univ.
- COO-206 A Study of the Mechanisms of Heat Treatment of Zirconium-Base Alloys Status Report No. 1-(COO-206) July 1, 1954 - December 31, 1954 Armour Research 1-3-55
Foundation
- KAPL-1248 Corrosion of Reactor Structural Materials in High-Temperature Water II. Static Corrosion Behavior at 600 to 680°F R. Fowler, Jr. 12-1-54
D. L. Douglas
F. C. Zyzyes
- LA-1730 Mathematical Analysis of Galvanic Corrosion Part V: A Technique for Incorporating Polarization Parameters Into Simpler Potential Functions J. T. Waber 9-54
J. M. Ruth
- *NP-5420 A Metallurgical Study of Molybdenum. [Final] Summary Report S. L. Case 10-15-54
Battelle Memorial Inst.
- *NP-5422 The Initiation of Discontinuous Yielding in Ductile Molybdenum J. A. Hendrickson 10-54
D. S. Wood
D. S. Clark
Dynamic Properties Lab.,
Calif. Inst. of Tech.
- NYO-6114 Technical Progress Report (Carbonyl Iron Powders) Franklin Inst. 12-54
- *OSR-TN-54-286 Kinetics of Formation of Porous of Partially Detached Scales. Metallurgy Report No. 1 C. E. Birchenall 7-54
Forrestal Research
Center, Princeton Univ.
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PHYSICS

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|-------------|---|---|----------|
| *AD-28620 | The Use of Quenching Circuits With Selfquenching Counters. Scientific Report No. 2 | K. Greisen
[Floyd Newman] Lab.
of Nuclear Studies,
Cornell Univ. | 1-54 |
| *AECU-99 | Fitting a Straight Line | H. H. Stotler
Carbide and Carbon
Chemicals Corp. K-25 | 9-9-46 |
| *AECU-2958 | Decay Scheme and Characterization Study of Radioactive Products of Deuteron Reactions | W. A. Cassatt, Jr.
Michigan Univ. | 9-24-54 |
| DP-93 | Machine Computation of Bessell Functions | J. C. English | 11-54 |
| FWE-31 | Recent Trends in British Radiac Instrumentation | D. Taylor
W. Abson
Atomic Energy Research
Establishment, Harwell,
Berks (England) | 10-54 |
| GKG-4 | Power Supply for AG Synchrotron | Brookhaven
National Laboratory | 11-30-54 |
| *JENER-30 | Absolute Counting of α -Particles and Neutrons With a Scintillation Counter | B. Grimeland | 9-54 |
| KAPL-1243 | Analysis of Single Loop Current Feed-Back Amplifiers | R. S. Stone | 11-4-54 |
| LA-1736 | Excitation Function of $O^{16}(t, n)F^{18}$ | N. Jarmie | 10-1-54 |
| MISC 1955-4 | A Generalized Theory of Plasticity Involving the Virial Theorem Tech. Report XLVI | H. Eyring
T. Ree
Inst. for the Study of Rate
Processes Univ. of Utah | 12-30-54 |
| MISC 1955-5 | Norman Bridge Laboratory of Physics Final Report
March 1, 1947 - November 30, 1954 | J. W. M. DuMond
Calif Inst. of Tech. | |

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MIT-RLE-TECH.RPT. NO. 261	Network Synthesis by Impulse Response for Specified Input and Output in the Time Domain	F. Ba Hli Research Lab. of Electronics Mass. Inst. of Tech.	7-31-53
MLM-970	A Simplified Procedure for Computing the Growth of Radioactive Decay Products	H. W. Kirby D. A. Kremer	5-10-54
*NP-5372	Measurement of Ionization in Photographic Emulsions by the Technique of Mean Gap Length	C. O'Ceallaigh Dublin Inst. for Advanced Studies, School of Cosmic Physics	1954
*NP-5418	Nuclear Absorption of μ Mesons in Medium and Heavy Elements	A. J. Meyer Palmer Physical Lab., Princeton Univ.	10-10-54
*NYO-6567	Meson Interactions in Nuclear Emulsions	L. A. Mann Carnegie Inst. of Tech.	6-54
ONRL-119-54	Experimental and Theoretical Nuclear Physics at the University of Birmingham	A. Roberts	12-29-54
ORNL-1807	A Single-Crystal Adapter for the Norelco Wide-Range Diffractometer	R. J. Fox F. A. Sherrill M. C. Wittels	1-19-55
OSR-TN-54-347	Isotope Shift in the X-Ray Spectra of Heavy Elements Technical Report No. 8	M. S. Wertheim G. Igo Yale University	12-54
OSR-TR-54-37	Final and Technical Report	W. E. Stephens Penn. Univ.	11-30-54
USNRDL-TR-15	The Production of Neutrons With a 2 Mev Electrostatic Accelerator	S. W. Ross	8-20-54

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REACTOR SCIENCE

RDB(C)/TN-70	Fast Reactor -- Physical Properties of Materials of Construction Review of Progress from September 1, 1953 to April 1, 1954	I. P. Bell S. M. Makin Culcheth Lab. Res. and Development Branch., Dept. of Atomic Energy (England)	7-5-54
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MISCELLANEOUS

*AECU-2966	Thin Glass Windows	A. Hemmendinger A. P. Roensch Los Alamos Scientific Lab.	1953
ASTIA-U-68	Title Announcement Bulletin No. U-68		12-31-54
BNL 314 (S-23)	Quarterly Progress Report July 1 - September 30, 1954		
MISC-1955-30	Nuclear Notes for Industry	Technical Info. Service Oak Ridge	1-7-55
NACA-Abstract No. 76	Research Abstracts, Current NACA Reports	National Advisory Committee for Aeronautics	1-11-55
*NP-5417	Sodium Leak Detection in Vertical Piping	W. Milich E. C. King Mine Safety Appliances Co.	11-19-54
*NP-5421	Quarterly [Progress] Report	Columbia Radiation Lab., Columbia Univ.	10-30-54

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UCRL-2771	Analysis of the Disintegration Products from the Reactions of 125 Mev Deuterons with Lithium Nuclei	F. Gilbert (Thesis)	10-15-54
UCRL-2778	Charge Distributions of Oxygen and Neon Ions Passing Through Gases	E. Hubbard, E. Lauer	11-10-54
UCRL-2789	Charged Particles from Beryllium Bombarded by 31.3 - Mev Protons	R. Finke (Thesis)	11-17-54
UCRL-2790	Serum Lipoproteins as an Indication of Survival Time in the X-Irradiated Rabbit	T. Hayes, J. Hewitt	11-24-54
UCRL-2793	Effects of Thyroxine and KSCM on Capacity of Rat Thyroid Gland to Accumulate Astatine ²¹¹	C. Shellabarger, P. Durbin, M. Parrott, et al.,	11-54
UCRL-2806	The Mechanism of the Reaction $C^{12} + p \rightarrow p + 3\alpha$ at 32 Mev	J. Need	12-3-54
UCRL-2808	Measurements on Proton-Proton Scattering in the Energy Region 150 to 340 Mev	G. Pettengill (Thesis)	12-6-54
UCRL-2813	Gamma Ray Studies on the Decay Chain $Zr^{86} \rightarrow Y^{86} \rightarrow Sr^{86}$	E. Hyde, M. Florence, F. Stephens	12-10-54
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