

**GENERAL  
ELECTRIC**

*Review*

EVERETT S. LEE • EDITOR

PAUL R. HEINMILLER • MANAGING EDITOR

**RESEARCH AND ENGINEERING PROGRESS • 1953**

Editorial: The Engineer and The Electrical Industry.....	7
Research.....	8
Nucleonics.....	12
Testing and Measuring.....	17
Power.....	22
Industry.....	29
Rail.....	36
Aviation.....	39
Marine.....	42
Engineering Training and Education.....	42
Air Conditioning.....	43
Electronics.....	44
Lighting.....	49
Medical.....	52
Chemical and Metallurgical.....	53
... For Building Construction.....	56
Appliances.....	57

**THE COVER**—Tomorrow's refrigerator-freezer in a developmental stage has ½-inch panels of a new insulation (pages 10, 57) . . . Rotor weighing about 588 tons is lowered into the stator of a 73,700-kva hydraulic turbine-driven generator. Three such generators, the largest electric machines in physical size ever built, were shipped to McNary Dam (page 23) . . .

Plastics "bubble" allows operator to enter radioactive hoods safely and conveniently. Air pressure inflates and forces the plastics tunnel and figure into the hood (page 13) . . . B-47 *Stratojet* bomber powered by six G-E J47 turbojet engines is being refuelled in mid-air. The J47 series of turbojets is used on such planes as the *Sabrejet* and the *Fury* (page 39).

THE GENERAL ELECTRIC REVIEW IS ISSUED IN JANUARY, MARCH, MAY, JULY, SEPTEMBER, AND NOVEMBER, BY THE GENERAL ELECTRIC COMPANY, SCHENECTADY, NY, AND IS PRINTED IN THE U.S.A. BY THE MAQUA COMPANY. IT IS DISTRIBUTED TO SCIENTISTS AND ENGINEERS THROUGHOUT INDUSTRIAL, CONSULTING, EDUCATIONAL, PROFESSIONAL SOCIETY, AND GOVERNMENT GROUPS, BOTH DOMESTIC AND FOREIGN. . . . THE GENERAL ELECTRIC REVIEW IS COPYRIGHTED 1954 BY THE GENERAL ELECTRIC COMPANY, AND PERMISSION FOR REPRODUCTION IN ANY FORM MUST BE OBTAINED IN WRITING FROM THE PUBLISHER. . . . THE CONTENTS OF THE GENERAL ELECTRIC REVIEW ARE ANALYZED AND INDEXED BY THE INDUSTRIAL ARTS INDEX, THE ENGINEERING INDEX, AND SCIENCE ABSTRACTS. . . . SIX WEEKS' ADVANCE NOTICE, AND OLD ADDRESS AS WELL AS NEW, ARE NECESSARY FOR CHANGE OF ADDRESS. . . . ADDRESS ALL COMMUNICATIONS TO: EDITOR, GENERAL ELECTRIC REVIEW, SCHENECTADY 5, NEW YORK.

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<b>Editorial: The Engineer and His Career</b> .....	<b>7</b>
<b>"Missile Off—On Money!"</b> .....	<b>Review Staff Report</b> .... <b>8</b>
<b>Electromagnetic Model—Power Transformer Unveiled</b> .....	<b>Dr. P. A. Abetti</b> .... <b>23</b>
<b>How 122½-Ton Fan Rotor Traveled to West Coast</b> .....	<b>Review Staff Report</b> .... <b>27</b>
<b>The Nation's Economic Circuit</b> .....	<b>Vernon G. Lippitt</b> .... <b>34</b>
<b>Neutron Interactions with Matter</b> .....	<b>Dr. E. R. Gaertner</b> .... <b>38</b>
<b>Mechanized Plant Boosts Nation's Magnet Capacity</b> .....	<b>Review Staff Report</b> .... <b>42</b>
<b>National Society of Professional Engineers</b> .....	<b>Paul H. Robbins</b> .... <b>47</b>
<b>Transistor Applications</b> .....	<b>Dr. J. S. Schaffner</b> .... <b>50</b>
<b>Educators in Industry's Classroom</b> .....	<b>R. H. Buescher</b> .... <b>55</b>
<b>History of the Automatic Blanket</b> .....	<b>G. C. Crowley and R. G. Holmes</b> .... <b>58</b>

**COVER**—While dawn breaks over the desert, General Electric technicians work over a Project Hermes guided missile at the White Sands Proving Ground, NM. Designed and constructed by GE under the sponsorship of the Army Ordnance Corps, the missile will be launched a few hours later. On page 8 begins an exclusive story of GE's participation in Project Hermes, the first time the story has been told in an unclassified document. Many of the photographs have been recently declassified and are appearing in print for the first time.

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<b>Editorial: The Engineer—And His Engineering Societies</b> .....	<b>7</b>	
<b>Laboratories in the Sky</b> .....	<b>Review Staff Report</b> ....	<b>8</b>
<b>Q-Floor Wiring for Your New Home</b> .....	<b>William E. Eipel</b> ....	<b>15</b>
<b>What Can Infrared Spectroscopy Do for You?</b> .....	<b>Donald L. Harms</b> ....	<b>18</b>
<b>Liquid Dielectrics</b> .....	<b>Dr. A. H. Sharbaugh and Dr. R. W. Crowe</b> ....	<b>23</b>
<b>Is Your Corporation a Good Neighbor?</b> .....	<b>Dr. Carter Davidson</b> ....	<b>29</b>
<b>The American Society of Naval Engineers</b> .....	<b>Captain R. B. Madden</b> ....	<b>34</b>
<b>Aircraft Instrumentation—In Step with the Times</b> .....	<b>A. W. Eade and J. J. Fraizer</b> ....	<b>37</b>
<b>Light—Its Influence on Plant and Animal Growth</b> .....	<b>J. P. Ditchman</b> ....	<b>42</b>
<b>The Switch to 6</b> .....	<b>Review Staff Report</b> ....	<b>47</b>
<b>Industry Promotes Study of the Three R's (Part 1)</b> .....		<b>52</b>

**COVER**—Engineers, pilots, and ground mechanics are an important part of the team at GE's security-wrapped Flight Test Center, near Schenectady, NY. Artist Tran Mawicke caught this scene as fighter plane at right is prepared for a flight test; tail projecting from the hangar belongs to a B29 Superfortress. For the Flight Test story, see page 8.

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<b>Commercial Atomic Power in 5 to 10 Years</b> .....	5
<b>How Radiation Affects Important Materials</b> .....Dr. Samuel S. Jones....	6
<b>Is UHF Superior to VHF?</b> .....Dr. A. B. Glenn....	12
<b>Educating the Technical Graduate</b> .....W. Scott Hill....	17
<b>Sub-Zero Treatment of Metals</b> .....H. T. Gregg, Jr....	19
<b>New Plant Mass-Produces Power Transformers</b> .....Review Staff Report....	22
<b>The Photoconductive Cell</b> .....Dr. John E. Jacobs....	28
<b>Fluorescent Lamps—Past, Present, and Future</b> .....G. E. Inman....	34
<b>Illuminating Engineering Society</b> .....IES Historical Committee....	39
<b>Insulating Instrument Transformers—A Continuing Challenge</b> ....Robert S. Norman....	42
<b>Electroluminescence</b> .....Dr. William W. Piper....	46
<b>Solving Problems with the Semac II</b> .....D. D. McCracken....	50
<b>How Good Is the Magnetic Amplifier?</b> .....J. J. W. Brown....	53
<b>Garbage Men Are Obsolete</b> .....T. T. Woodson....	58

**COVER**—At a new G-E plant near Rome, Ga., production-line techniques are used to speed the manufacture of power transformers. In the test area, nine tests can be performed in the seven successive berths. As the transformer stops at each station, the operator runs his particular test, and the unit is then moved into the next berth by the drag-chain conveyor. For other pictures of production highlights at the new plant, turn to page 22. Color photograph by George Burns.

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**APGC—The Air Force's Toughest Customer . . . . . Review Staff Report . . . . 8**  
**Educational Television—An Investment in the Future . . . . . Dr. W. R. G. Baker . . . 14**  
**Teaching Draftsmen Engineering Principles . . . . . H. C. Dickinson and C. F. Taylor . . . 17**  
**Lighting Progress Accelerates Its Rate of Climb . . . . . Willard C. Brown . . . . 21**  
**Home Freezers—Upright or Chest? . . . . . Robert B. Farnon . . . . 24**  
**New Course Emphasizes Unique Problem Approach . . . . . L. W. Warzecha . . . . 28**  
**Instrument Society of America . . . . . Porter Hart . . . . 34**  
**Electronic Relaying for Tomorrow's Power Systems . . . . . L. F. Kennedy . . . . 37**  
**Electric Water Coolers Get the New Look . . . . . F. Burggraf and B. E. Freitag . . . 39**  
**Concrete Shields—Their Preparation and Use . . . . . Dr. Harold S. Davis . . . . 43**  
**Standardization—What It Means to You . . . . . R. C. Sogge . . . . 46**  
**Cooling the Nuclear Reactor . . . . . G. M. Roy and G. L. Locke . . . . 49**  
**Industry Promotes Study of the Three R's (Part II) . . . . . 52**  
**Some Problems of High-Temperature Alloys . . . . . Dr. W. R. Hibbard, Jr. . . . 57**

**COVER—"Proof by Test" is the motto of the Air Proving Ground Command at Eglin Air Force Base in northwest Florida. One phase involves subjecting aircraft—such as this Boeing B47 Stratojet bomber—to extremes of temperature in the Climatic Hangar where temperatures can be varied well within the -65 to +160 F required by the Air Force. For a first-hand account of some of the activities of APGC, turn to page 8. (Photo page 10 courtesy Boeing; all others from U.S. Air Force.)**

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<b>Turbojets for Supersonic Flight</b> .....J. S. Alford and E. L. Auyer....	<b>7</b>
<b>Germanium Rectifiers—Big Low-Cost Power</b> .....H. N. McIntyre....	<b>11</b>
<b>Manufacturing Engineering—What Is It?</b> .....E. R. Koester....	<b>15</b>
<b>Reusable Containers: Down-to-Earth Progress in Packaging</b> .....R. H. Thomas....	<b>18</b>
<b>Electrification Trends in Latin America</b> .....Review Staff Report....	<b>22</b>
<b>Everywhere You Turn, Silicones</b> .....J. S. Hurley, Jr....	<b>27</b>
<b>Reliable Electron Tubes</b> .....Robert E. Moe....	<b>37</b>
<b>The American Society for Engineering Education</b> .....Arthur B. Bronwell....	<b>40</b>
<b>Modernizing with Protective Atmospheres</b> .....A. G. Hotchkiss and H. M. Webber....	<b>44</b>
<b>"Nothing Is Really Ever Finally Solved,"</b> says Aircraft-Generator Engineer Irving Kalikow....	<b>48</b>
<b>The Porcelain Insulator—Silent Partner in Power Transmission</b> .....H. A. Frey....	<b>52</b>
<b>Machine-Design Engineer—Inventor, Analyst, and Pioneer</b> .....Prof. L. C. Price....	<b>57</b>
<b>Research Paves the Way for Sound Lighting Practice</b> .....Dr. Sylvester K. Guth....	<b>60</b>
<b>The Engineer and His Profession's Organization</b> .....T. M. Linville....	<b>63</b>
<b>Industry Promotes Study of the Three R's (Part III)</b> .....	<b>65</b>

**COVER**—On the northern fringes of the continent, "cat trains" steer lonely courses to distant sites where experimental radar stations were built by the Western Electric Company for the "distant early warning line." Special radio communications equipment was supplied by General Electric's Electronics Division. (Photo courtesy WE magazine of Western Electric.)

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