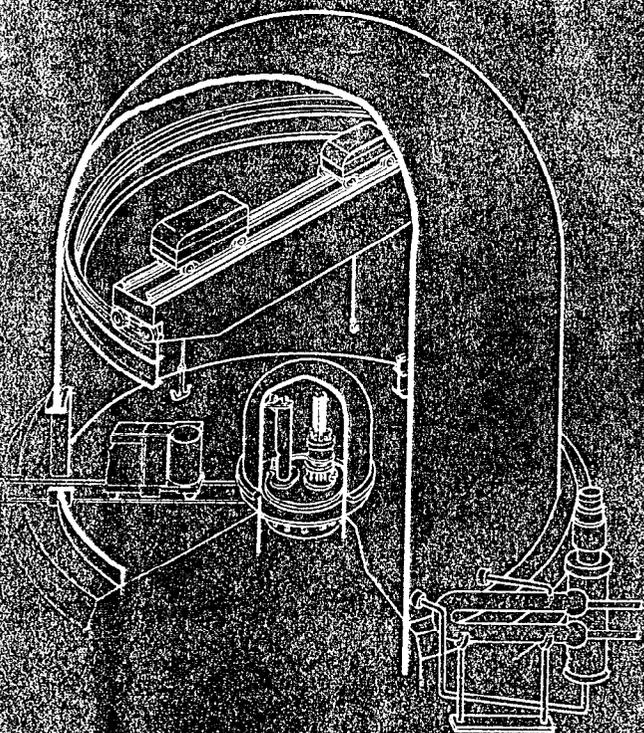
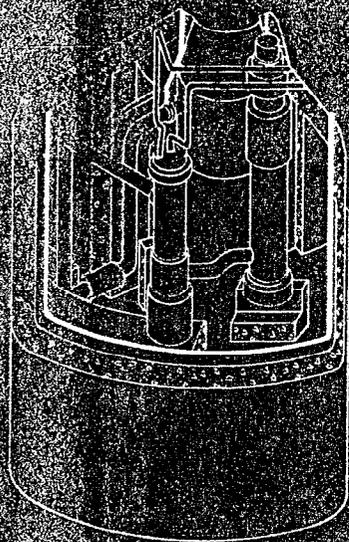


# NUCLEAR ELECTRONICS

POWER • NUCLEAR ENGINEERING • APPLIED RADIATION



FORNIGS Reviews (p. 61)



# NUCLEONICS

ATOMIC POWER  
NUCLEAR ENGINEERING  
APPLIED RADIATION

VOLUME 13

NUMBER 4

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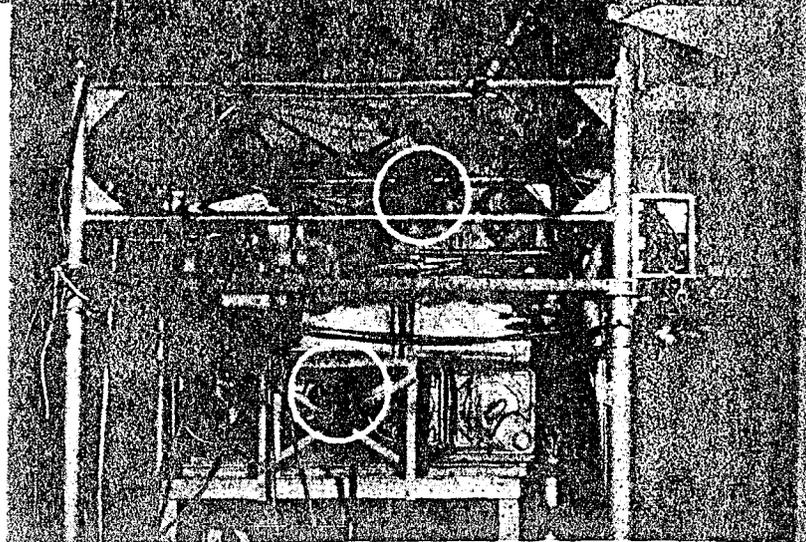
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AFTER INCIDENT Godiva critical assembly shows effects of thermal shock. Note broken steel support rods and pieces of U<sup>235</sup> left hanging (shown circled)



## Godiva Wrecked at Los Alamos

As a result of the motion of an incidental neutron reflector, Godiva,\* the Los Alamos critical assembly of bare unreflected U<sup>235</sup> metal, underwent a second unexpectedly large prompt-critical burst last February 12. This burst ruptured uranium screws that held subunits together, deformed the uranium surfaces, oxidized their surfaces, and broke lighter steel supports. The estimated magnitude of the burst was  $1.2 \times 10^{17}$  fissions, about twice that of an earlier incident (February 3, 1954), and six times the largest expected burst. Because of the quarter-mile distance between Godiva and control-laboratory areas, the incident led to no detectable personnel exposure. Neighboring equipment was not harmed.

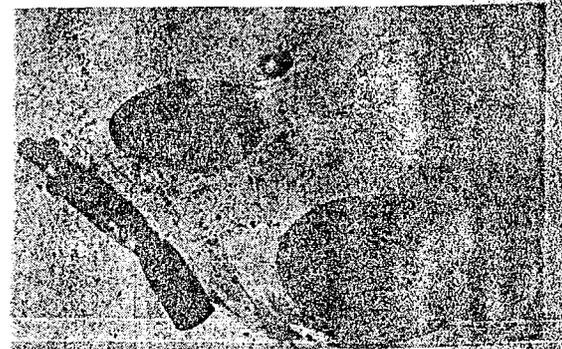
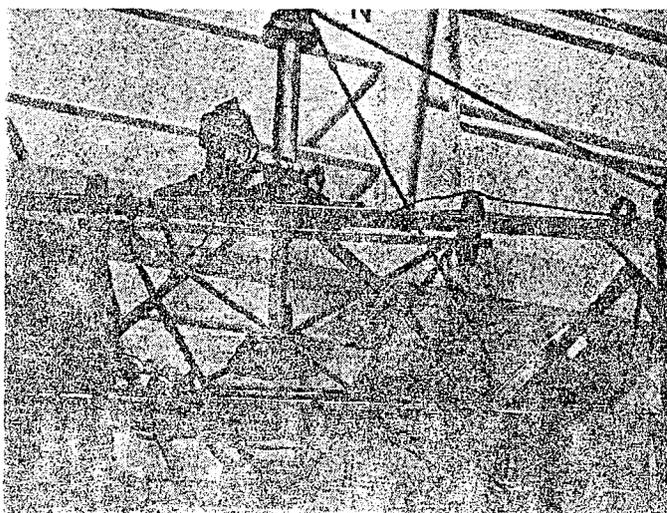
Godiva was being used to irradiate uranium-loaded graphite to determine the behavior of this material after exposure to a sudden wave of neutrons. Apparently the polyethylene-encased graphite shifted closer to the critical assembly than intended. The shift in position caused the polyethylene to reflect neutrons back into the critical assembly, increasing the chain reaction and resulting in the

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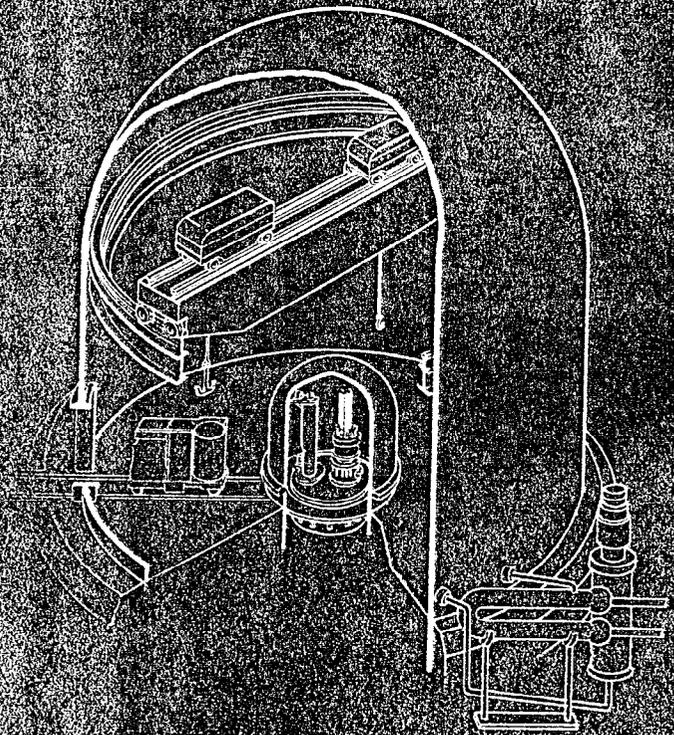


OXIDIZED COMPONENTS of Godiva were knocked from sphere by thermal shock. Bar on left was actually lengthened by instantaneous pressure

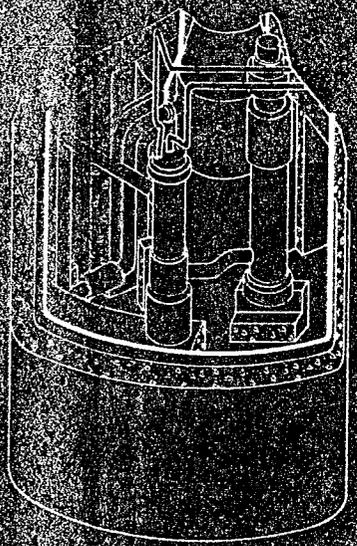
BEFORE INCIDENT three sections could be brought together to form bare critical mass in form of 6 $\frac{3}{4}$ -in.-dia sphere

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NUCLEAR ELECTRONICS REVIEW (1951)  
EDITED BY [Name]



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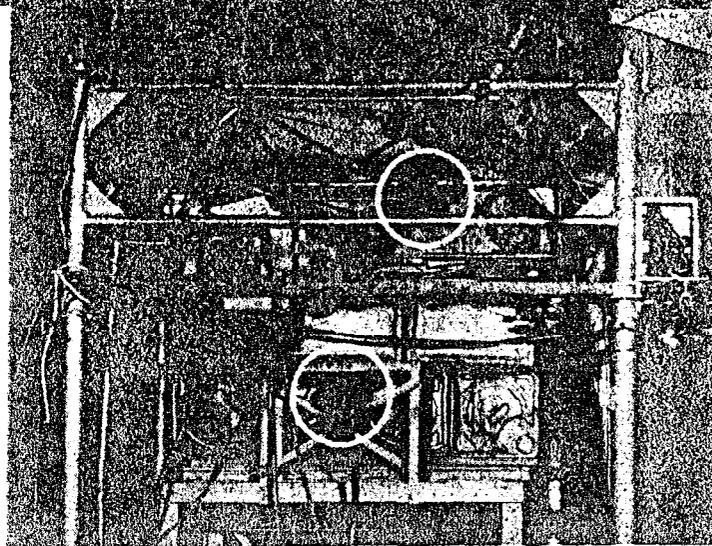
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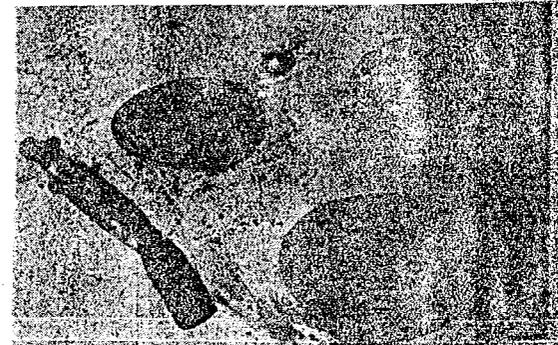
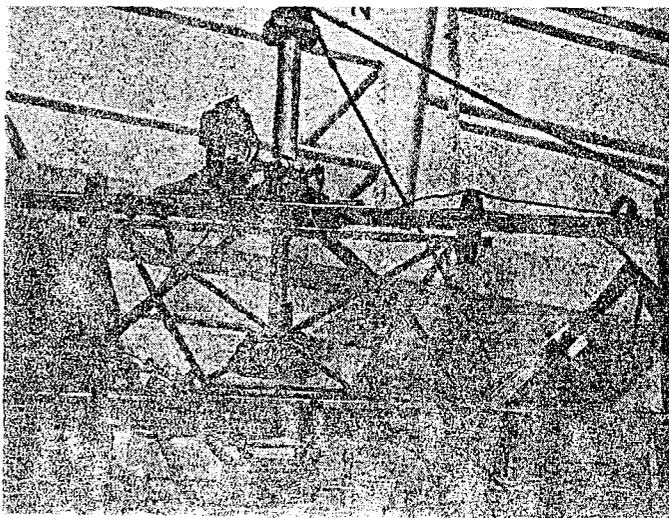
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