ENERGY POLICY COMMITTEE
MICHIGAN HOUSE OF REPRESENTATIVES
OCTOBER 17, 2017; 9:00 AM; LANSING

Dr. Eugene Moore; PhD, PE
Over 40 years in Chemical Industry

Introducing **Dr. Jerry Cuttler,** Nuclear Scientist and P.Eng
Expert on **beneficial effects** of low level radiation

NUCLEAR ENERGY LOOKED REALLY GOOD in 1945

Seven BIG news articles in 1945: "The Broken Atom and Our Destiny"

"Long Sought an Incredibly Vast New source of energy Now Released Promises Permanent Peace and Infinitely better Life for Everyone"

The Broken Atom—and Our Destiny

Power Enough in a Glass of Water to Drive an Ocean Liner

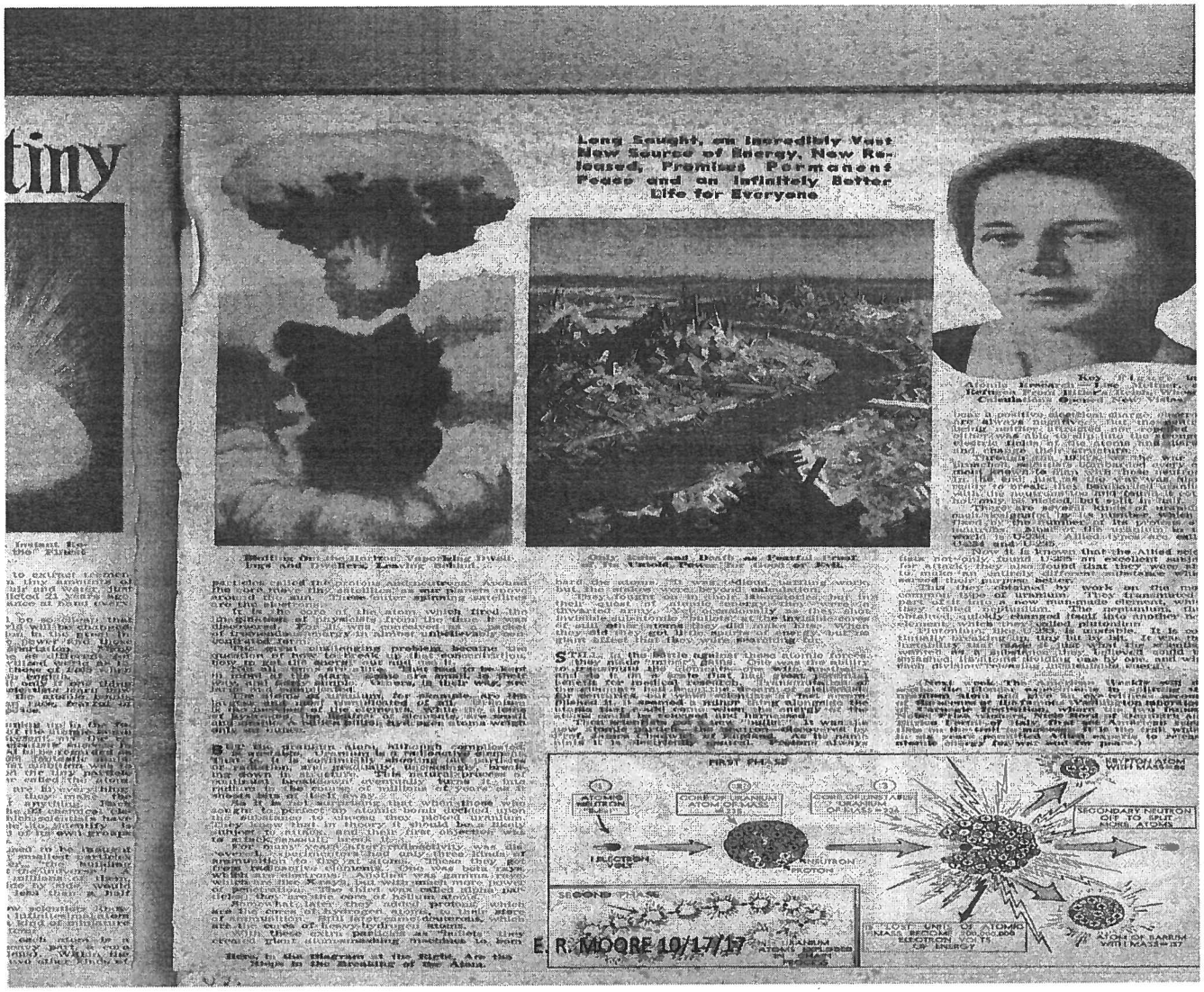
Unheard-of Wealth for Mankind If Science Can Pry Open and Control the Tremendous Energy Locked Up in the Atoms—Without Blowing the Earth to Destruction

A Fair and Widespread City, Ideal Target for an Atomic Bomb, Which Could...

...Burst Like This, in an Instant Reducing to Nothingness the Finest Works of Man...

Experimental Atom Smashing at Columbia University, Shafts Gauge Release of Energy

Away Back in 1924, The American Weekly Forecast Today's Release of the Atom's Tremendous Power.


tiny
Long Sought, an Incredibly Vast New Source of Energy, New Released, Promises Permanent Peace and an Infinitely Better Life for Everyone
Bidding On the Horizon, Vaporizing Dwellings and Dwellers, Leaving Behind
Only Rain and Death as Fearful Proof of Its Untold Power for Good or Evil
FIRST PHASE
SECOND PHASE
ATOMIC NEUTRON FIRST
CORE OF URANIUM ATOM OF MASS = 238
CORE OF URANIUM ATOM OF MASS = 235
ELECTRON VOLT
NEUTRON PROTON
SECONDARY NEUTRON OFF TO SPLIT MORE ATOMS
LOST UNIT OF ATOMIC MASS BECOME 200,000,000 ELECTRON VOLTS OF ENERGY
ATOM OF BARIUM WITH MASS = 137
E. R. MOORE 10/17/17

NUCLEAR ENERGY LOOKED REALLY GOOD in 1945

"Long Sought an Incredibly Vast New source of energy Now Released Promises Permanent Peace and Infinitely better Life for Everyone"

WHAT HAPPENED???

- **Why isn't NUCLEAR electric power "too cheap to meter"?**
  - OVER REGULATION?
  - GREED
  - False Cancer Fear News
- Why shouldn't *low-level radiation* AGAIN be used in medicine?
  - 1900-1960 was widely used
  - Gas Gangrene, etc., etc.
  - Could it work well with antibiotics?

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Power costs drives industry

Gulf Coast Electricity @ 3.5 cents/kW-hr (1995)

Midland Electricity @ 13.9-16.3 cents/kW-hr

- Why did a chlorine/caustic plant in Midland get abandoned?
- Why will the Hemlock Semiconductor plant stay in Michigan?
- What other industries would come to Michigan for lower cost power?

How much of nuclear energy costs are due to OVER REGULATION?

Chemical Plants

COMPLEX

Nuclear Plants

SIMPLE

- TERTIARY BUTYL STYRENE
  - 7 DISTILLATION COLUMNS
  - 4 REACTION STEPS
  - 8 SAMPLE STATIONS
  - 2 ENGINEERS; 1 FOREMAN; 4 OPERATORS/SHIFT
    - **15 TOTAL IN PLANT**

Nuclear Plant: **500-600 employees**

E1

THE NUCLEAR INDUSTRY in the U.S. is WAY OVER REGULATED

- Construction costs in U.S. is at least **TWO TIMES** costs in France
- Cause of Three Mile Island design Flaw leading to the disaster
- Key role in the Midland nuclear plant CONSTRUCTION failure
- Projected cost of $272 **million** rose to $4.5 **billion** when abandoned
- **Regulations that invited GREED??**

Slide 9

E1 Eugene Moore, 10/15/2017

E2

Very interesting book

UNDEREXPOSED

What if radiation is actually

GOOD

for YOU?

By Ed Hiserodt, 2005 Laissez Faire Books

Slide 10

E2 Eugene Moore, 10/15/2017

Doctor JERRY CUTTLER

- 1. Doctor degree in Nuclear Sciences
- 2. Active since 1971
- 3. **Past President** of Canadian Nuclear Society
- 4. Much published on **health benefits** of low radiation
- 5. Has **lectured widely** on these benefits

WHAT IF?

- MICHIGAN HAD CHEAPER POWER THAN THE GULF COAST

- MICHIGAN WOULD BE A LEADER IN MEDICAL APPLICATION OF LOW LEVEL RADIATION

Dr. Jerry M. Cuttler, D.Sc., P.Eng

- Active in nuclear science and engineering for > 46 years, after B.A.Sc. & Eng. Engineering Physics at U of Toronto in 1964 and D.Sc. Nuclear Sciences in 1971
- Employed by Atomic Energy of Canada Limited (AECL) > 25 years.
- From 1974, led the design and procurement of instrumentation systems for reactor control, reactor safety and radiation measurement for many CANDUs: 3 stations 700 MW, 4-reactor Pickering B and 4-reactor Bruce B stations.
- From 1983, leadership in varied engineering & service management positions, including AECL's Engineering Manager of Bruce NGS B Project.
- Retired from AECL in 2000, formed Cuttler & Associates Inc., busy providing engineering services to Ontario Power Generation, AECL and Bruce Power.
- Studied radiation health effects > 20 years; many articles in scientific journals
- Married, son + daughter + 5 grandchildren, member 10 professional societies, Fellow of Canadian Nuclear Society and a Rotarian (Paul Harris Fellow).