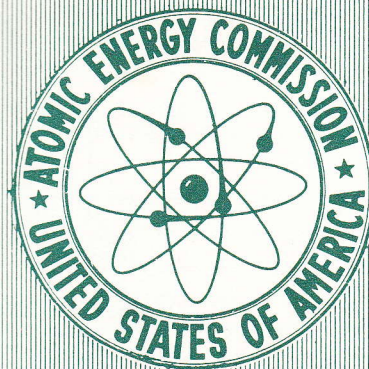


Thumbnail Sketch

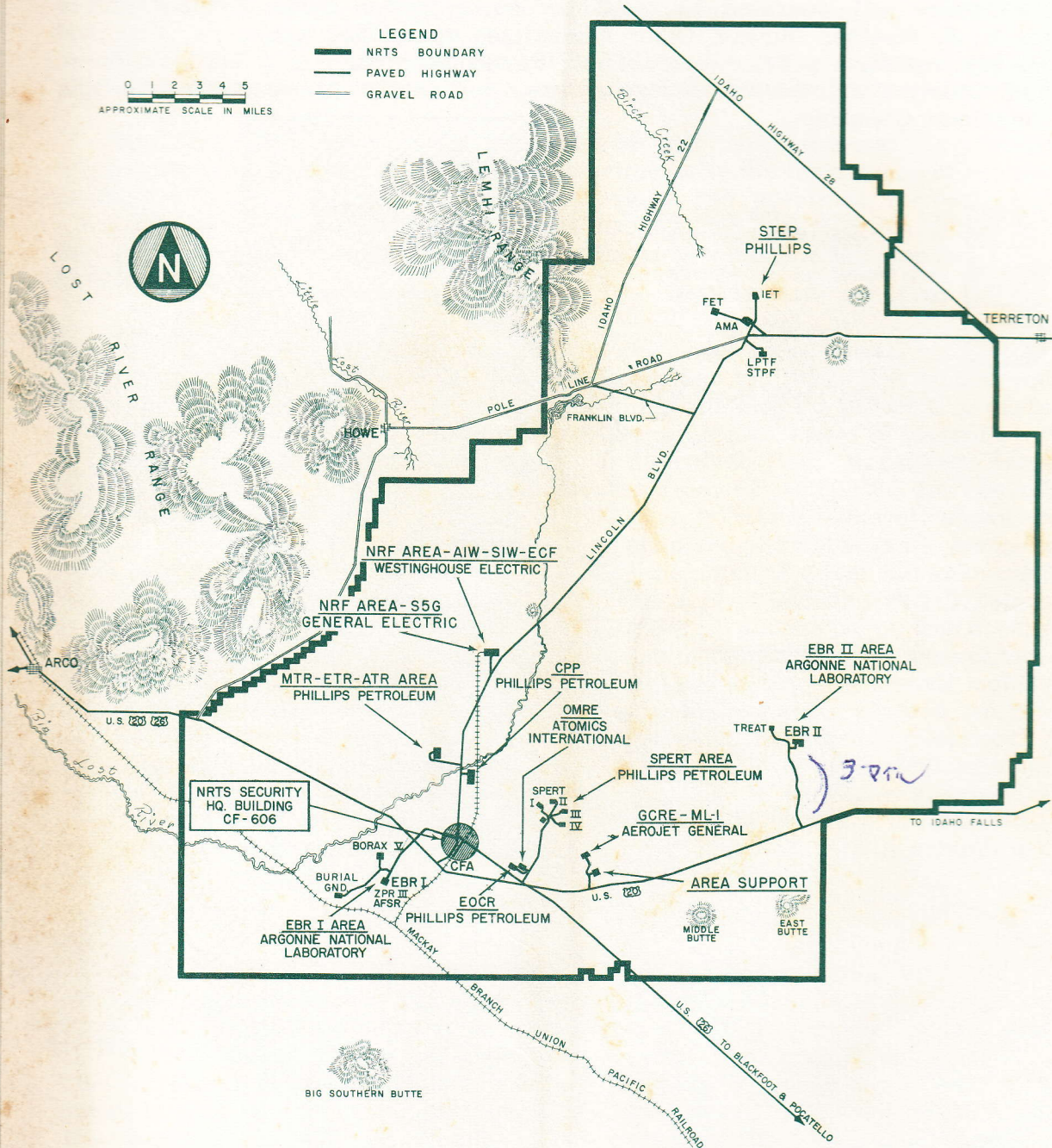
NATIONAL REACTOR TESTING STATION



NATIONAL REACTOR TESTING STATION



- LEGEND
- NRTS BOUNDARY
 - PAVED HIGHWAY
 - GRAVEL ROAD



**AUTHORIZATION FOR
UNCLASSIFIED VISIT
TO NRTS FACILITIES**

December 19, 1962

AMENDMENT NO. 1

Dates of Visit

TWX from Thekla L. Frey to N. N. Eskildson, Nov. 27, 1962
TWX to K. K. Kennedy from Messrs. Sueda & Mori, 12/17/62

751

Visit No.

VISITOR INFORMATION

Date and Form of Notification Received

Name

Citizenship

Title, Company, Background, Interests

Mamoru Sueda

Japanese

Chief, Nuclear Power Development Section, Japan Atomic Industrial Forum

Kazuhisa Mori

Japanese

Deputy Secretary General and Chief, Research and Planning Office, Japan Atomic Industrial Forum

The Japanese are planning to construct a Materials Testing Reactor as part of their material research effort. Messrs. Sueda and Mori are interested in engineering scale SPERT tests now underway which relate to their reactor safety analysis work and breeder reactor being considered as part of Japan's long range development program.

AREAS TO BE VISITED FOR GENERAL ORIENTATION

IDO Facilities	Contacts	Date	Time		Special Interests at Facility
			a.m.	p.m.	
HQS	H. N. Eskildson J. F. Kaufmann Dr. R. L. Doan	12/19/62	8:30		Discussion
MTR-ETR	W. M. Hawkins	12/19/62	10:30		Discussion and tour
SPERT	J. C. Haire	12/19/62	1	1:00	Discussion and tour
Non-IDO Facilities	Approved by				
EBR II	J. D. Bassett	12/19/62		3:00	Discussion and tour

Escorts: D. E. Williams

Approved: *K. K. Kennedy*

for Manager, Idaho Operations Office
U. S. Atomic Energy Commission

Routing for Copies

- | | | | |
|----------------------|--------------------------|--------------------------|----------------------------|
| 1. IDO MANAGER | 6. - 15. PFCO TECH INFO | 21. W. M. Hawkins | 27. Frank Schroeder (info) |
| 2. IDO MGR.-SECURITY | 16. Harry Pearson | 22. Kirby Whitham | 28. J. C. Haire |
| 3. IDO OPERATIONS | 17. Adrian Allen | 23. G. R. McBride | |
| 4. M. C. CORBETT | 18. J. F. Kaufmann | 24. J. L. Wallace (info) | |
| 5. D. E. WILLIAMS | 19. J. D. Bassett | 25. I. A. Peltier (info) | |
| | 20. D. E. Ericson (info) | 26. R. L. Doan | |

PHILLIPS PETROLEUM CO.
Atomic Energy Division
Form AED-319, 11-62
12/17

MTIR

67611 PW. 7.2.1977

8 inch Circle

leow 2 逢年过节

~~to be mnd acc.~~

23% Zn^{2+} - (100% Zn^{2+})

$\frac{1}{10} - \frac{1}{20}$ hrs 100% flow - 160% (FTR)



1962年

1482

1962⁷ 1900 MWD

MTR

mostly a flat.

3-b 1D

28,000 MWD

ETR

9 10 11

פן שט

10,000 / 30 ~~30000~~

~~MJR~~

1- $\frac{1}{2}$ $\lambda \rightarrow -\pi < \lambda \leq \pi$. $\cos \lambda$ & $\sin \lambda$ $\frac{\pi}{2}$ π $\frac{3\pi}{2}$ 2π

irradiation unit charge.

flux $\uparrow$ \$23 / unit

volume

③ fuel fabrication 2/4 + 12/4

\$600

700 (kg U)

\$200 + MTR

600 11712

\$16/unit 2nd 2nd

\$600 ~ 700 / hour 運費 (估計. 0.5 美金) 封"

まず

GETR 5; 65 in SE

2% w2 F commercial

Canned water

2000 AS

2003/4 if shown 100%

Spart.
6 8 12 - 8m2

SPERT

1 2 4 8 /
3 6 12 24 36 48

Response ~~period~~ phase.

inherent, - - - -

Static ~~or~~ reactivity - - -

Step induced. Suddenly input reactivity.

Slowly time - - -

instability. ex. void oscillation power

self-induced oscillation

OTR abandon

President → Fast Break.

10
plate — 3 inch thick.

UO₂ Low Enrich. 7 計 画

thermal stress.

① ~~||||~~

② blistering of clad.

Al-clad. SS-clad.

melting pt. melt some fuel.

5 mill-sec

4.6 mill-sec.

↓ temp vapor.

3.3 mill sec. 7 4 2 1 3

[3.1] beat

peak power 2.500 MW.

33 MW/sec.

June ANS

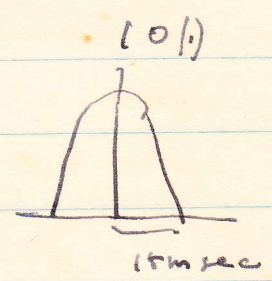
Co wire 35 MW/sec.

Salt Lake City.

0 10 7 1. - 10/10
0 2000 - 3000 2 - 1

0 200 10 10 10

{
7 4 4
3 2
7 1
7 7 - -



Chemical re
10 2 8 11

MR. DON E. WILLIAMS
DIRECTOR, REACTOR DIV.
US AEC IDAHO OPERATION OFFICE

o ATR - Jan. 1965

~~50~~ ^{mod. sec.}

Dinner (at ? Hotel)

Dr. Doan (

Mr. Eskildsen (AEC)

7.00 AM Coffee Shop.

$t_0 \sim t_2 \sim t_3 \rightarrow 1.5 \text{ running "BROILER"}$

U.S. REPRESENTATIVES PARTICIPATING
IN
U.S.-JAPAN ATOMIC INDUSTRIAL FORUMS' CONFERENCE
New York, December 5, 6, and 7, 1962

Alfred Amorosi, Technical Director, Atomic Power Development Associates, Inc.

✓ Clifford K. Beck, Deputy Director of Regulation, U.S. Atomic Energy Commission
Ralph D. Bennett, Vice-President, Nuclear Division, Martin Company

Gerald Charnoff, Legal Projects Manager, Atomic Industrial Forum, Inc.

○ Walker L. Cisler, President, The Detroit Edison Company
Howard M. Cohen, Associate Counsel, General Dynamics Corporation
John T. Conway, Executive Director, Joint Congressional Committee on Atomic Energy

W. Kenneth Davis, Vice-President, Bechtel Corporation
Richard L. Doan, Manager, Atomic Energy Division, Phillips Petroleum Co.
Paul Dragoumis, American Electric Power Co.
R. F. Duda, Vitro Corporation of America

Arthur C. Eschenlauer, Morgan Guaranty Trust Company of New York
Harold Etherington, General Manager, Atomic Energy Division, Allis-Chalmers Manufacturing Co.

Gerald P. Field, American Electric Power Co.

○ Lyman R. Fink, Vice-President and General Manager, Atomic Products Division, General Electric Company

John E. Gray, President, Nuclear Utility Services, Inc.

Richard H. Harrison, General Manager, Atomic Energy Division, The Babcock & Wilcox Co.

J. J. Jacobs, Director, Atomic Energy Division, Westinghouse Electric International Co.

Woodrow E. Johnson, Manager, Atomic Power Division, Westinghouse Electric Corp.

○ John W. Landis, Manager, Lynchburg Operations, Atomic Energy Division, The Babcock & Wilcox Co.

Carl F. Leyse, Internuclear Co.

William Liepe, Jersey Central Power & Light Co.

Robert L. Loftness, Eastern Representative, Atomics International Division, North American Aviation, Inc.

R. B. Lowton, Vitro Corporation of America

C. Rogers McCullough, Director of Reactor Safeguards, Nuclear Utility Services, Inc.
Laurence H. McEwen, Manager, Nuclear Safety Engineering, Atomic Power Equipment Department, General Electric Co.

W. T. Moore, The Babcock & Wilcox Co.

Arthur W. Murphy of Baer, Marks, Friedman & Berliner

Richard S. Newlin, Vice-President - Operations, The Anaconda Company

✓ W. Herbert Pennington, Project Director, CANEL Division, U.S. Atomic Energy Commission
✓ Frank K. Pittman, Director, Division of Reactor Development, U.S. Atomic Energy Commission

Karl Puechl, Director, Plutonium Development Department, Nuclear Materials & Equipment Corp.

Leonard F. C. Reichle, Director, Nuclear Engineering & Special Projects, Ebasco Services, Inc.

Charles K. Rieger, Vice-President and Utility Group Executive, General Electric Co.

Neil Ritchey, Executive Vice-President, Knapp Mills, Inc.

George Ritter, Jersey Central Power & Light Co.

Charles Robbins, Executive Manager, Atomic Industrial Forum, Inc.

○ Louis H. Roddis, Jr., President, Pennsylvania Electric Company

T. C. Runion, President, Nuclear Fuel Services, Inc., a Division of W. R. Grace & Co.

Patrick J. Selak, Manager, Nuclear Engineering Development, Kaiser Engineers

Zalman M. Shapiro, President, Nuclear Materials & Equipment Corp.

D. Roy Shoults, Representative-Atomic Development, General Electric Co.

Bernard B. Smyth, Assistant Vice-President, General Atomic Division, General Dynamics Corp.

Norman A. Spector, Vice-President, Vitro Corporation of America

Edwin E. Spingarn, Assistant General Counsel, International Activities, U.S. Atomic Energy Commission

J. C. Stocker, Manager, International Sales, Westinghouse Electric Corp.

George W. Switzer, Gilbert Associates, Inc.

Carl E. Thomas, Chief, Operational Analysis Section, Atomic Energy Division, The Babcock & Wilcox Co.

✓ Ernest B. Tremmel, Director, Division of Industrial Participation, U.S. Atomic Energy Commission

○ Charles H. Weaver, Vice-President, Westinghouse Electric Corp.

✓ Algie A. Wells, Assistant General Manager for International Activities (Acting), U.S. Atomic Energy Commission

Lawrence C. Widdoes, Vice-President, Internuclear Co.

Edwin A. Wiggin, Program and Technical Projects Manager, Atomic Industrial Forum, Inc.

✓ Robert E. Wilson, Commissioner, U.S. Atomic Energy Commission

F. W. Wright, The Babcock & Wilcox Co.

George Wunder, Manager, Nuclear Metals Division, National Lead Co.

Walter H. Zinn, Vice-President, Nuclear Division, Combustion Engineering, Inc.