

1381R + U Files

MEMO ROUTE SLIP Form AEC-93 (Rev. May 14, 1947)	See me about this.	For concurrence.	For action.
	Note and return.	For signature.	For information.

Department of Energy, Office of the Director, Washington, D.C.

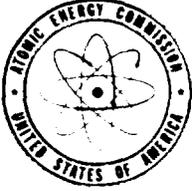
1022
file

MEMO ROUTE SLIP Form AEC-98 (Rev. May 14, 1947)		See me about this. Note and return.	For concurrence. For signature.	For action. For information.
TO (Name and unit) C. T. Jackson General Ledger Section Finance Division	INITIALS DATE	REMARKS Please refer to my Memo Route Slip dated November 10, 1966, transmitting Reports of Foreign Travel Costs for several contractors.		
TO (Name and unit)	INITIALS DATE	REMARKS It is requested that the cost currently shown for FY 1967 in Program 46 for E. F. Cloyne, University of Texas - AT-(11-1)-490, be eliminated from the FY 1967 Cost Report since the travel was performed prior to FY 1967.		
TO (Name and unit) ORIGINAL SIGNED BY J. E. ROUNSAVILLE, JR.	INITIALS DATE	REMARKS of Texas - AT-(11-1)-490, be eliminated from the FY 1967 Cost Report since the travel was performed prior to FY 1967.		
FROM (Name and unit) J. E. Rounsaville Research Services Br. Research & Development Division	REMARKS			
PHONE NO. 3-4473	DATE 2/24/67	AMA:JEM/vl		

USE OTHER SIDE FOR ADDITIONAL REMARKS

U. S. GOVERNMENT PRINTING OFFICE : 1967-O-422007

1138723



UNITED STATES
ATOMIC ENERGY COMMISSION

Est
file

IN REPLY REFER TO:

ORS:LAF

Oak Ridge, Tennessee 37831

November 23, 1966

Dr. E. F. Gloyna
University of Texas
Environmental Health
Engineering Laboratories
Austin, Texas 78712

Subject: REMOVAL OF "OFFICIAL USE ONLY" FROM REPORT OF FOREIGN TRAVEL

Dear Dr. Gloyna:

We recently indicated that the following report of foreign travel would be required to be marked "Official Use Only" until reviewed:

Contract No.: **AT-(11-1)-490**
Traveler : **Dr. E. F. Gloyna**
Period : **May 13-26, 1966**
Place : **Austria and Norway**

A determination has been made that the "Official Use Only" designation may now be removed. You should remove such marking from your copies of the report, and you are now at liberty to publish or make such distribution of the report as you may desire.

Very truly yours,

Herman M. Roth
Director
Research and Development Division

BC: W. J. Larkin, Reactor

CONTRACTS 490 (T-100)

1138724

*Rak
Yell*

MEMO ROUTE SLIP Form AEC-93 (Rev. May 14, 1947)		See me about this. Note and return.	For concurrence. For signature.	For action. For information.
TO (Name and unit) C. T. Jackson General Ledger Section Finance Division	INITIALS	REMARKS Enclosed are Reports of Foreign Travel Costs prepared by the following:		
	DATE			
		Traveler	Organization & Contract No.	Date of Travel
TO (Name and unit)	INITIALS	R. J. Shalek	U. of Texas AT-(40-1)-2832	6-8/7-9/66
	DATE	K. W. Gentle	U. of Texas AT-(40-1)-3458	6-11/9-12/66
TO (Name and unit)	INITIALS	E. F. Floyd	U. of Texas AT-(11-1)-498	5-14/26-66
	DATE	G.R. Choppin	Florida State U. AT-(40-1)-1797	8-12/9-3/66
FROM (Name and unit) J. E. Boneville Research Services Br. Research & Development Division		REMARKS J. E. Carlson U. of Tennessee AT-(40-1)-2575		
PHONE NO.	DATE 11-12-66			

USE OTHER SIDE FOR ADDITIONAL REMARKS

U. S. GOVERNMENT PRINTING OFFICE : 1957-O-422007

1138725

REPORT OF FOREIGN TRAVEL COST

1. Name of Traveler: Earnest F. Gloyna
2. Name of Contractor: Atomic Energy Commission
3. Contract Number: AT(11-1)-490
4. Inclusive Dates of Travel: May 14, 1966 through May 20, 1966
5. Estimated Cost of Trip Shown on Form AEC-445: \$1,000.00
6. Actual Cost of Trip: \$945.95

CONTRACTS - 490 (Texas)

1138726

UNITED STATES GOVERNMENT

Memorandum

Roth file

TO : Myron B. Kratzer, Director
Division of International Affairs, HQ

DATE: OCT 21 1966

FROM : Herman M. Roth, Director
Research and Development Division, OR

SUBJECT: REPORT OF FOREIGN TRAVEL - E. F. GLOYNA - CONTRACT NO. AT-(18-1)-490

ORS:JER

In accordance with the provisions of Manual Chapter AEC-1501, we are enclosing seven copies of a report of foreign travel performed by:

Traveler: **Dr. E. F. Gloyna**

Organization: **University of Texas**

Dates of Travel: **May 13-26, 1966**

We have marked the report "Official Use Only" as required by Part VII, Section I, of 1501.

In order that we may comply with the provisions of Manual Chapter AEC-2104, please advise us of the limitations on dissemination and guidance on when the OOU designation may be removed. In the meantime we are advising the traveler to mark the other copies of the report OOU and to withhold further distribution.

Herman M. Roth
Herman M. Roth

Enclosure:
Report (7)

BC: W. J. Larkin, w/encl(1)

10/19/66
Fuller
Res. Ser. Br.
Fuller: je
10-19-66

Martin
Res. & Dev. 10/17
Roth
10/21/66

1138727 10733

CONTRACTS-490 (Telon)

~~Official Use Only~~

Atomic Energy Commission

FOREIGN TRAVEL REPORT

E. F. Gloyna, Professor
The University of Texas

IAEA SYMPOSIUM ON
THE DISPOSAL OF RADIOACTIVE WASTES
INTO SEAS, OCEANS AND SURFACE WATERS

I. PURPOSE

The purpose of this trip was to present a paper on "Transport of Radionuclides in a Model River and Ecology System". This paper was prepared and presented at the request of the United States Atomic Energy Commission. The work described in this paper was undertaken under contract with the United States Atomic Energy Commission, AT(11-1)-490. Secondly, the objective was to obtain information from the various conference participants. It is supposed that new information might be available which would help the project currently being sponsored by the United States Atomic Energy Commission at The University of Texas.

II. CONFERENCE ACTIVITY

Agenda and participants are not included because most of the Atomic Energy Commission National Laboratories and Divisions were represented at this conference. All other major countries, with the exception of Red China, had delegates to this conference.

The Conference seemed to be well organized and the papers provided a reasonable framework for the discussions which followed. Reprints of all papers were available and presumably, the book containing these papers will be released in the very near future.

Significantly, it is believed that none of the countries, possibly with the exception of the United Kingdom, were in a position to present papers with the depth of understanding that were provided in the United States papers. It is interesting to note that some of the

~~CONFIDENTIAL~~
CONTRACTS

490 (Total)

~~CONFIDENTIAL~~

OCT 18 1966

1138728

papers presented reflected rediscoveries. It is not known whether this occurred because the International Agency is obligated to recognize certain geographical distributions or whether the participants chose not to develop the papers in depth.

At any rate, I was personally gratified to learn that the research sponsored under our contract is well in advance of anything that seems to be underway in the other countries. As a matter of fact, I was invited to visit and participate in a series of seminars that one of the French Atomic Energy establishments is to hold. This invitation would have been at the expense of the French Atomic Energy establishment. I declined to participate because of previous commitments. Should such an invitation be extended again, I will obviously clear it with the United States Atomic Energy Commission before accepting.

As indicated, there seemed to be considerable interest in the idea of modeling a stream to determine how much the transport was affected by bottom sediments, biomass, and hydraulic turbulence. A number of questions were directed towards the methodology used in the conducting of research.

III. VISIT INFORMATION

I did not undertake any side trips as had been previously planned. I did stop by Geneva, Switzerland, on my return trip for a day. It seemed that I obtained most of the answers that I needed to have at the meeting. In my opinion, the trip was very worth while from the project's point-of-view. It is believed that the paper was well received, and the standards set by the United States were well maintained.

Report recd. by Proctor Dir.
1 copy retained. LAF 10/18/66

OBS:LAF

Oak Ridge, Tennessee 37830

APR 21 1966

Dr. E. F. Gloyna
University of Texas
Environmental Health
Engineering Laboratories
Austin, Texas 78712

Subject: FOREIGN TRAVEL - CONTRACT NO. AT-(11-1)-490

Dear Dr. Gloyna:

Reference is made to the Form AEC-445 covering your proposed foreign travel to Austria and Norway during May 1966. The travel as outlined on the 445 has been approved.

Please prepare a report of your travel, using the format of the outline enclosed and submit nine copies to us within thirty days following your return to the United States. AEC regulations require that all unclassified reports of foreign travel performed at AEC expense be marked "Official Use Only." Your report should be marked "Official Use Only" at the top and bottom of the first and last pages. All copies retained at the University should be so marked and treated as privileged information. When AEC Headquarters have had an opportunity to review your report, you will be advised as to whether or not you must continue to consider it as "Official Use Only."

Please complete the enclosed "Report of Foreign Travel Cost" and return three copies to us with your trip report.

Very truly yours,

William J. Larkin
Acting Director
Reactor Division

D. F. Cope
Director
Reactor Division

Handwritten initials and scribbles

OAK RIDGE RESEARCH
APR 21 1966
75K 51

Enclosures:

1. Format
2. Travel Cost Form

CONTRACTS 490 (Texas)

OFFICE	BC: W. H. Henderson, Finance, w/445 D. F. Cope, Reactor	Ref. Ser. Br.	Res. & Dev.	Reactor
SURNAME		Fuller: je		<i>Handwritten signature</i>
DATE		4-19-66		

1138730

UNITED STATES GOVERNMENT

Memorandum

TO : Herman M. Roth, Director
Research and Development Division, ORO

DATE: APR 14 1966

FROM : Orville K. Wright, Administrative Officer
Division of Reactor Development & Technology *OKW*

SUBJECT: PROPOSED FOREIGN TRAVEL - EARNEST F. GLOYNA - UNIVERSITY OF TEXAS -
CONTRACT NO. AT-(11-1)-490

Reference is made to your memorandum to Mr. Milton Shaw dated April 8, 1966, symbol ORS:JER, subject as above. *OK*

Attached is approved copy of Form AEC-445 covering Mr. Gloyna's travel which was signed by Mr. Shaw on April 13, 1966.

Attachment: *OK-MR*
Form AEC-445 for Gloyna

1138731



CONTRACTS

G 2799

APR 18 1966

Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

REQUEST FOR APPROVAL OF OFFICIAL FOREIGN TRAVEL

66 2753

TO: Dr. David F. Cope, Director
Reactor Division
U. S. Atomic Energy Commission
Oak Ridge, Tennessee 37831

FROM: Earnest F. Gloyna
Project Director

PART A—To be completed by traveler

1a. NAME OF TRAVELER Earnest F. Gloyna
b. CITIZENSHIP U.S.A.

c. DATE AND PLACE OF BIRTH [REDACTED] Texas
d. PASSPORT NUMBER (if available) [REDACTED]

2a. HOME ADDRESS

[REDACTED]

b. BUSINESS ADDRESS
Engineering Laboratories
Austin, Texas 78712

EMPLOYER

The University of Texas

c. CONTRACT NUMBER

AT-(11-1)-490

b. ORGANIZATIONAL UNIT

Environmental Health Engineering Division

d. POSITION TITLE (including profession)

Professor

4. PURPOSE OF TRAVEL (In addition, specify nature and classification of information to be disclosed including titles of papers to be presented, nature of information to be obtained at each of the places to be visited and conferences to be attended and its relation to traveler's work. Travelers are responsible for obtaining clearances for papers or speeches when necessary. If more space is required, attach on a separate sheet. NOTE: IF THIS INFORMATION IS CLASSIFIED, BE SURE TO CLASSIFY THIS FORM APPROPRIATELY)

A paper, "Transport of Radionuclides in a Model River" has been selected for oral presentation at the IAEA Symposium on the Disposal of Radioactive Wastes into Seas, Oceans and Surface Waters, Vienna, Austria, May 16-20, 1966.

This paper is based on experimental results derived from research sponsored under Contract No. AT-(11-1)-490. Consequently, any discussions based on the paper will materially benefit future experimental efforts.

Specifically it should be possible to obtain considerable information on the effects of ecological systems on radionuclide uptake from some European scientists. Every effort will be made to learn something about stream dynamics. If one test can be eliminated from the planned model river experiments, the trip will have been economically worthwhile.

G 3207

APR 3 1966

1138732

5. PROPOSED ITINERARY (Account for all time from beginning and ending dates of travel. NOTE: IF INFORMATION IS CLASSIFIED, CLASSIFY THIS FORM APPROPRIATELY.)

DATES	LOCATION (Installation, city, country)	INDIVIDUALS TO BE CONTACTED	SUBJECT OF DISCUSSION	(Check one)	
				CLASSI- FIED	UNCLAS- SIFIED
5-13--5-14	en route	leave Austin, Texas			X
5-15--5-20	IAEA meeting, Vienna, Austria	Conference participants	Disposal of Wastes		X
5-21--5-22	en route	weekend			X
5-23	Oslo, Norway	K. Gardner	Clay uptake in river water		X
5-24--5-26	return to U.S.	and Austin, Texas			X

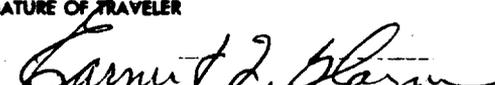
6a. HAS FORM AEC-290 PURSUANT TO AEC CHAPTER 2502 BEEN SUBMITTED? (For visits to Soviet-bloc countries only)
 Yes No

b. IF NOT, WHY NOT?
 not required.

7. ARTICLE OF AGREEMENT FOR COOPERATION UNDER WHICH DISCUSSIONS WILL FALL (Information on the article may be obtained from local AEC Field Office)

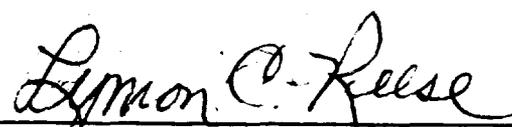
8a. ESTIMATED COST OF TRAVEL TO AEC
 Transportation \$ 700.00
 Per Diem and Miscellaneous \$ 300.00
 TOTAL 1,000.00 *from Project ETR*

b. IF PART OF COST OF TRAVEL IS TO BE PAID OR HAS BEEN REQUESTED FROM SOURCES OTHER THAN AEC, INDICATE SOURCE AND AMOUNT.
 none

9. SIGNATURE OF TRAVELER


PART B—To be completed as follows (a) For AEC employees, by the Traveler's supervisor; (b) For Contractor employees, by the official responsible for supervising the activities involved in the proposed foreign travel or other official responsible for approving foreign travel under the terms of the contract.

10a. TRAVELER'S "Q" CLEARANCE NUMBER AND DATE
 OR-9493-NY (Issued as OR-9493 April 24, 1950)

b. ENDORSEMENT AND REMARKS
 Approved 
 Lyman C. Reese, Dept. Chairman
 (Signature and Title of Supervisor)

PART C—To be completed at AEC Field Office and/or Laboratory

11. APPROVAL AND/OR REMARKS MANAGER OF FIELD OFFICE OR LABORATORY DIRECTOR

(Signature)

(Date)

PART D—To be completed at Headquarters

CONCURRENCES AND/OR REMARKS

12. CONCURRENCE AND/OR REMARKS DIVISION OF SECURITY (Note compliance with AEC Manual Chapter 2502)

Title:

(Date)

13. CONCURRENCE AND/OR REMARKS DIVISION OF INTELLIGENCE

Title:

(Date)

14. CONCURRENCE AND/OR REMARKS DIVISION OF INTERNATIONAL AFFAIRS (Note participation in classified discussions, if any)

Title:

(Date)

15. CONCURRENCE AND/OR REMARKS—OTHERS

Title:

(Date)

HEADQUARTERS RECOMMENDATION

16. RECOMMENDATION AND/OR REMARKS OF PROGRAM DIVISION

OK JAL
[Signature]

Title:

(Date)

Milton Shaw

4/13/66

APPROVAL

16a. FOREIGN TRAVEL AT AEC EXPENSE AS OUTLINED IN PART "A" IS: (Check one)

(1) Approved

(2) Approved, subject to remarks and limitations

(3) Disapproved

b. REMARKS AND/OR LIMITATIONS ~~ASSISTANT GENERAL MANAGER FOR~~
~~ADMINISTRATION~~ Director, Division of Reactor
Development & Technology

Milton Shaw

Milton Shaw

(Signature)

4/13/66

(Date)

1138734

File

UNITED STATES GOVERNMENT

Memorandum

TO : **Milton Shaw, Director**
Division of Reactor Development and Technology, HQ

DATE: **APR 8 - 1966**

FROM : **Herman M. Roth, Director**
Research and Development Division, ORO

SUBJECT: **PROPOSED FOREIGN TRAVEL - CONTRACT NO. AT-(11-1)-490**

ORS:JER

In accordance with the provisions of Manual Chapter AEC-1501, we are enclosing six copies of Form AEC-445 completed by the following individual:

Name: **Earnest F. Gloyne**

Organization: **The University of Texas**

Contract Number: **AT-(11-1)-490**

Period of Travel: **May 13-26, 1966**

Please advise us of your decision on this travel as soon as possible.

Herman M Roth
Herman M. Roth

Enclosure:
Form AEC-445 (6)

20
Res. Ser. Br.
4/6
Fuller: je
4-6-66

Res. Ser. Br.
Opal Gray
4/7

Res. & Dev. *martin*
4/7
Ro M
4/8/66

FOR TRAVEL

CONTRACTS 490 (Texas)

ORS:LAF

Oak Ridge, Tennessee 37831

JAN 5 1966

Dr. E. F. Gloyna
University of Texas
Environmental Health
Engineering Laboratories
Austin, Texas 78712

Subject: IAEA SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS,
OCEANS AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966 -
CONTRACT NO. AT-(11-1)-490

Dear Dr. Gloyna:

Reference is made to previous correspondence concerning the subject IAEA symposium. We have been advised that your abstract entitled, "Transport of Radionuclides in a Model River and Ecology System," has been chosen for oral presentation at the symposium. Enclosed is a letter from the Scientific Secretary for the Symposium.

Five copies of the full text of your paper are to be in Vienna no later than February 15, 1966. The paper should be submitted to the following address:

Mr. P. J. Parsons
Division of Health, Safety
and Waste Disposal
International Atomic Energy Agency
Karlturner Ring 11
Vienna I, Austria

A copy of the paper and a copy of the forwarding letter should be sent to Dr. Lewis Gevantman, U. S. Mission to the IAEA, c/o American Embassy, Vienna, Austria. A copy of the forwarding letter to the IAEA and two copies of the paper should be sent to the Division of Technical Information, AEC Headquarters. One copy of the paper should be furnished to this office for patent and classification review before the distribution outlined above is made. As an alternative to furnishing five copies directly to Vienna by February 15, 1966, you may, if you choose, provide 200 copies, which should be dispatched in time to reach Vienna by April 20, 1966.

T 15

CONTRACTS

490 (Texas)

1138736

Dr. E. F. Gloyna

- 2 -

JAN 5 1966

Enclosed are nine copies of Form AEC-445, "Request for Approval of Official Foreign Travel," together with instructions for the preparation thereof. The forms should be completed and returned to this office at your earliest convenience, but not later than 35 days prior to the beginning of your proposed travel.

Very truly yours,

William J. Larkin
Acting Director
Reactor Division

David F. Cope
Director
Reactor Division

NFS

Enclosures:

- 1. Ltr. from IARA
- 2. Form AEC-445 (9)

BC: Herman M. Roth *HM*

OK
OK
OK

OFFICE ▶	Res. Ser. Br.	Res. & Dev.	Reactor Div.			
SURNAME ▶	Fuller: <i>ie</i>	<i>Fuller</i>	<i>Fuller</i>			For Travel <i>✓</i>
DATE ▶	12-29-65	<i>1/3/66</i>				

1138737

UNITED STATES GOVERNMENT

Memorandum

TO : S. R. Sapirie, Manager
Oak Ridge Operations Office

DATE: DEC 17 1965

FROM : *for* John H. Kane, Chief *Thomas E. Hughes*
Conferences Branch

4484

SUM. DEC 20 1965

SUBJECT: LAEA SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS, OCEANS
AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966

Attn: Herman Roth

The International Atomic Energy Agency has selected those papers listed on Attachment No. 1 for oral presentation at the subject conference. Please inform the contractor organizations concerned and request that the full text of papers be prepared. Five copies of each paper are due in Vienna no later than February 15, 1966. Papers should be submitted directly by the authors to the following address:

Mr. P. J. Parsons
Division of Health, Safety
and Waste Disposal
International Atomic Energy Agency
Karltnr Ring 11
Vienna I, Austria

A copy of the paper and a copy of the forwarding letter should be sent to Dr. Lewis Gevantman, U. S. Mission to the IAEA, c/o American Embassy, Vienna, Austria. The Division of Technical Information would appreciate receiving two copies of each paper and one copy of the forwarding letter to the Agency.

Please advise this office on the results of the patent and classification reviews of each paper. It is also important that we have the full name of the individual who will present the paper. Travel at AEC expense will be authorized for one author-participant for each of the papers listed on the attachment.

Attachment: *OK*
List w/ltrs.

cc: Alice Corley

CONTRACTS 490 (Texas)

E-123/53

DEC 20 1965

1138738

IAEA Symposium on the Disposal
of Radioactive Wastes into the
Seas, Oceans, and Surface Waters

List of Accepted Abstracts

E. F. Gloyna
University of Texas
Environmental Health
Engineering Labs.
Austin, Texas 78712

Transport of Radionuclides in a Model River
and Ecology System

F. Lowman
Puerto Rico Nuclear
Center
College Station
Mayaguez, Puerto Rico

Interactions of Environmental and Biological
Factors on the Distribution of Trace Elements
in the Marine Environment

L. R. Pomeroy
University of Georgia
Department of Zoology
and Marine Institute
Athens, Georgia

Flux of P-32 and Zn-65 through a Salt-Marsh
Ecosystem



THE UNIVERSITY OF TEXAS

AUSTIN, TEXAS 78712

DEPARTMENT OF CIVIL ENGINEERING
ENVIRONMENTAL HEALTH ENGINEERING
ENGINEERING LABORATORIES BUILDING 305

499

January 24, 1966

Mr. P. J. Parsons
Division of Health, Safety and Waste Disposal
International Atomic Energy Agency
Karatner Ring II
Vienna I, Austria

Dear Sir:

I am pleased to hear that our paper, "Transport of Radionuclides in a Model River and Ecology System," has been chosen for oral presentation at the IAEA symposium. Our research has been completed, and the paper is under preparation. Either the full text will be in Vienna no later than February 15, 1966, or two hundred copies will be dispatched in time to reach Vienna by April 20, 1966. It is very likely that the two hundred copies will be mailed.

Sincerely,

E. F. Gloyna
Ernest F. Gloyna, Professor
Environmental Health Engineering

cc: Dr. Lewis Gevantman
U. S. Mission to IAEA
c/o American Embassy
Vienna, Austria

✓ David Cope, Director
Reactor Division
U. S. Atomic Energy Commission
Oak Ridge, Tennessee 37831

Walter Belter

RECEIVED

CONTRACT 490
Wm. J. J. J.

1138740

ORS:LAF

Oak Ridge, Tennessee 37831

JAN 5 1966

Dr. E. F. Gloyna
University of Texas
Environmental Health
Engineering Laboratories
Austin, Texas 78712

Subject: IAEA SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS,
OCEANS AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966 -
CONTRACT NO. AT-(11-1)-490

Dear Dr. Gloyna:

Reference is made to previous correspondence concerning the subject IAEA symposium. We have been advised that your abstract entitled, "Transport of Radionuclides in a Model River and Ecology System," has been chosen for oral presentation at the symposium. Enclosed is a letter from the Scientific Secretary for the Symposium.

Five copies of the full text of your paper are to be in Vienna no later than February 15, 1966. The paper should be submitted to the following address:

Mr. P. J. Parsons
Division of Health, Safety
and Waste Disposal
International Atomic Energy Agency
Karlner Ring 11
Vienna I, Austria

A copy of the paper and a copy of the forwarding letter should be sent to Dr. Lewis Gevantman, U. S. Mission to the IAEA, c/o American Embassy, Vienna, Austria. A copy of the forwarding letter to the IAEA and two copies of the paper should be sent to the Division of Technical Information, AEC Headquarters. One copy of the paper should be furnished to this office for patent and classification review before the distribution outlined above is made. As an alternative to furnishing five copies directly to Vienna by February 15, 1966, you may, if you choose, provide 200 copies, which should be dispatched in time to reach Vienna by April 20, 1966.

PROCUREMENT & CONTRACTS

Univ. of Texas
Jas. L. Cape

1138741

3

Dr. E. F. Gloyna

- 2 -

JAN 7 1955

Enclosed are nine copies of Form AEC-445, "Request for Approval of Official Foreign Travel," together with instructions for the preparation thereof. The forms should be completed and returned to this office at your earliest convenience, but not later than 35 days prior to the beginning of your proposed travel.

Very truly yours,

William J. Larkins
Acting Director
Reactor Division

David F. Cope
Director
Reactor Division

Enclosures:

1. Ltr. from IAEA
2. Form AEC-445 (9)

BC: ~~Robert H. Roth~~



1138742

UNITED STATES GOVERNMENT

Memorandum

TO : S. R. Sapirie, Manager
Oak Ridge Operations Office

DATE: DEC 17 1965

FROM : *for* John H. Kane, Chief *Thomas E. Higgins*
Conferences Branch
Division of Technical Information, HQ

4484

SUM. DEC 20 1965

SUBJECT: IAEA SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS, OCEANS
AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966

Attn: Herman Roth

The International Atomic Energy Agency has selected those papers listed on Attachment No. 1 for oral presentation at the subject conference. Please inform the contractor organizations concerned and request that the full text of papers be prepared. Five copies of each paper are due in Vienna no later than February 15, 1966. Papers should be submitted directly by the authors to the following address:

Mr. P. J. Parsons
Division of Health, Safety
and Waste Disposal
International Atomic Energy Agency
Karntner Ring 11
Vienna I, Austria

A copy of the paper and a copy of the forwarding letter should be sent to Dr. Lewis Gevantman, U. S. Mission to the IAEA, c/o American Embassy, Vienna, Austria. The Division of Technical Information would appreciate receiving two copies of each paper and one copy of the forwarding letter to the Agency.

Please advise this office on the results of the patent and classification reviews of each paper. It is also important that we have the full name of the individual who will present the paper. Travel at AEC expense will be authorized for one author-participant for each of the papers listed on the attachment.

Attachment: *OK*
List w/ltrs.

cc: Alice Corley

CONTRACTS 490 (*Texas*)
F-12353

DEC 20 1965

1138743

IAEA Symposium on the Disposal
of Radioactive Wastes into the
Seas, Oceans, and Surface Waters

List of Accepted Abstracts

11-1-1980
E. F. Gloyna
University of Texas
Environmental Health
Engineering Labs.
Austin, Texas 78712

Transport of Radionuclides in a Model River
and Ecology System

F. Lowman
Puerto Rice Nuclear
Center
College Station
Mayaguez, Puerto Rico

Interactions of Environmental and Biological
Factors on the Distribution of Trace Elements
in the Marine Environment

L. R. Pomeroy
University of Georgia
Department of Zoology
and Marine Institute
Athens, Georgia

Flux of P-32 and Zn-65 through a Salt-Marsh
Ecosystem

OCT 15 1965

David F. Cope, Director
Reactor Division

Herman M. Roth, Director
Research and Development Division

CONTRACT NO. AT-(11-1)-490 WITH THE UNIVERSITY OF TEXAS
(DR. EARNEST F. GLOYNA)

ORS:JDB

In response to a telephone conversation between Alice M. Carley and William J. Larkin, attached are the complete files on Contract No. AT-(11-1)-490 with the University of Texas for your retention and administration. Also attached is a completed Form OR-169-A.

The above contract expired on September 30, 1965, and the authorization providing for its renewal has not been received from the Division of Reactor Development and Technology. The proposal covering renewal of the contract was forwarded to EEDT by our memorandum dated June 21, 1965. Teletypes dated September 2 and September 15, 1965, were forwarded to EEDT calling their attention to the September 30, 1965, expiration date and requesting advice in regard to further continuation of the project. EEDT informed us by a wire dated September 14, 1965, that an authorization covering renewal of the contract at a level of \$40,000 was in preparation. We informed the contractor of EEDT's intention relative to renewal of the contract; however, the contractor was cautioned that if he continued work under the project beyond September 30, 1965, it would be at his own risk since the authorization from EEDT had not been received.

Payments due under the contract are (1) the remaining ten percent of the agreed consideration (operating funds - \$40,000) under Modification No. 9 (\$4,000), and (2) reimbursement for the actual cost of the equipment (cost not to exceed \$5,000) provided for in Modification No. 10 to the contract, title to which shall vest in the Government.

The Government-owned property under the contract consists of the following listed items:

1. Digital Voltmeter
2. Scanner
3. Paper-punch Device

CONTRACTS 490 (Texas)
*original
had carried*

6758

1138745

David F. Cope

- 2 -

OCT 15 1965

The contractor retains title to all other property acquired under the contract from use of operating funds.

No "Q" access authorizations were granted under this contract.

ORIGINAL SIGNED BY
HERMAN M. ROTH
Herman M. Roth

Enclosures:

- 1. Complete Files on Contract
- 2. Form OR-169-A

1138746

1138746 10/19/65 10/13/65	OFFICE ▶	Rep. Ser. Br.	Res. & Dev.			
	SURNAME ▶	Burleson	Roth			
	DATE ▶	10/13/65	10/15/65			

Form AEC-318 (Rev. 9-53) U. S. GOVERNMENT PRINTING OFFICE 16-62761-3

ACC:ARB

Oak Ridge, Tennessee 37831

October 18, 1965

The University of Texas
Office of Sponsored Projects
Post Office Box 7726
Austin, Texas 78712

Attention: Mr. Jens Jacobsen, Director

Subject: CONTRACT NO. AT-(11-1)-490

Gentlemen:

Effective October 15, 1965, the subject contract was assigned to David F. Cope, Director, Reactor Division, for administration.

There are enclosed for your files a copy of the Statement of Authority and a copy of the Assignment of Contract for Administration Form.

Very truly yours,

Original Signed By
R. G. Humphries

R. G. Humphries, Director
Contract Division
Oak Ridge Operations

Enclosures:

1. Statement of Authority
2. Cy Form OR-169-A

cc: David F. Cope
K. M. Roth

OAK RIDGE OPERATIONS

OCT 17 1965

DISPATCHED

CONTRACTS 490 (Texas)

F10201

OCT 18 1965

1138747

UNITED STATES GOVERNMENT

Memorandum

TO : Herman M. Roth, Director
Research & Development Division, OR

DATE: August 25, 1965

FROM : John H. Kane, Chief *J. H. Kane*
International Conferences Branch
Division of Technical Information, HQ

SUBJECT: SYMPOSIUM ON DISPOSAL OF RADIOACTIVE WASTES INTO SEAS, OCEANS AND
SURFACE WATERS

DTI:TO'L

ATTN: Leighton A. Fuller

F-7519 9/15

Reference is made to our memorandum to S. R. Sapirie dated July 29, 1965 concerning the subject Symposium. It would be appreciated if you would add to the list of contractors to be contacted with reference to this meeting the following individual:

Professor Ernest Gloyna
University of Texas

Thank you for your assistance.

CONTRACTS - 490 (Texas)
Footnote
F 8421

AUG 27 1965

1138748

Dr. Shoup called Dr. Gloyna 8/25
to advise him that this letter was
on its way & suggest that he start
work on his abstract - if he is
willing to go to Vienna. LAF

Oak Ridge, Tennessee 37831
August 24, 1965

ORS:LAF

Dr. Earnest F. Gloyna
Department of Civil Engineering
University of Texas
Austin, Texas 78712

Subject: SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS,
OCEANS AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966 -
CONTRACT NO. AT-(11-1)-490

Dear Dr. Gloyna:

The International Atomic Energy Agency will convene a symposium in
Vienna, Austria, May 16-20, 1966, on the Disposal of Radioactive Wastes
Into Seas, Oceans, and Surface Waters.

Enclosed for your information is a letter from the Director General of the
IAEA which encloses the information on the symposium and a listing of the
topics to be covered. The United States' participation in the symposium
is being arranged by the Atomic Energy Commission. The Division of
Technical Information, AEC Headquarters, will coordinate the partici-
pation, including the review and dispatch of the abstracts to the host.

It has been suggested that you consider the preparation of an abstract
of a paper for possible oral presentation at the symposium. If you wish
to submit an abstract, we would appreciate your forwarding it to us no
later than September 15, 1965. We will need eleven copies of the abstract,
not exceeding 300 words, and prepared in accordance with the enclosed
"General Procedures and Instructions for Authors". In addition, we will
need a completed Form A, Information Sheet, and Form B, Form for Submission
of a Paper, in triplicate.

If you submit an abstract of a paper and it is selected for oral presen-
tation at the symposium, arrangements will be made for you to perform
the travel to Vienna, utilizing funds made available under the above
contract.

Very truly yours,
ORIGINAL SIGNED BY
G. E. SHOUP.

G. E. Shoup
Chief, Biology Branch
Research and Development Division

CONTRACTS 490 (Texas)
For Travel

OFFICE ▶	Enclosure: IAEA Info. Sheet	Res. Ser. Br.	Fuller:je	8-24-65	Rio. Br.	8-21-65
SURNAME ▶						
DATE ▶						

1138749

UNITED STATES GOVERNMENT

Memorandum

TO : S. R. Sapirie, Manager, OR
Edward Brunenkant
 FROM : Edward J. Brunenkant, Director
 Division of Technical Information, HQS

SUBJECT: SYMPOSIUM ON THE DISPOSAL OF RADIOACTIVE WASTES INTO SEAS, OCEANS AND SURFACE WATERS, VIENNA, AUSTRIA, MAY 16-20, 1966.

DATE: JUL 29 1965

DTI:TO'L

ATTN: Alice Corley

The International Atomic Energy Agency will convene a Symposium on the Disposal of Radioactive Wastes into Seas, Oceans and Surface Waters, Vienna, Austria, May 16-20, 1966. Enclosed is an Information Sheet listing the topics to be covered at the meeting.

U. S. participation in the meeting will be arranged by the Atomic Energy Commission. The Division of Technical Information will coordinate this participation, including the request, review and dispatch of abstracts to the IAEA. Inquiries with reference to AEC participation should be directed to John H. Kane, Chief, International Conferences Branch, Division of Technical Information.

It would be appreciated if you would bring the meeting to the attention of the individuals and/or organizations listed on Attachment No. 2. If the contractor organizations wish to submit abstracts of papers, we would appreciate receiving the abstracts no later than September 20, 1965. The abstracts should be in 10 copies, not exceeding 350 words, and should follow the form outlined in Attachment No. 1. All abstracts and subsequent papers should be reviewed for classification and patent information, and this office advised of the results of the reviews.

The AEC has estimated that the number of participants at AEC expense should not exceed 20*. Travel costs of selected contractor personnel will be funded within this limit from available contract funds approved under the AEC Form 445 procedure.

- Attachments: *OK*
1. IAEA Info. Sheet
 2. List of Contractors

CONTRACTS 496 (Texas) *Kan*
 *This number is presently under consideration.

AUG 2 1965

1138750



Buy U.S. Savings Bonds Regularly on the Payroll Savings Plan

LIST OF CONTRACTORS - OAK RIDGE OPERATIONS OFFICE

Dr. Frank Lowan - (Lowman) (CB)
Puerto Rico Nuclear Center

Dr. Larry Pomeroy
University of Georgia

*Lowman R. Pomeroy
~~is~~ nuclear center
room 2 Dr.
Sapelo Island, Ga.*

*AT/40-1) 3235
~~3~~*

31327



INTERNATIONAL ATOMIC ENERGY AGENCY
AGENCE INTERNATIONALE DE L'ENERGIE ATOMIQUE
МЕЖДУНАРОДНОЕ АГЕНТСТВО ПО АТОМНОЙ ЭНЕРГИИ
ORGANISMO INTERNACIONAL DE ENERGIA ATOMICA

TEL.: 52 45 25

TELEX: 26 45

CABLE: INATOM

KÄRNTNER RING 11-13, VIENNA I, AUSTRIA

IN REPLY PLEASE REFER TO:
PRIERE DE RAPPELER LA REFERENCE:

I/610-47(1)

11 June 1965

Sir,

I have the honour to inform you that the International Atomic Energy Agency will convene a Symposium on the Disposal of Radioactive Wastes into Seas, Oceans and Surface Waters. The Symposium will be held in Vienna, Austria, from 16 to 20 May 1966.

Your Government is invited to nominate interested scientists to participate in the Symposium, and to submit papers on the topics listed in the Information Sheet attached to this letter. It would be appreciated if the Information Sheet and other annexes could be brought to the attention of the authorities, institutes and persons in your country that might be interested.

I should also be grateful if relevant particulars of each participant, as well as the names of authors and titles of papers to be presented, could be provided as soon as possible. The annexes contain detailed directions for the submission of this information and of abstracts and complete papers. Further information will be supplied on request.

Please accept the assurances of my highest consideration.

Sigvard Eklund
Sigvard Eklund
Director General

1138752

Annexes

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

INFORMATION SHEET

1. Introduction

Owing to the widespread scientific interest in the disposal of radioactive wastes the International Atomic Energy Agency is to hold a symposium on the disposal of radioactive wastes into seas, oceans and surface waters.

The Symposium will be concerned with the physical, chemical and biological behaviour of radioactive wastes that may affect man or the aquatic environment as a result of discharging such wastes into surface waters, excluding ground water.

The Agency has produced two reports on Radioactive Waste Disposal into the Sea and Disposal of Radioactive Wastes into Fresh Waters (Safety Series No. 5 and 10). It is also engaged in research at its Laboratory in Monaco on the behaviour of radionuclides in a marine environment and is supporting research on the environmental effects of waste disposal.

2. List of topics

The Symposium will be divided into four sessions:

Session 1 - Summary of existing practices for the disposal of radioactive wastes into seas, oceans and surface waters.

This session will include papers indicating the type, nature and activity of wastes now being released to the seas, oceans and surface waters. Methods of disposal should be indicated, but details of preparatory treatment of wastes are not required.

Session 2 - Physical and biological transport of radionuclides resulting from the disposal of radioactive wastes into the seas, oceans and surface waters.

This session will include papers related to waste disposal and dealing with dilution, dispersion,

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sedimentation and transport by currents and with the transport resulting from the uptake of radionuclides by biological organisms. The behaviour of radionuclides in both surface and deep layers of water will be discussed.

Session 3 - Evaluation of the main routes of exposure of man resulting from the disposal of radioactive wastes into the seas, oceans and surface waters.

This session will include studies of the ways in which radionuclides released as waste may cause radiation dose to man. The studies will involve such subjects as external radiation dose, the movement of radionuclides along food chains and the introduction of radionuclides into food chains by irrigation. The evaluation of radiation doses to individuals or groups and of the genetically significant dose to man where such doses result or will result from waste disposal, will also be discussed. Programmes of investigation preceding the disposal of radioactive waste will be included.

Session 4 - Possible effects of the disposal of radioactive wastes on the resources of the seas, oceans and surface waters.

This session will include papers on the somatic effects of radiation on aquatic organisms and on the genetic effects of radiation on populations of such organisms.

3. Papers

Submitting a paper implies that its author(s) intend(s) to participate in the meeting, if the paper is accepted. The abstract of the paper should indicate whether the material to be presented is new or a review.

A panel of experts will evaluate the abstracts submitted with regard to their suitability for inclusion in the programme, for oral presentation and for publication in the proceedings.

If numerous abstracts are received closely allied in subject and content, it may be necessary to have the papers presented by a rapporteur. When an abstract is accepted, the author will be informed whether the paper is to be presented individually or by a rapporteur, although in certain cases it may be necessary to reserve this decision pending an examination of the complete paper. If possible, all papers accepted will be published in full in the Proceedings of the Symposium. For papers to be presented by a rapporteur the author(s) may be requested to supply, in addition to the original version (English, French, Spanish or Russian) a translation into one of the other three languages.

4. Deadlines

An abstract of each paper, between 250 and 350 words in length, must be submitted in time to reach the Agency by 15 October 1965. The complete paper must arrive before 15 February 1966. Should authors prefer to make their own arrangements for the preprints they are requested to forward three copies of their complete paper by 15 February 1966, to notify the Secretariat accordingly, and to supply 250 copies of their paper(s) to reach the Agency not later than 20 April 1966.

5. Oral presentation

The full text of each paper, in the language in which it is submitted, will be made available to participants at the beginning of the Symposium. The author should, therefore, only present orally the main points of his paper(s).

6. Secretariat

The Scientific Secretary of the Symposium is Mr. P.J. Parsons, Division of Health, Safety and Waste Disposal, International Atomic Energy Agency, Kärntner Ring 11, Vienna I, Austria.

The Administrative Secretary of the Symposium is Mr. P. Ghelardoni, Division of Scientific and Technical Information, International Atomic Energy Agency, Kärntner Ring 11, Vienna I, Austria.

7. Channels of Communication

Participation Forms and Forms for Submission of Papers, together with six copies of each abstract, should be sent to the competent official authority (National Atomic Energy Commission or Ministry of Foreign Affairs) for subsequent transmission to the Director General of the International Atomic Energy Agency.

Correspondence on scientific matters, including the full texts of papers, should be addressed direct to the Scientific Secretary of the meeting (see above).

Correspondence on administrative matters should be addressed direct to the Administrative Secretary of the meeting (see above).



INTERNATIONAL ATOMIC ENERGY AGENCY
AGENCE INTERNATIONALE DE L'ENERGIE ATOMIQUE
МЕЖДУНАРОДНОЕ АГЕНТСТВО ПО АТОМНОЙ ЭНЕРГИИ
ORGANISMO INTERNACIONAL DE ENERGIA ATOMICA
KÄRNTNER RING 11-13, VIENNA I, AUSTRIA

TEL: 32 45 25
TELEX: 26 45
CABLE: INATOM

GENERAL PROCEDURE AND INSTRUCTIONS FOR AUTHORS

1. Participation

1.1 Nomination

Nominations can be accepted only when presented by Governments of Member States of the Agency or by international organizations invited to participate. Each participant is requested to complete a Participation Form (see attached Form A) and send it to the competent official authority for onward transmission.

1.2 Expenditures

The Agency will not require participants to make any contribution to the cost of the meeting, nor accept responsibility for any expenditure incurred by them.

2. Submission of abstracts and papers

2.1 Form of submission

Participants who wish to present papers should attach to their Participation Forms, in respect of each paper submitted, a Form for Submission of a Paper (see attached Form B) and an abstract in six copies.

2.2 Evaluation

A panel of experts will evaluate the submitted abstracts with regard to their suitability for inclusion in the programme, for oral presentation and for publication in the proceedings. The final selection will be made on the basis of the complete texts.

2.3 Evaluation requirements

For the evaluation the panel will require six copies of the abstract, in English, French, Russian or Spanish and, where possible, in addition, three copies of the complete text of the paper, at the same time.

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2.4 Abstracts

The abstract must be between 250 and 350 words in length, must give precise information on the content of the paper, and must be in final form for publishing in the proceedings.

2.5 Papers

Papers should not exceed 5 000 words in length, or the equivalent, including tables and figures. The Conference Secretariat reserves the right not to publish papers which do not conform to the above requirements and, where necessary, to omit figures and make such other editorial changes as are required for publication.

2.6 Deadlines

When sending in material, authors are requested to keep to the deadlines indicated in the Information Sheet for the meeting in question, having due regard to the time required for dispatch through official channels.

3. Distribution of documents

3.1 Abstracts

Abstracts of all papers accepted are translated into English, French, Russian and Spanish and distributed to all participants at the beginning of the meeting, or before.

3.2 Papers

In order that the full texts of papers in their original language may also be distributed to participants at the beginning of the meeting, authors are requested either:

- (a) to supply the Secretariat before the meeting, free of charge, with the number of copies required for distribution as indicated in the Information Sheet, or where this is not possible,
- (b) to send to the Secretariat three copies of the paper for reproduction not later than the date specified in the Information Sheet.

4. Presentation

4.1 Suitability for reproduction

Abstracts and papers must be suitable for direct photographic reproduction. For this reason blue-prints, spirit-carbon copies, carbon copies and any other text or diagram of faint or poor quality cannot be accepted.

4.2 Layout

The text must be typed on good quality paper, with $1\frac{1}{2}$ spacing between lines and on one side of the sheet only.

4.3 Format

The size of the paper used for preprints is 210 x 297 mm (8 1/4 x 11 11/16 in) and the typing area, including all text and diagrams should therefore not exceed 170 x 245 mm (6 5/8 x 9 5/8 in). In the case of the first page, in addition, space must be left at the top for a masthead, so that the available typing area is 170 x 185 mm (6 5/8 x 7 1/4 in).

4.4 Style sheet

To assist authors in preparing their abstracts and papers, and to ensure easier compliance with the above instructions, a specimen style sheet is enclosed.

5. Editorial rules

The following editorial rules should also be observed.

5.1 Titles

The name and title of the authors, and the name and location of the institute where the work was done should be indicated under the paper title on the first page.

5.2 Headings

The style of section and paragraph headings shown in the layout of this document is recommended.

5.3 Symbols and abbreviations

- (a) Chemical, physical and mathematical symbols should follow the IUPAP recommendations in their document U.I.P. 9 (1961).
- (b) Any abbreviations or symbols not defined in U.I.P. 9 (1961) should be explained in full the first time they appear in the paper.

5.4 Bibliographical references

These should be placed at the end of the text and should be identified in the text by Arabic numerals placed in square brackets (e.g. [12], [31-36]). The form of reference should follow ISO recommendation R.77. Two examples are given below:

(a) Reference to a book

[27] SEITZ, F. and KOEHLER, J.S., in Solid State Physics Advances and Applications 2 (SEITZ, F. and TURNBULL, D.B.I., eds.) Academic Press Inc., New York (1956) 307-448.

(b) Reference to a journal

[8] DE BOROE, A.H. and HAAS, F.A., Nuclear Fusion 1 (1961) 160/166.

5.5 Cross-references

Cross-referencing in the paper should be made by means of section numbers (NOT by pages).

5.6 Footnotes

Footnotes in the text of the paper should be numbered consecutively from beginning to end of the paper (NOT page by page). In tables, figures, annexes and appendices, footnotes should be identified by small letters.

- (a) Text: ... vaporization of the uranium dicarbide³
one may write ...
- (b) Tables, etc.: ... URANIUM CARBIDE^a.

5.7 Tables

Tables should be typed on separate sheets. They must be provided with headings and numbered consecutively with Roman numerals (e.g. TABLE XI).

5.8 Figures

Figures (this includes all photographs and diagrams) should be submitted on separate sheets and be provided with captions and numbered consecutively in Arabic numerals (e.g. Fig.2). On the back of each figure, the name of the author(s), the title (or symbol) of the paper, the figure number and the caption should be given. A separate list of figure captions must also be provided.

5.8.1 Photographs. These must be kept to a strict minimum and submitted only if they are indispensable. A high-gloss print must be submitted. Colour prints cannot be accepted.

5.8.2 Diagrams. These should be submitted in black and white as a fair copy or as a reproduction on glossy paper.

5.8.3. Care. Negatives, glossy prints and diagram reproductions must be kept flat and protected from cracking or similar damage by laying between cardboard or similar material.

6. Sessions

6.1 Language

Participants must use English, French, Russian or Spanish when presenting their papers and taking part in the discussions. Interpreters will provide simultaneous translation into the other three languages.

6.2 Speakers

No paper can be presented except by the author or, where this is not possible, by someone thoroughly familiar with the subject and able to reply in detail to questions put to him in subsequent discussions. Speakers should be concise and should avoid turning their presentation into a selective reading of papers that have already been distributed.

6.3 Slides

Slides of the following sizes may be shown: 5 x 5 cm, 8.5 x 8.5 cm, 8.5 x 10.5 cm and 9 x 12 cm.

7. Proceedings

The proceedings of the meeting are published subsequently. They include all the papers presented orally, printed in full in the original language, with abstracts in English, French, Russian and Spanish, and a record of the discussions, in English only.

8. Correspondence

8.1 Language

All correspondence must be in English, French, Russian or Spanish.

8.2 Nomination

Participation Forms and Forms for Submission of Papers should be sent to the competent official authority (see Information Sheet) for transmission.

8.3 Scientific and administrative matters

Any other correspondence on scientific and administrative matters, including the full texts of papers, should be addressed as indicated in the Information Sheet for the meeting in question.

Start first line of page 1 of text as instructed below.

Start first line of text of page 2 *et seq.* here.

80 mm (3 1/8")

For first page only of paper and abstract, start heading on this line

(Title of Paper)

(Author(s)' name(s), title(s) etc.)

First line of lateral typing (graphs, tables, charts, etc.)

Last line of lateral typing (graphs, tables, charts, etc.)

297 mm (11 5/8")

NOTE: Manuscripts and preprints can only be processed if the instructions regarding size and reproducibility are strictly followed. The co-operation of the authors will therefore be greatly appreciated.

Last line of text here

1130761

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

INFORMATION SHEET

To be sent to the competent official authority for
transmission to the International Atomic Energy Agency

Name: (Mr., Mrs., Miss) _____ First name: _____

Nominating government or international organization: _____

Institution: _____

Mailing address (if different from address of institution):

Date of departure from mailing address: _____

In which language do you prefer to receive printed material:

English - French - Russian - Spanish

Do you intend to present a paper? _____

Title of the paper: _____

Name of co-authors (if any): _____

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

FORM FOR SUBMISSION OF A PAPER

To be sent to the competent official authority for
transmission to the International Atomic Energy Agency

Title of the paper: _____

First and last name(s) of the author(s): _____

Name of participant who will present the paper: _____

Scientific establishment(s) in which the work has been carried out
(official title(s) and place(s)):

Mailing address: _____

Will 250 copies of your paper be supplied?

I hereby agree to assign to the International Atomic Energy Agency the right to publish the above-mentioned paper, and certify that no other rights have been granted which could conflict with the right hereby granted to the Agency.

(signature) _____

Enclosures:

- 1) Abstract (6 copies)
- 2) References to the author's other recent work
in the field.

Edward J. Brunenkart, Director
Division of Technical Information, HQ

SEP 22 1965

Herman M. Roth, Director
Research and Development Division, OR

SUBMISSION OF PAPERS - L. R. POMEROY, UNIVERSITY OF GEORGIA, CONTRACT NO. AT-(40-1)-3238 - E. F. GLOYNA, THE UNIVERSITY OF TEXAS, CONTRACT NO. AT-(11-1)-490

CRS:LAF

Reference is made to your memorandum to Mr. Sapiric dated July 29, 1965, subject "Symposium on the Disposal of Radioactive Wastes into Seas, Oceans and Surface Waters, Vienna, Austria, May 16-20, 1966."

Enclosed are ten copies each of the following papers:

1. "Flux of ^{137}Cs and ^{65}Zn Through a Salt-Marsh Ecosystem," by Lawrence R. Pomeroy, E. P. Odum, R. E. Johannes, and S. Roffman, University of Georgia, Contract No. AT-(40-1)-3238
2. "Transport of Ruthenium in a Model River System," by Surinder K. Bhagat and Ernest F. Gloyna, The University of Texas, Contract No. AT-(11-1)-490
3. "Transport of Radionuclides in a Model River and Ecology System," by Ernest F. Gloyna, The University of Texas, Contract No. AT-(11-1)-490

Patent and classification reviews of each of the abstracts have been made and nothing of a patent or classification interest is contained therein.

Information Sheets (Form A) and Forms for Submission of a Paper (Form B) prepared by Messrs. Pomeroy and Gloyna are also enclosed.

ORIGINAL SIGNED BY
RICHARD B. MARTIN
Herman M. Roth

NFI
Enclosures:

1. Paper by Pomeroy, Odum, Johannes & Roffman (10), w/Forms A & B (2)
2. Paper by Bhagat & Gloyna (10), w/Forms A & B (2)
3. Paper by Gloyna (10), w/Forms A & B (2)

CONTRACT NO. 490 (Texas)

OFFICE	Res. Ser. Br.	Res. & Dev.				FOR TRAV
SURNAME	Fuller:je	Martin				
	9-21-65	9/22/65				

1130764



THE UNIVERSITY OF TEXAS
AUSTIN, TEXAS 78712

DEPARTMENT OF CIVIL ENGINEERING
ENVIRONMENTAL HEALTH ENGINEERING
ENGINEERING LABORATORIES BUILDING 305

September 14, 1965

Dr. C. S. Shoup, Chief
Biology Branch
Research and Development Division
U. S. Atomic Energy Commission
Oak Ridge, Tennessee 37831

Re: ORS:LAF

Dear Sir:

Enclosed are abstracts of two papers which I would like to submit for Session 2 of the Symposium on the Disposal of Radioactive Wastes into Seas, Oceans, and Surface Waters, Vienna, Austria, May 16-20, 1966. Also enclosed are the required Forms A and B for each paper.

Sincerely yours,

Ernest F. Gloyna, Professor
Environmental Health Engineering

EFG:sb

afm

Enc: Abstract, Transport of Ruthenium
In A Model River System

Abstract, Transport of Radionuclides
In A Model River and Ecology System

List, Reports and Papers (Since 1961)
Concerning Radioactive Waste Disposal...

CONTRACTS-490(Texas)
For Trans?
F 9/15/65

1138765

SEP 16 1965

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

INFORMATION SHEET

To be sent to the competent official authority for
transmission to the International Atomic Energy Agency

Name: (Mr., ~~Mrs.~~ Miss) Gloyna First name: Earnest F.

Nominating government or international organization: _____

United States Atomic Energy CommissionInstitution: The University of Texas, Environmental Health Engineering
Laboratories

Mailing address (if different from address of institution):

The University of Texas, Eng. Labs. Bldg. 305, Austin, Texas 78712, U.S.A.Date of departure from mailing address: Approx. May 10, 1966

In which language do you prefer to receive printed material:

English - French - Russian - SpanishDo you intend to present a paper? YesTitle of the paper: Transport of Ruthenium in A Model River SystemName of co-authors (if any): Surinder K. Bhagat

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

FORM FOR SUBMISSION OF A PAPER

To be sent to the competent official authority for
transmission to the International Atomic Energy Agency

Title of the paper: Transport of Ruthenium in a Model River System

First and last name(s) of the author(s): Surinder K. Bhagat and
Earnest F. Gloyna

Name of participant who will present the paper: Earnest F. Gloyna

Scientific establishment(s) in which the work has been carried out
(official title(s) and place(s)):

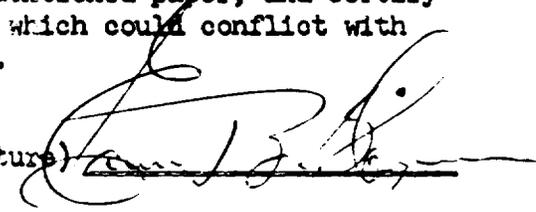
The University of Texas, Environmental Health Engineering Laboratories
Austin, Texas 78712, United States of America

Mailing address: The University of Texas, Engineering
Laboratories Bldg. 305, Austin, Texas 78712, United States of America

Will 250 copies of your paper be supplied?

Yes

I hereby agree to assign to the International Atomic Energy
Agency the right to publish the above-mentioned paper, and certify
that no other rights have been granted which could conflict with
the right hereby granted to the Agency.

(signature) 

Enclosures:

- 1) Abstract (6 copies)
- 2) References to the author's other recent work
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Reports and Papers (Since 1961)
Concerning Radioactive Waste Disposal,
Transport of Radionuclides, Etc.

By Earnest F. Gloyna
Professor of Environmental Health Engineering
The University of Texas

Papers

- "Radioactivity in the Surface Waters of Texas," with W. R. Drynan and David Smallhorst, Southwest Water Works Journal, 43, 31-35 (August, 1961).
- "Heat Generation by Radioactive Wastes," with H. J. Longley and C. W. Christenson, J. of the San. Engr. Div., Proc. of the ASCE, 90, SA1, 43-66 (February, 1964).
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9-17-65

TRANSPORT OF RUTHENIUM IN A MODEL RIVER SYSTEM

By

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The University of Texas
Austin, Texas

and

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ABSTRACT

The objective of this research was to study and evaluate the net transport of nitrosylruthenium in an aquatic environment. Also, the chemical characteristics of ruthenium were investigated.

One of the most important features of nitrosylruthenium complexes is their ability to form cationic, anionic, and molecular complex species, as well as the tendency of these complexes to form colloidal dispersion on hydrolysis. Laboratory studies were undertaken to investigate the conditions under which the prevalent species are in the ionic, molecular, or colloidal form. Separation and identification of various complex species were achieved by means of paper chromatography, solvent extraction with tributyl phosphate, ion exchange, spectrophotometry, and infrared spectroscopy.

In the light of evaluating net transport, the roles of suspended material (organic and inorganic), bottom sediments, and rooted plants were investigated. Some of the environmental factors that influence the uptake and release of nitrosylruthenium by sediments and biota were studied. The distributions of

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ruthenium in the water, sediments, and biota of a flowing and a non-flowing ecosystem were compared to see if the information from a non-flowing small ecosystem can be used to predict the fate of ruthenium in a larger and more dynamic ecological environment.

The results indicate that most of the nitrosylruthenium discharged in a clear stream will remain in the dissolved phase, some will become associated with suspended matter, and a small fraction will be retained by rooted plants and bottom sediments. However, in a turbid stream, as much as 50 percent of the ruthenium in the water may become associated with the suspended matter. In the latter case, the ruthenium content in the bottom sediments may become significant as a result of settlement of the suspended matter, depending upon the velocity of the stream. It appears that uptake and release of ruthenium by the components of the ecosystem are related to the diurnal changes in the environmental factors.

INTERNATIONAL ATOMIC ENERGY AGENCY

Symposium on the Disposal of Radioactive Wastes into Seas, Oceans
and Surface Waters

Vienna, Austria

16-20 May 1966

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Mailing address (if different from address of institution):

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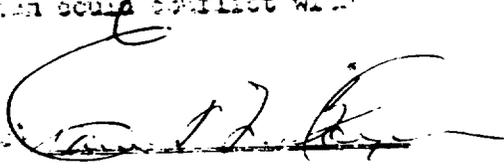
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TRANSPORT OF RADIONUCLIDES IN A MODEL RIVER AND ECOLOGY SYSTEM

By

Earnest F. Gloyna, Professor
Environmental Health Engineering
The University of Texas
Austin, Texas

ABSTRACT

A model river system has been used to conduct a variety of experiments involving releases of ^{58}Co , ^{85}Sr , ^{137}Cs , ^{65}Zn , and ^{103}Ru . The objectives of these investigations were to evaluate the measurements involved in the transport of these radionuclides in an aquatic environment. Primary emphasis was directed toward the accumulation of quantitative uptake data and the interpretation of transference of these radionuclides from a liquid phase to sediments, the movement of the radionuclides from sediments to bed sediments, the resuspension of radionuclides from bed sediments, and the sorption of the radionuclides on plant and animal forms. The net transport of radionuclides has been defined for a variety of environmental conditions.

A fully-instrumented flume and reservoir system was used to simulate typical ecological environments. The model river as defined by the flume has been used to more fully develop a transport equation and refine values for transport coefficients. This system has been used to evaluate the effect of various environmental conditions on the net transport of radionuclides.

Although the transport of various radionuclides may not be defined completely by the application of longitudinal mixing relationships, the flume data indicate that such an approach might be practical. Generalized equations which

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reflect the modal concentrations and net transport have been developed.

The effect of ecological changes such as changes in predominant species, die-away, etc., has been measured and included in the transport equation.

Continuous measurements on a 24-hour basis were made on a total light input, filtered or usable light, oxidation reduction potential, pH, air and water temperatures, and dissolved oxygen. Additional measurements included carbon dioxide, plant mass, and dispersion.

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