DAHLGREN DIVISION
NAVAL SURFACE WARFARE CENTER
Dahlgren, Virginia 22448-5100

NSWCDD/MP-03/24

RECORD OF PUBLIC MEETING FOR OPERATIONAL TEST OF PULSED FAST NEUTRON ANALYSIS (PFNA) CARGO INSPECTION SYSTEM AT YSLETA PORT OF ENTRY COMMERCIAL CARGO FACILITY, EL PASO, TEXAS

BY JAMES SPACCO (SENSOR CONCEPTS & APPLICATIONS, INC.)

STEPHEN HAIMBACH (NSWCDD COUNTERDRUG TECHNOLOGY PROGRAM OFFICE)

SYSTEMS RESEARCH AND TECHNOLOGY DEPARTMENT

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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
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This document summarizes a public meeting held in connection with the environmental assessment conducted as part of the operational test of the Pulsed Fast Neutron Analysis (PFNA) Cargo Inspection System at Ysleta Port of Entry Commercial Cargo Facility located in El Paso, Texas. The meeting was held in El Paso, Texas, on 14 January 2003 to inform the public about the project and to provide a forum for citizens and public officials to voice their concerns.

PFNA technology will be used for determining the presence of contraband, drugs, and weapons, etc., in cargo containers and trucks. This technology measures the elemental contents (e.g., oxygen, nitrogen, etc.) within volume segments of a scanned object. These measurements are used to generate three-dimensional "maps" of the object's elemental composition. The amounts and relative concentrations of key elements are used to identify specific substances of interest (e.g., explosives, narcotics, etc.). A system has been designed to use this technology for inspecting vehicles, such as trucks and tractor trailers.

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Pulsed Fast Neutron Analysis; PFNA; cargo container and truck inspection; safety procedures; contraband, drug, and weapon detection

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298-102

FOREWORD

This document summarizes a public meeting held in connection with the environmental assessment conducted as part of the operational test of the Pulsed Fast Neutron Analysis (PFNA) Cargo Inspection System at Ysleta Port of Entry Commercial Cargo Facility located in El Paso, Texas. The meeting was held in El Paso, Texas, on 14 January 2003 to inform the public about the project and to provide a forum for citizens and public officials to voice their concerns.

PFNA technology will be used for determining the presence of contraband, drugs and weapons, etc., in cargo containers and trucks. This technology measures the elemental contents (e.g., oxygen, nitrogen, etc.) within volume segments of a scanned object. These measurements are used to generate three-dimensional "maps" of the object's elemental composition. The amounts and relative concentrations of key elements are used to identify specific substances of interest (e.g., explosives, narcotics, etc.). A system has been designed to use this technology for inspecting vehicles, such as trucks and tractor trailers.

Approved by:

R. NEAL CAIN, Deputy Department Head
Systems Research and Technology Department

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PURPOSE

This document summarizes a public meeting held in connection with the Environmental Assessment conducted as part of the operational test of the Pulsed Fast Neutron Analysis Cargo Inspection System (PFNA-CIS).

SUMMARY

A public meeting was held in El Paso, Texas on 14 January 2003. The purpose of the meeting was to inform the public about the project and to provide a forum for citizens and public officials to voice their concerns.

BACKGROUND

In the post 9/11 World, American citizens recognize, more than ever, that protection of national borders is the foremost responsibility of government. In the age of global terrorism, the biggest defensive challenge is identifying security threats before damage can be done.

Threats can be of many forms, but most agree that the materials needed for terrorism and drug dealing will likely enter the country hidden in the cargo that routinely crosses the border every business day. Non-Intrusive Inspection Systems allow those who guard the border to examine cargoes without having to physically unload the cargo containers.

A large number of Non-Intrusive Inspection Systems are deployed at ports of entry around the United States. While helping to make the inspection process more effective, current technology has shortcomings. Many of the current systems pass x-rays or gamma rays through the inspected vehicles and their cargoes. To discover potential contraband, the system operator must recognize it by its density or unique shape. All of today's systems require a high degree of operator interaction looking at visual images to determine whether more detailed investigation of a particular load is warranted.

Pulsed Fast Neutron Analysis (PFNA) is a radiation-based method that has been developed into a Non-Intrusive Inspection Technology. This technology was designed to determine the presence of contraband and indicate its precise location with no operator input. By automatically detecting the proportions of specific chemical elements within the cargo container, the system alerts enforcement personnel when a match is made with target compound "fingerprints." PFNA has been successfully demonstrated in a laboratory setting using a limited range of cargo. Yet, to be useful in the war against terrorism and drugs, the technology must perform well in real life conditions. Simulating the variety of cargo, vehicles, and operating conditions encountered at a port of entry in a laboratory is of limited value. The only way to definitively determine the utility of the technology (detection capability, throughput, "false alarm" rate, etc.) is to subject it to the actual field conditions.

Members of the U.S. Congress recognized that moving a promising technology from the laboratory to the field could only happen after successful operational testing. Hence, Congress

appropriated funds and provided specific direction to the Department of Defense to conduct a real-life test of the technology.

Based on a review of candidate locations having a high volume of incoming commercial traffic, the Ysleta Commercial Cargo Facility in El Paso, Texas was identified as the best test site. Under the proposed action, the government will construct a test facility (approximately 9 months) and operate it with the commercial stream-of-commerce (for a maximum period of 6 months).

In accordance with Section 102 [42 USC § 4332(2)(C)] of the National Environmental Policy Act (NEPA), the Department of Defense is preparing an Environmental Assessment for the proposed action. An Environmental Assessment was required to provide information on any potential impacts to the human and natural environment that may result from the proposed action. A public meeting was planned as part of the process to identify areas of investigation for the assessment.

PUBLICATION OF THE MEETING

The meeting was announced in the *El Paso Times* weekly for the month preceding the meeting. Copies of the announcements are presented in Appendix A.

Letters announcing the meeting were sent to potential stakeholders in mid-December 2002. Two different letters were sent. One letter included an attachment that described the project. The other letter did not include the attachment because it was a follow-up to an earlier letter, which had had the attachment. Both letters were translated into Spanish for addressees in Mexico.

Samples of the announcement letters are shown in Appendix B. Addressees for the letters are identified in Appendix C.

CONDUCT OF THE MEETING

Meeting attendees were encouraged to register on a sign-in sheet at the entrance to the meeting room. A list of attendees, including personnel supporting the project in an official or business capacity, is shown in Appendix D. A total of 47 people were at the meeting.

The entire meeting was videotaped. Additionally, a court stenographer was present to record and transcribe the meeting. A translator was also present who provided Spanish translation via dedicated sets of headphones that were made available to the audience. Annotated copies of the presentation were made available for the hearing impaired or others if they desired a copy.

The program manager, Dr. Stephen Haimbach, acted as the master of ceremonies. After giving some administrative remarks, Dr. Haimbach delivered a 20-minute presentation. A copy of the presentation is shown in Appendix E.

At the conclusion of the presentation, copies of written questions were collected from the audience and distributed to members of a four-person panel consisting of:

- **Leslie A. Braby**—Leslie A. Braby holds a Ph.D. in Radiological Sciences. Dr. Braby is a research professor of Nuclear Engineering at Texas A & M University. He holds a Ph.D. in Radiological Physics. His main area of expertise is radiation dosimetry with secondary interest is biophysics. Dr. Braby is a member of the National Council on Radiation Protection and Measurements and the International Committee on Radiation Units and Measurements.

- **Peter Ryge**—Peter Ryge holds a Ph.D. in Nuclear Physics. Dr. Ryge is Ancore Corporation's Vice President of Engineering. He has over 20 years experience in instrumentation development and experimental work, especially using nuclear techniques in nondestructive measurements. He is a member of the American Physical Society and the Institute of Electrical and Electronic Engineers.

- **Richard T. Whitman**—Richard T. Whitman is the Radiation Safety Officer for the U.S. Customs Service. Mr. Whitman has had radiation safety training with the Army, Navy, Oak Ridge and Georgetown University, including dosimetry, neutron work, hospital radiation, and shielding.

- **P. T. Wright**—P. T. Wright is the director of U.S. Customs Service field operations for West Texas and New Mexico.

Following a break, the meeting resumed. Either the member of the audience who submitted it or Dr. Haimbach read each written question. Dr. Haimbach asked one or more members of the panel to address the question. The written questions and the submitter's name (if provided) are presented in Appendix F.

A roving microphone was made available to members of the audience to clarify their questions or to ask follow-up questions.

A transcript of the entire meeting is included as Appendix G.

APPENDIX A
NEWSPAPER ANNOUNCEMENTS OF THE MEETING

VERIDIAN INFORMATION SOLUTIONS

6066 LEESBURG PIKE, SUITE 400

FALLS CHURCH, VA 22041

AD # 872897

LINES 58

COST: $147.10

PUBLISHERS AFFIDAVIT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, a Notary in and for El Paso County, State of Texas, on this day personally, appeared TERRIE CARTER who states upon oath that she is the ASSISTANT CLASSIFIED MANAGER of the EL PASO TIMES, a daily newspaper published in the City and County El Paso, State of Texas, which is a newspaper of general circulation and which has been continously and regularly published for the period of not less than one year in the said County of El Paso, and that he was such upon the EL PASO TIMES.

That the LEGAL copy was published in the EL PASO TIMES for the date(s) of such follows 1 DAY(s) to wit 12/19, 2002.

Signed _____

Subscribed and sworn to before me,
This 19TH day of DECEMBER, 2002.

Belia Duenes

BELIA DUENES
NOTARY PUBLIC
In and for the State of Texas
My commission expires
March 19, 2004

PUBLIC MEETING
ANNOUNCEMENT

The Department of Defense in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six-month, operational test of a Pulsed Fast Neutron Analysis Cargo Inspection System at the Yaleta Commercial Cargo Facility in El Paso, Texas. The Department of Defense, in accordance with Section 102 [42 USC 4332(2)(C)] of the National Environmental Policy Act is preparing an Environmental Assessment for the construction of the test facility (approximately 9 months) and its operation during the test period (a maximum of 6 months).

An open meeting has been scheduled to present a summary of the project. The meeting will take place from 7:00 - 9:00 PM, Tuesday, 14 January 2003 at the Holiday Inn, 6655 Gateway West Boulevard, El Paso, Texas 79925. The hotel is centrally located and directions can be obtained by calling the hotel directly at 915.778.6411. During the meeting responsible government and industry personnel will be available to answer questions.

VERIDIAN INFORMATION SOLUTIONS

6066 LEESBURG PIKE, SUITE 400

FALLS CHURCH, VA 22041

AD # 872899

LINES 58

COST: $142.10

PUBLISHERS AFFIDAVIT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, a Notary in and for El Paso County, State of Texas, on this day personally, appeared TERRIE CARTER who states upon oath that she is the ASSISTANT CLASSIFIED MANAGER of the EL PASO TIMES, a daily newspaper published in the City and County El Paso, State of Texas, which is a newspaper of general circulation and which has been continously and regularly published for the period of not less than one year in the said County of El Paso, and that he was such upon the EL PASO TIMES

That the LEGAL copy was published in the EL PASO TIMES for the date(s) of such follows 1 DAY(s) to wit 12/26, 2002

Signed _____

Subscribed and sworn to before me,
This 26TH day of DECEMBER, 2002

Belia Duenes

BELIA DUENES
NOTARY PUBLIC
In and for the State of Texas
My commission expires
March 19, 2004

PUBLIC MEETING
ANNOUNCEMENT

The Department of Defense in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six month operational test of a Pulsed Fast Neutron Analysis Cargo Inspection System at the Yselta Commercial Cargo Facility in El Paso, Texas. The Department of Defense in accordance with Section 102 (42 USC 4332 2 C) of the National Environmental Policy Act is preparing an Environmental Assessment for the construction of the test facility (approximately 9 months) and its operation during the test period (a maximum of 6 months).

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VERIDIAN INFORMATION SOLUTIONS

6066 LEESBURG PIKE, SUITE 400

FALLS CHURCH, VA 22041

AD # 872900

LINES 58

COST: $142.10

PUBLISHERS AFFIDAVIT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, a Notary in and for El Paso County, State of Texas, on this day personally, appeared TERRIE CARTER who states upon oath that she is the ASSISTANT CLASSIFIED MANAGER of the EL PASO TIMES, a daily newspaper published in the City and County El Paso, State of Texas, which is a newspaper of general circulation and which has been continously and regularly published for the period of not less than one year in the said County of El Paso, and that he was such upon the EL PASO TIMES.

That the LEGAL copy was published in the EL PASO TIMES for the date(s) of such follows 1 DAY(s) to wit 01/02, 2003.

Signed

Subscribed and sworn to before me,
This 2ND day of JANUARY, 2003.

BELIA DUENES
NOTARY PUBLIC
In and for the State of Texas
My commission expires
March 19, 2004

PUBLIC MEETING ANNOUNCEMENT

The Department of Defense in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six-month operational test of a Pulsed Fast Neutron Analysis Cargo Inspection System at the Yselta Commercial Cargo Facility in El Paso, Texas. The Department of Defense, in accordance with Section 102 [42 USC § 4332(2)(C)] of the National Environmental Policy Act is preparing an Environmental Assessment for the construction of the test facility (approximately 6 months) and its operation during the test period (a maximum of 6 months).

An open meeting has been scheduled to present a summary of the project. The meeting will take place from 7:00 - 9:00 PM, Tuesday, 14 January 2003 at the Holiday Inn, 6655 Gateway West Boulevard El Paso, Texas 79925. The hotel is centrally located and directions can be obtained by calling the hotel directly at 915-778-6431. During the meeting, responsible government and industry personnel will be available to answer questions.

VERIDIAN INFORMATION SOLUTIONS

6066 LEESBURG PIKE, SUITE 400

FALLS CHURCH, VA 22041

AD # 872901

LINES 58

COST $142 10

PUBLISHERS AFFIDAVIT

STATE OF TEXAS
COUNTY OF EL PASO

Before me, a Notary in and for El Paso County, State of Texas, on this day personally, appeared TERRIE CARTER who states upon oath that she is the ASSISTANT CLASSIFIED MANAGER of the EL PASO TIMES, a daily newspaper published in the City and County El Paso, State of Texas, which is a newspaper of general circulation and which has been continously and regularly published for the period of not less than one year in the said County of El Paso and that he was such upon the EL PASO TIMES

That the LEGAL copy was published in the EL PASO TIMES for the date(s) of such follows 1 DAY(s) to wit 01/09, 2003.

Signed

Subscribed and sworn to before me,
This 9TH day of JANUARY, 2003

BELIA DUENES
NOTARY PUBLIC
In and for the State of Texas
My commission expires
March 19, 2004

PUBLIC MEETING
ANNOUNCEMENT
The Department of Defense, in conjunction with the United States Customs Service and the Transportation Security Administration, plans to conduct a six month operational test of a Pulsed Fast Neutron Analysis Cargo Inspection System at the Ysleta Commercial Cargo Facility in El Paso, Texas. The Department of Defense in accordance with Section 102 (42 USC 4332)(2)(C) of the National Environmental Policy Act is preparing an Environmental Assessment for the construction of the test facility (approximately 9 months) and its operation during the test period (a maximum of 6 months).
A public meeting has been scheduled to present a summary of the project. The meeting will take place from 7:00 - 9:00 PM Tuesday, 14 January 2003 at the Holiday Inn, 6655 Gateway West Boulevard, El Paso, Texas 79925. The hotel is centrally located and directions can be obtained by calling the hotel direct, at 915-778-6611. During the meeting, responsible government and industry personnel will be available to answer questions

APPENDIX B
SAMPLE LETTERS ANNOUNCING THE MEETING

Appendix B

Sample Letters Announcing the Meeting

Two letters were used to inform people of the meeting. One letter included a summary of the project as an attachment. A sample of one of these letters is presented on page B-4 through B-6.

The other letter followed a previous letter, which had had the attachment. A sample of this letter is presented on page B-7.

For addressees in Mexico, both letters were translated into Spanish.

VERIDIAN

Information Solutions Division
6066 Leesburg Pike
Suite 400
Falls Church, Virginia 22041
Tel: 703.998.8332
Fax: 703.931.0275
www.veridian.com

12 December 2002

Greater El Paso Chamber of Commerce
10 Civic Center Plaza
El Paso, Texas 79901

Attachments: (1) Project Summary for Test of Pulsed Fast Neutron Analysis Cargo Inspection System at the Ysleta Commercial Cargo Facility

Dear Sir/Madam :

The Department of Defense (DoD) in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six-month, operational test of a Pulsed Fast Neutron Analysis (PFNA) Cargo Inspection System at the Ysleta Commercial Cargo Facility in El Paso, Texas. An overview of the project is contained in the attached summary.

PFNA is a non-intrusive, radiation-based interrogation technology that images and identifies the contents of various sizes and types of unoccupied vehicles by using a neutron beam. Gamma rays are produced that are specific to the elements in the vehicle. Using the known "gamma ray fingerprints" of contraband materials, the system can indicate their presence and location within the vehicle.

The Department of Defense, in accordance with Section 102 [42 USC § 4332(2)(C)] of the National Environmental Policy Act (NEPA) is preparing an Environmental Assessment for the construction of the test facility (approximately 9 months) and its operation during the test period (a maximum of 6 months). An Environmental Assessment is required to provide information on any potential impacts to the human and natural environment that may result from the test. Veridian is under contract to collect information and draft the Environmental Assessment.

An open meeting has been scheduled to present a summary of the project. The meeting will take place from 7:00 - 9:00 PM, Tuesday, 14 January 2003 at the Holiday Inn, 6655 Gateway West Boulevard, El Paso, Texas 79925. The hotel is centrally located and directions can be obtained by calling the hotel directly at 915-778-6411. During the meeting, responsible government and industry personnel will be available to answer questions.

Sincerely,

W. F. Snow
Veridian Information Solutions

Attachment (1)
2nd Draft of 12 September 2002

Project Summary for Test of Pulsed Fast Neutron Analysis Cargo Inspection System at the Ysleta, Texas Border Station

Introduction

In its counter-terrorism and counter-drug efforts, the Federal government has invested considerable resources into developing technologies for detecting explosives, narcotics or other contraband hidden among the freight imported into the United States. Radiation-based, non-intrusive inspection systems, such as X-ray and gamma ray, have been in use for several years by Federal Government agencies. A related technology, called Pulsed Fast Neutron Analysis (PFNA), was developed several years ago for cargo inspection. PFNA is designed to directly and automatically detect and measure the presence of specific materials, such as cocaine or explosives, which may have been hidden within the vehicle. PFNA technology uses pulses of neutrons as the radiation source to non-intrusively examine packages and containers for suspect materials. While PFNA has been successfully demonstrated in a laboratory setting, it has yet to be tested in an operational environment.

The Department of Defense (DoD) in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six-month operational test of a PFNA system at the Ysleta/Zaragoza Border Station in Ysleta, Texas. Ysleta is next to the Rio Grande River just southeast of the city of El Paso. Ysleta was selected as the test location principally because it had space available (no additional land purchase was required) and sufficient commercial traffic.

The test facility will consist of a building (approximately 220 feet by 60 feet) housing the PFNA equipment and several smaller structures for electronic equipment and operators.

Inspection Process

Vehicles will be selected for inspection from the routine stream of commerce and will be directed to the corridor-like entrance of the test facility. The driver will leave the vehicle and walk to a designated waiting area located at the other side of the PFNA building. A self-powered towing machine will slowly pull the unoccupied vehicle through the facility and past the scanning device. Once all safety checks are verified, the vehicle is scanned with the neutrons. The pulsed beam moves up and down while the vehicle slowly passes by to ensure that all of the contents are inspected.

Many of the neutrons pass through the vehicle unaffected and are stopped by the shield walls of the corridor. Some of the neutrons hit individual atoms, subsequently giving off a gamma ray of a specific frequency that is characteristic of a chemical element. Sensors located along the walls of the corridor detect the quantities for each of the specific frequencies of gamma rays for the short period of time of each pulse of neutrons. The system's electronics and computers compile

the gamma ray information to determine the properties of individual material locations within the vehicle. For the chemical makeup of specific explosives and narcotics, the computers automatically alert operators of the presence of these substances. The PFNA system generates three-dimensional images of the target materials on computer monitors to help pinpoint the location of suspect materials for U.S. Customs operators.

Radiation Properties

While the neutron generator used in PFNA systems does not contain radioactive material, the neutron production process does produce a trace amount of radioactive material. Specifically, a small amount (less than $1/100^{th}$ of the levels allowed by the EPA regulations) of the radioisotope tritium (radioactive hydrogen) is a byproduct of the process, which is vented to the atmosphere.

The neutrons produce radioactive isotopes of some of the atoms within the vehicle. This may increase the level of radioactivity of scanned cargo materials. Computer modeling has shown that the level of induced radioactivity is of little consequence to human health. Residual radioactivity measurements will be made during the test to confirm the absence of significant levels of radioactivity.

For safety, personnel are shielded from radiation by staying out of the equipment area during operations. The facility's walls are designed to prevent all but minute amounts of radiation from leaving the area. X-rays and gamma rays are produced both by the fast moving neutrons themselves as they collide with atoms, and the neutron producing equipment. X-rays and gamma rays are both forms of ionizing radiation, which by virtue of their high energy, can convert molecules into charged ions, and poses an increased risk of cancer with excessive exposure. Visible light, infrared light, microwaves, and radio waves are non-ionizing forms of electromagnetic radiation because of their relatively lower energies.

It is believed that the PFNA inspection system is safe, with exposures to radioactive materials and ionizing radiation to the general public and US Customs Service personnel well below Federal and State Standards. The facility design, including radiation shielding, will be designed to ensure that levels of exposure will be statistically indistinguishable from local area background.

VERIDIAN

Information Solutions Division

6066 Leesburg Pike
Suite 400
Falls Church, Virginia 22041
Tel: 703.998.8332
Fax: 703.931.0275
www.veridian.com

XX December 2002

«Address1»

Dear «Title» «LastName»:

As noted in my 24 September 2002 letter to you, the Department of Defense in cooperation with the United States Customs Service and the Transportation Security Administration plans to conduct a six-month, operational test of a Pulsed Fast Neutron Analysis (PFNA) Cargo Inspection System at the Ysleta Commercial Cargo Facility in El Paso, Texas.

An open meeting has been scheduled to present a summary of the project. The meeting will take place from 7:00 – 9:00 PM, Tuesday, 14 January 2003 at the Holiday Inn, 6655 Gateway West Boulevard, El Paso, Texas 79925. The hotel is centrally located and directions can be obtained by calling the hotel directly at 915-778-6411. During the meeting, responsible government and industry personnel will be available to answer questions.

Sincerely,

W. F. Snow
Veridian Information Solutions

APPENDIX C
ADDRESSES FOR LETTERS ANNOUNCING THE MEETING

The Honorable Phil Gramm
370 Russell Senate Office Building
Washington, DC 20510-4302

The Honorable Kay Bailey Hutchison
284 Russell Senate Office Building
Washington, DC 20510-4302

The Honorable Silvestre Reyes
Texas – 16th, Democrat
1527 Longworth HOB
Washington, DC 20515-4316

The Honorable Ben Nighthorse Campbell
Chairman, Subcommittee on Treasury,
Postal Service, and General Government,
Committee on Appropriations
380 Russell Senate Office Building
Washington, DC 20510

The Honorable Byron Dorgan
Ranking Minority Member, Subcommittee
on Treasury, Postal Service, and General
Government, Committee on Appropriations
713 Hart Senate Office Building
Washington, DC 20510

Ernest J. Istook Jr.
Oklahoma – 5th, Republican
B307 Rayburn HOB
Washington, DC 20515-6028

Steny Hoyer
Maryland – 5th, Democrat
1705 Longworth House Office Building
Washington, DC 20515-2005

The Honorable Paul H. O'Neill
U.S. Secretary of the Treasury
1500 Pennsylvania Avenue, NW
Washington, DC 20220

The Honorable Norman Y. Mineta
U.S. Secretary of Transportation
400 7th Street, SW
Washington, DC 20590

The Honorable Donald H. Rumsfeld
US Secretary of Defense
1000 Defense Pentagon
Washington, DC 20301-1000

FDA Commissioner
U.S. Food and Drug Administration
5600 Fishers Lane
Rockville, MD 20857-0001

The Honorable Jane F. Garvey
Administrator, Federal Aviation
Administration
800 Independence Avenue, SW
Washington, DC 20591

The Honorable John Magaw
Undersecretary
Transportation Security Administration
400 Seventh Street SW
Washington, DC 20590

The Honorable John P. Walters, Director
Office of National Drug Control Policy
750 11th Street, NW
Washington, DC 20503

Dr. Richard A. Meserve
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Ms. Colleen M. Kelley
President National Treasury Employees
Union
901 E Street NW, Suite 600
Washington, DC 20004-2037

Justin R. Ornsby
Executive Director
Rio Grande Council of Governments
1100 N. Stanton, Suite 610
El Paso, Texas 79902

Scott Armey
GSA Greater Southwest Regional Administrator
819 Taylor Street
Fort Worth, TX 76102

W. Leighton Waters
Assistant Regional Administrator
Greater Southwest Region Public Buildings Service
819 Taylor Street
Fort Worth, Texas 76102

Carlos Ramirez, Commissioner
United States Section
International Boundary and Water Commission
4171 N. Mesa, Suite C-310
El Paso, TX 79902-1441

Belinda L. Collins Ph.D.
Director
Office of Standards Services
NIST, Southwest Region
7920 Elmbrook Drive, Suite 102
Dallas, Texas 75247-4982

OSHA Area Director
El Paso District Office
Federal Building C
700 E. San Antonio, Room C-408
El Paso, Texas 79901

U.S. Department of Labor
Occupational Safety and Health Administration
Lubbock Area Office
Federal Office Building
1205 Texas Avenue, Room 806
Lubbock, Texas 79401

Assistant Regional Administrator
For Technical Support and Outreach Programs
U.S. Department of Labor
Occupational Safety and Health Administration
525 Griffin Street, Room 602
Dallas, Texas 75202-5024

Darrin Swartz-Larson
Office Director
U.S. EPA
El Paso Border Liaison Office
4050 Rio Bravo, Suite 100
El Paso, Texas 79902

Gina Weber
Border Coordinator
U.S./Mexico Border Program
U.S. Environmental Protection Agency (EPA) Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Gregg A. Cooke
EPA Administrator for the El Paso area
1445 Ross Avenue
Suite 1200
Dallas, Texas 75202-2733

George Brozowski
Radiation Programs
USEPA Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202

Mr. Dennis Linskey
Coordinator, U.S. – Mexico Border Affairs
U.S. Department of State
2201 C Street NW, Room 4258
Washington, DC 20520

Andrew Wallo III
U.S. Department of Energy
Air, Water & Radiation Division (EH-412)
Room GA 098
1000 Independence Avenue
Washington, DC 20585

Luis Garcia, District Director
USINS El Paso District Office
1545 Hawkins Blvd.
El Paso, TX 79925

Richard Duran
Port Director
Immigration & Naturalization Service
797 S. Zaragoza, Building A
El Paso, Texas 79907

Consulate General
Ciudad Juarez
P.O. Box 10545
El Paso, TX 79995

The Honorable Rick Perry
Governor of Texas
State Capitol Room 1E.8
P.O. Box 12697
Austin, Texas 78711

Representative Bob Hunter, Chairman
Committee on State, Federal, &
International Relations
District 71
Room EXT E2.160
P.O. Box 2910
Austin, Texas 78768-2910

The Honorable Norma Chavez
Member of House Committee on State,
Federal, & International Relations
Texas Representative, District 76
Room EXT E2.160
P.O. Box 2910
Austin, Texas 78768-2910

The Honorable Inocente Quintanilla
P.O. Box 412
Tornillo, TX 79853

The Honorable Paul Moreno
Vice-Chair of House Committee on State,
Federal & International Relations
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Austin, TX 78701

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Presidencia Municipal
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Ciudad Juarez, Chihuahua, Mexico

Arq. Carlos Aguilar García
Director de Desarrollo Urbano
Y Director General de Projectos Ejecutivos
Para el Equipamiento Urbano
Presidencia Municipal
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Aves. Henry Dunant y Manuel Diaz
Anillo Circuito del Pronaf
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Air Sea Intl
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9434 Viscount Ste 170E
El Paso, TX 79926-7050

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APPENDIX D
PEOPLE PRESENT AT THE MEETING

People Present at the Meeting

Name	Organization
Art Alvarado	Texas Department of Health
Stacy Barnett	United Parcel Service
Ron Bentley	Veridian
John Bland	General Services Administration
Leslie Braby	National Council on Radiation Protection and Measurements
Mary Caraveo	Court Stenographer
Tom Cassidy	Sensor Concepts & Applications
Dave Clifton	Galaxy Scientific Corp
Earl Cook	Occupational Safety & Health Administration
Jorge Dieppa	Translator
Joe Gatto	Transportation Security Administration
Bob Geyer	Quality of Life El Paso
Steve Haimbach	DoD Counterdrug Technology Development Program Office
Victor Jimenez	Immigration and Naturalization Service
Bill Kuehne	Sensor Concepts & Applications
Roger Maier	US Customs Service
Jessica Marinez	Occupational Safety & Health Administration, El Paso Office
Monica Marquez	UPS Supply Chain
Victor Marquez	JOBE
Laureano Martinez	UTEP student
Ray Mendoza Jr.	City of El Paso
Edward McCormick	McCormick Architecture LLC

People Present at the Meeting (Continued)

Name	Organization
Karl McElhaney	Office of Congressman Reyes
Eric McQueen	US Customs Service
Susan Monroe	Occupational Safety & Health Administration
Jim Mrozack	Ancore
Paul Nicholas	US Customs Service
Mike Noarte	PSC NWSU
Kevin Odenborg	National Treasury Employees Union
Manuel Rubio	USIBWC
Peter Ryge	Ancore
Lisa Schaub	General Services Administration
Robert Shiner	Sensor Concepts & Applications
Patrick Smith	McCormick Architecture LLC
Mario Solano	Occupational Safety & Health Administration, Assistant Area Director
Jimmy Spacco	Sensor Concepts & Applications
Belinda Subramanian	Green Party
Michael Torra	Office of Congressman Reyes
Gerwan Villela	HDC Teleco
Royce Walters	US Customs Service
Rick Whitman	US Customs Service
P T Wright	US Customs Service

APPENDIX E
PRESENTATION GIVEN AT THE MEETING

Pulsed Fast Neutron Analysis (PFNA) Operational Evaluation

Stephen P. Haimbach, Ph.D.

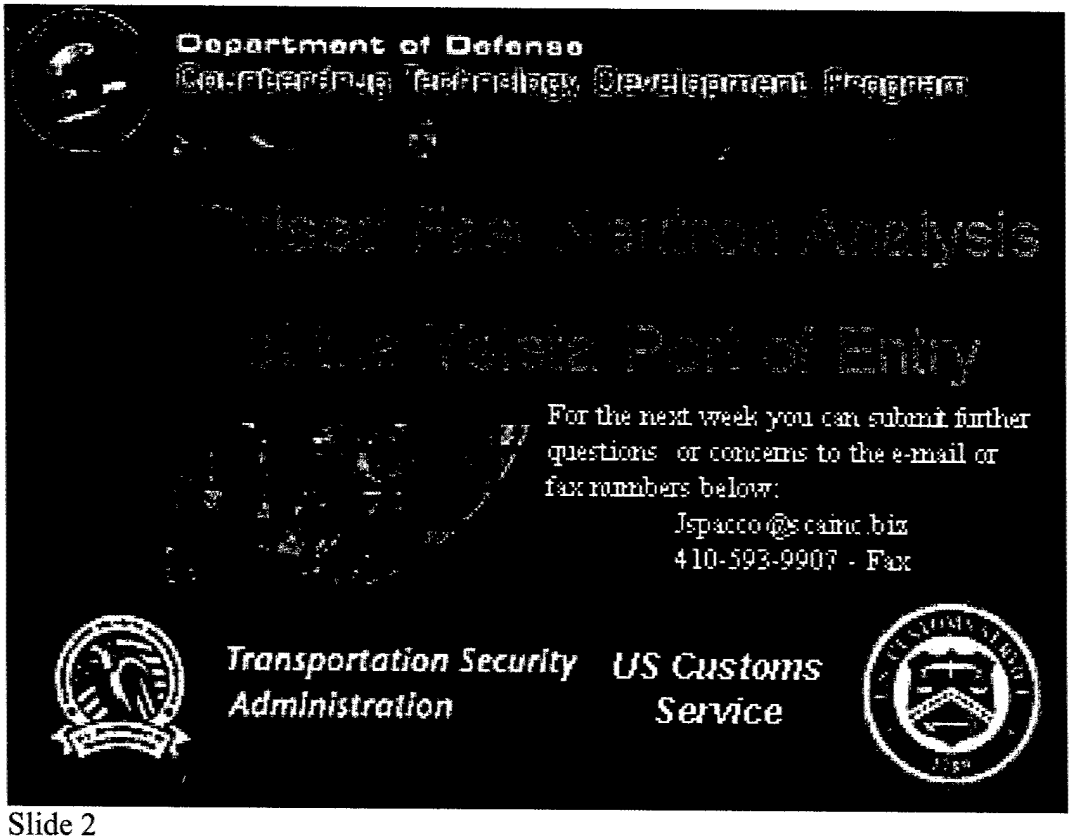
Deputy Program Manager
Non-Intrusive Inspections

Agenda

- Introduction
- Presentation
- Submission of Questions and Statements
- Break
- Questions and Answers

14 January 2003

Slide 1

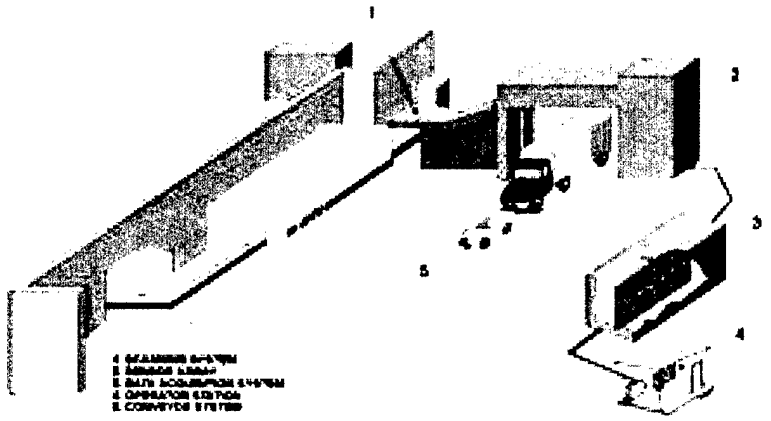


Slide 2

YSLETA POE

Slide 3

PFNA Hardware Configuration



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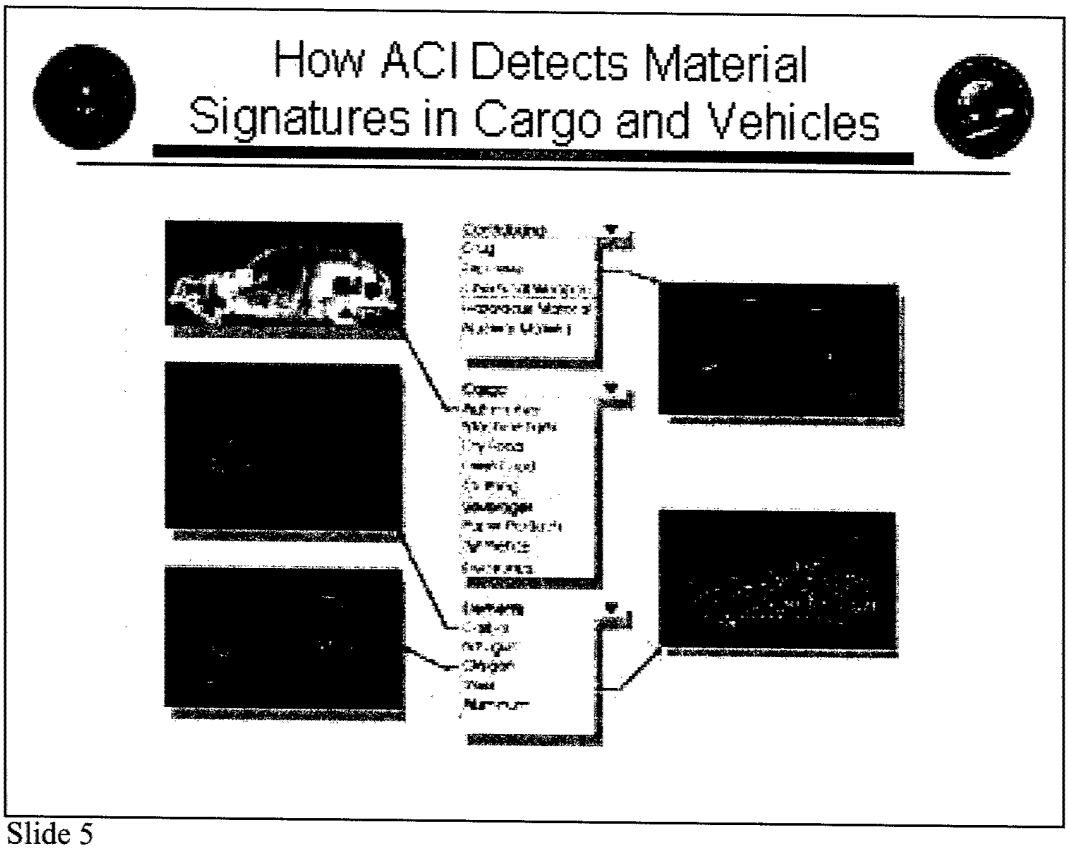

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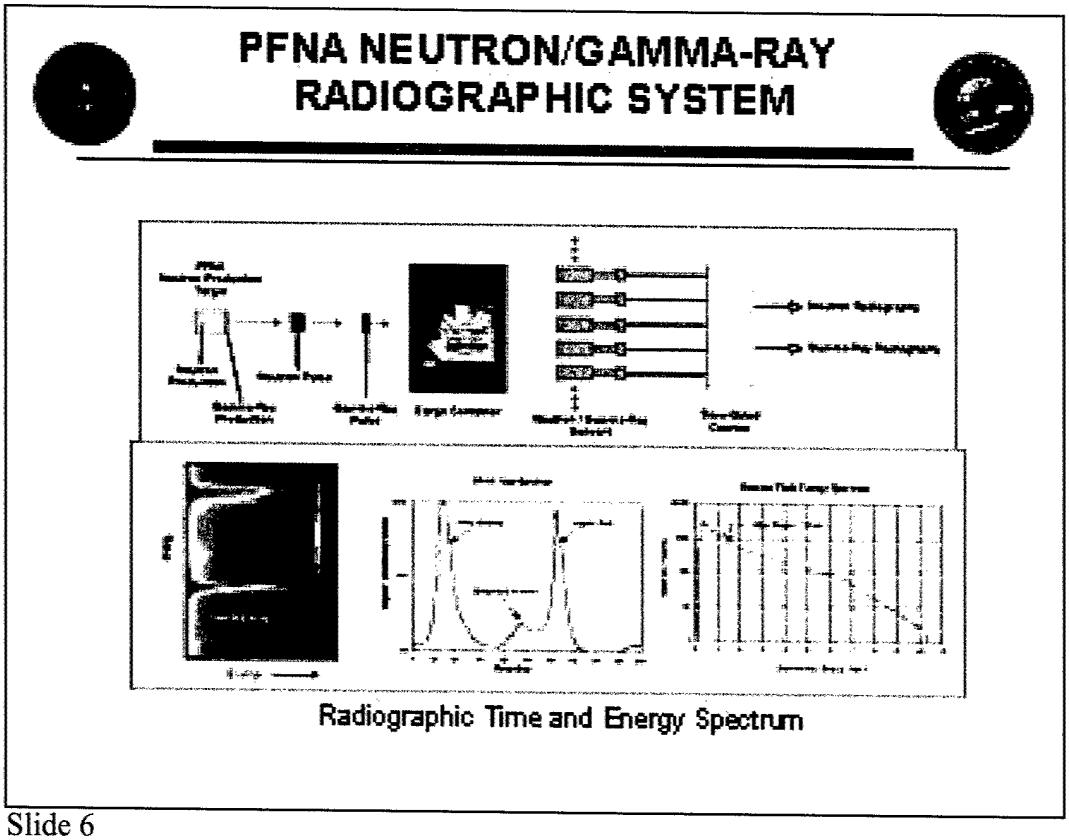
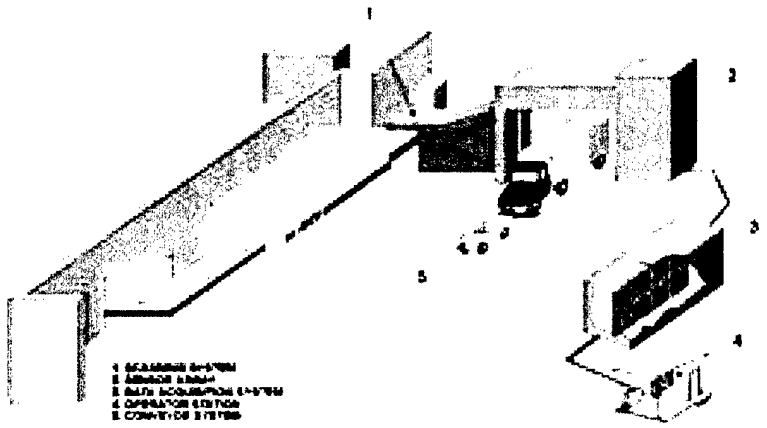


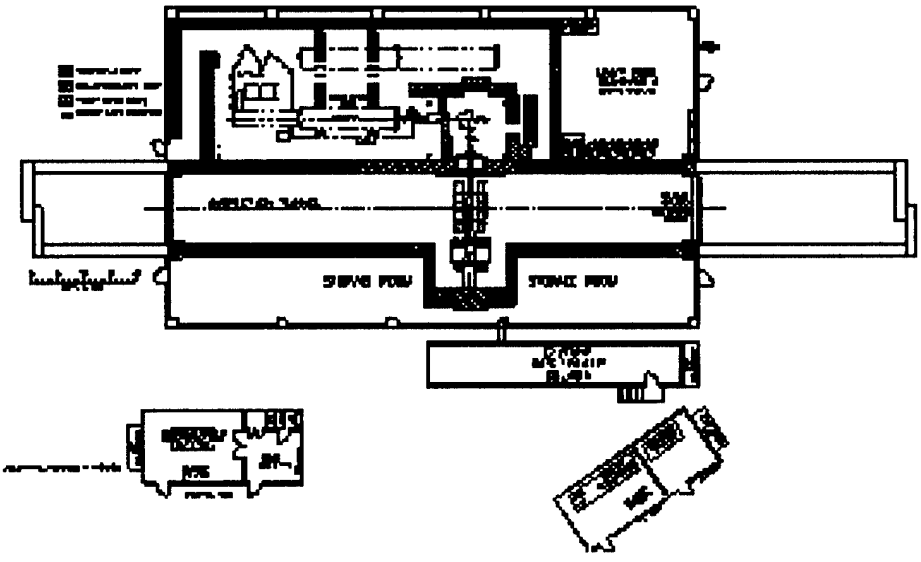
Slide 6

PFNA Hardware Configuration



Slide 7

Ancore Cargo Inspector Facility Notional Concept



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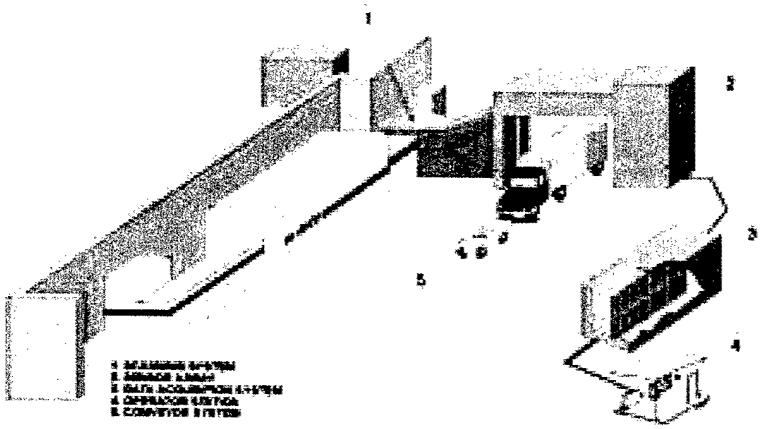
PFNA Hardware Configuration



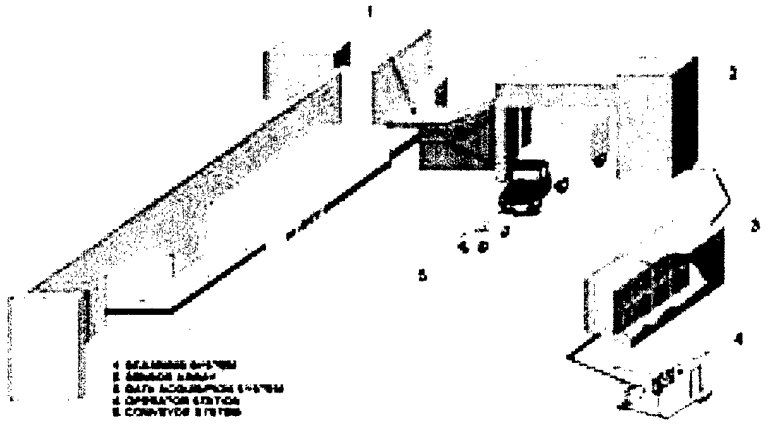
Slide 9

PFNA Field Testing Goals

- Operational Field Test to Quantify the Effectiveness of PFNA as a Non-Intrusive Inspection System
- Metrics include
  - Detection Effectiveness
    - Threats and quantities
    - Probability of Detection,Probability of False Alarm, Throughput
  - Operational Compatibility
  - Operational Reliability analysis
  - Operational Cost estimate
- Use Stream Of Commerce Cargoes

Slide 10

PFNA Hardware Configuration

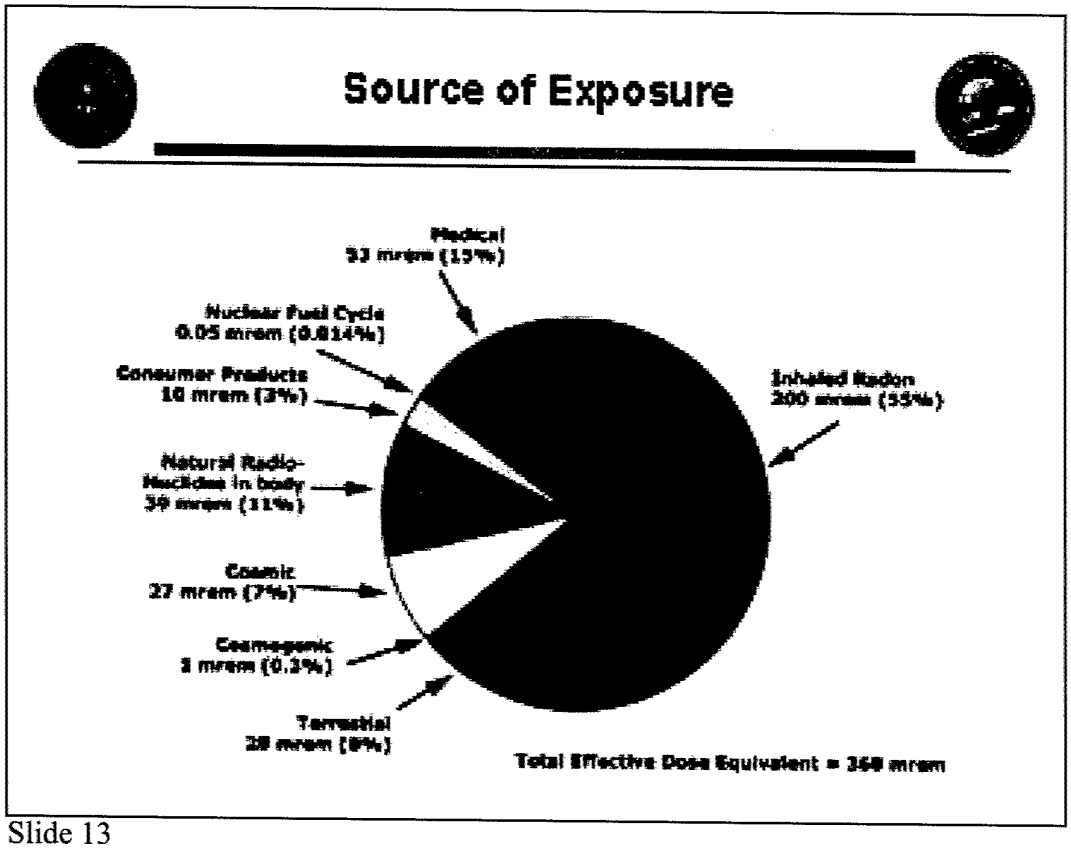


Slide 11

Impact Areas Studied For The Environmental Assessment

- Geology
- Soil
- Surface & Storm Water
- Air
- Vegetation & Wildlife
- Noise
- Land Use
- Infrastructure & Utilities
- Housing
- Recreation Areas
- Transportation
- Historical & Cultural Resources
- Hazardous Waste
- Environmental Justice
- Radiation

Slide 12



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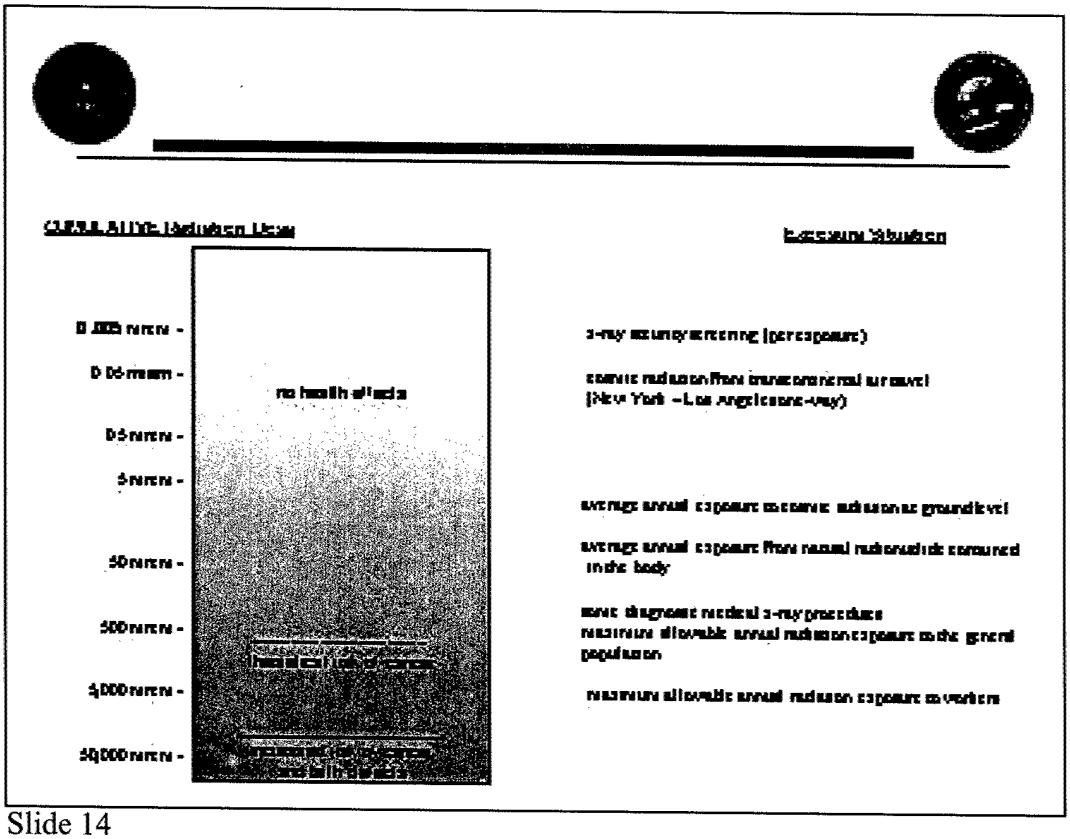

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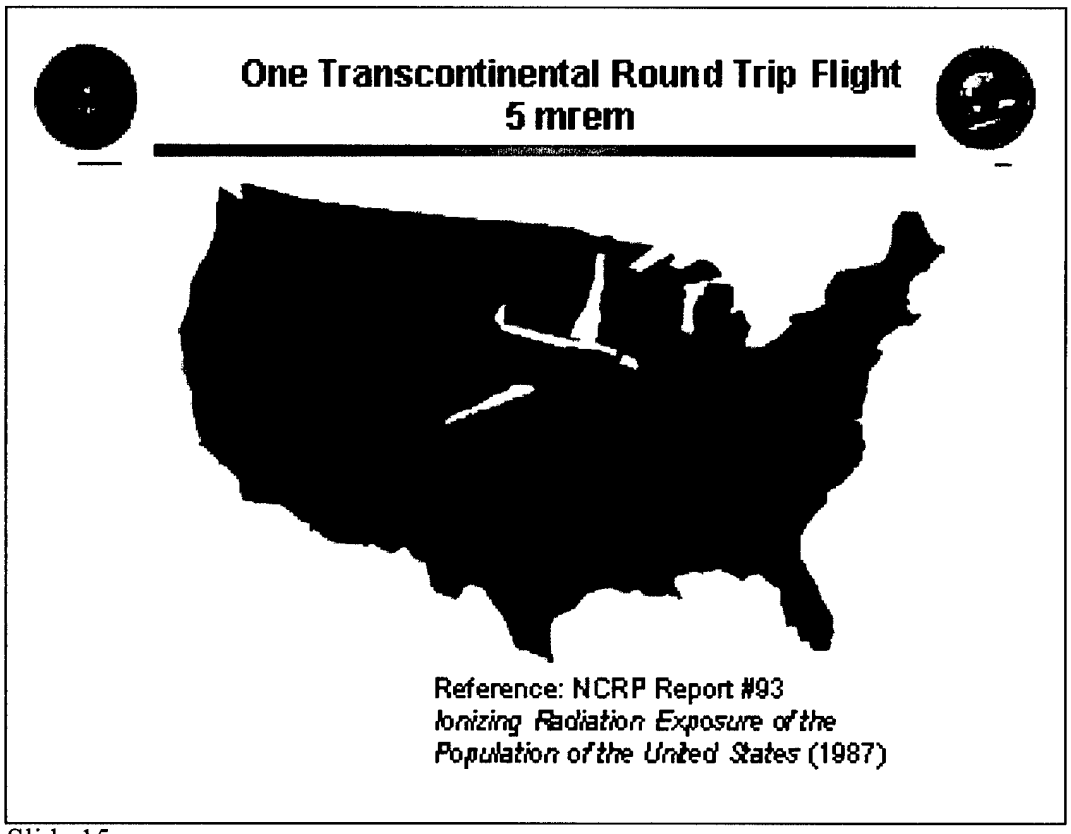

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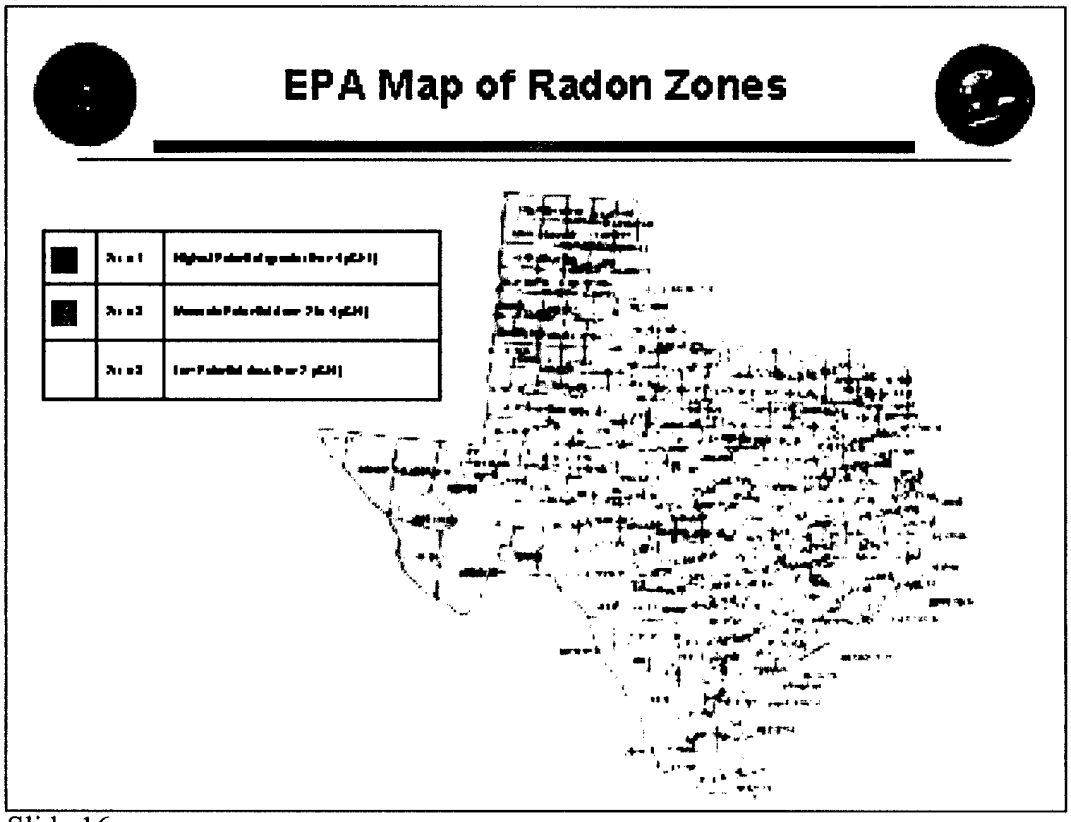

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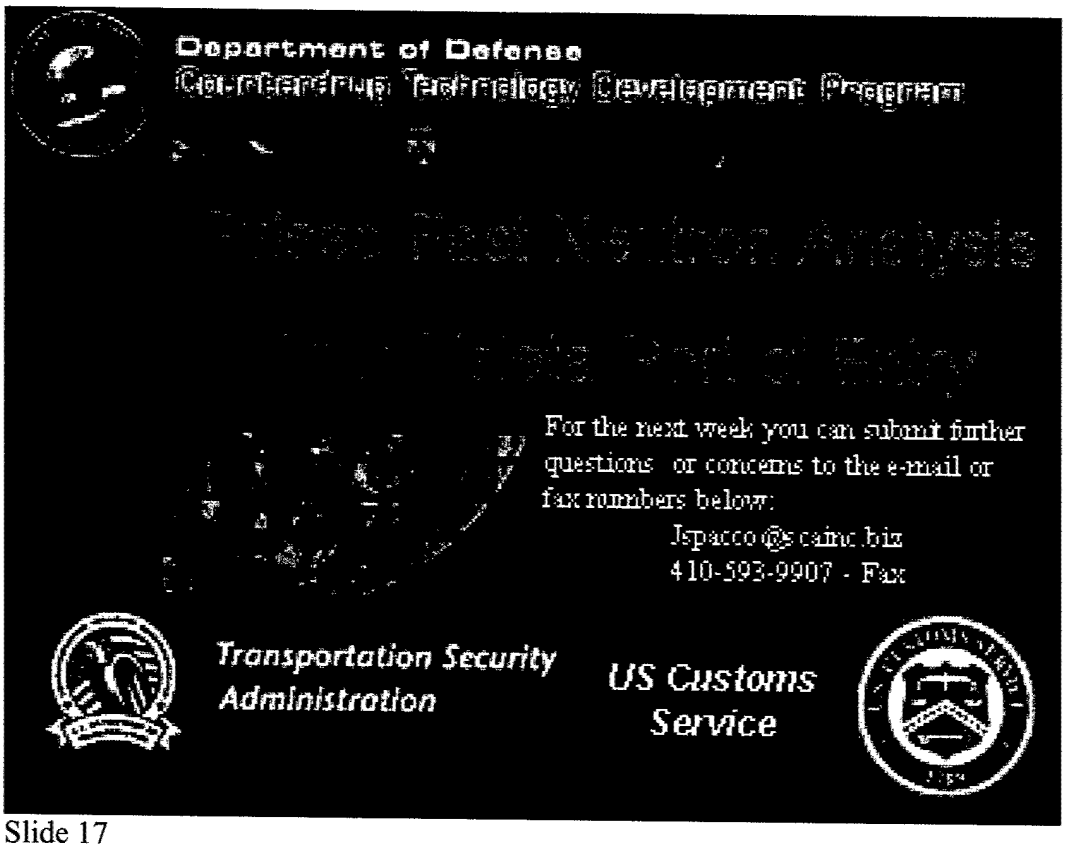
Department of Defense
Counterdrug Technology Development Program
For the next week you can submit further questions or concerns to the e-mail or fax numbers below:
Jspacco@scainc.biz
410-593-9907 - Fax
Transportation Security Administration
US Customs Service

Slide 17

APPENDIX F
WRITTEN QUESTIONS SUBMITTED AT THE MEETING

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) Commodities that generate radiotion,
Can they affect the test results?
i.e. smoke detectors
Will any of the components can be damaged?

2)

3)

Name: UPS - SCS, Inc Organization:

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) If no hazardous materials are brought onto the test site to be run through the PFNA screening facility, how will we know whether the system could detect such materials once made operational? Are the hazardous material substitutes sufficient?

2)

3)

Name: Michael Torres Organization: Rep. Silvestre Reyes

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) Are there any specific Commodities (other than food) than can be prone to damage due to this type of inspection?

2) Scanning time mentioned of 5 minutes, Compare to present time frame experience in the inspection process, Could you please review the current process in comparison with the benefits of the proposed process.

3) Is the type of conveyance going to hinder those items inspected in this process? Ex. full truck load vs. ocean container

Name: UPS Supply Chain Sol. Organization: _____

Address: _____ Telephone: _____

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) what would be the dose to a "STOWAWAY" in the cargo container from the gamma/x-rays produced from the neutron irradiation of the cargo. (mrem) and from the neutron exposure (mrem)?

2) How long does the induced radioactivity of the cargo that has been irradiated to no longer be radioactive (max time)?

3) Will the shielding of the facility, built at Ysleta become radioactive? if so for how long?

Name: Earl Cook Organization: OSHA

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) What is the timetable to begin testing?

2) Does a FONSI clear the way for testing to begin?

3) Were there any other environmental assessments conducted, and if so, what were the results?

Name: Karl McElhaney Organization: Congressman Reyes

Address: _____ Telephone: _____

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) WHAT IS THE EXPECTED DATE FOR THE SYSTEM TO BE OPERATIONAL

2)

3)

Name: VICTOR JIMENEZ Organization: INS

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) In the brief, DR. Hainbach stated that the radiation levels ~~have~~ for the PFNA system have been set at or below one tenth (1/10) of the regulatory limits. Could the panel explain what the regulatory limits are?

2)

3)

Name: Kevin Odenborg Organization: National Treasury Employees Union

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) Even small doses of Gamma rays can be harmful to any living organism, large doses can be fatal. Isn't it not ~~radiation accumulated in the human body~~? How can you say Gamma rays are not harmful in small doses?

2) Is it not true that radiation is accumulated in the human body? And, this is an unnecessary, & dangerous and costly measure.

3)

Name: Mary Subramanian, RN Organization: Green Park

Address: Telephone:

Project Summary Meeting For the Test of the
Pulsed Fast Neutron Analysis Cargo Inspection System
To Be Constructed on the United States Customs Services Ysleta Commercial Cargo Lot
January 14, 2003

Question(s) for the panel:

1) GAMMA RAYS ARE THE MOST PENETRATING FORM OF ELECTROMAGNETIC RADIATION. HOW CAN YOU WITH A CLEAR CONSCIENCE STATE THAT THIS SYSTEM IS NO MORE DANGEROUS THAN THE X-RAY MACHINE AT THE AIRPORT?

2) HOW THICK WILL THE WALLS BE AND OF WHAT MATERIALS WILL THEY BE CONSTRUCTED IN THE BUILDING WHERE THE GAMMA RAYS ARE UTILIZED? IT TAKES SEVERAL MM OF LEAD TO STOP GAMMA RAYS.

3) WHY WAS EL PASO SELECTED AS THE TESTING SITE FOR THE PENE? I WOULD BE INTERESTED IN REVIEWING YOUR ENVIRONMENTAL JUSTICE SECTION DUE TO EL PASO'S LOW PER CAPITA INCOME AND LARGE HISPANIC POPULATION.

Name: BOB GEYER Organization: QUALITY OF LIFE EL PASO

Address: _____ Telephone: _____

APPENDIX G
TRANSCRIPT OF THE MEETING

PULSED FAST NEUTRON ANALYSIS

PUBLIC CONFERENCE

Location: Holiday Inn (Airport)
6655 Gateway West

Date: January 14, 2003

Time: 7:00 p.m.

Court Reporter: Maria Caraveo, CSR/RPR

(28468)

A P P E A R A N C E S

Stephen P. Haimbach, Ph.D. (Moderator)
Department of Defense
17320 Dahlgren Road
Dahlgren, VA 22448-5100

Panel Members:

P.T. Wright
Director of Field Operations, U.S. Customs Service

Richard T. Whitman
Radiation Safety Officer, U.S. Customs Service

Leslie A. Braby, Ph.D.
Research Professor, Nuclear Engineering
Texas A&M University

Peter Ryge, Ph.D.
Vice President of Engineering, Ancore Corporation

DR. HAIMBACH: Good evening and thank you for coming to this informational meeting. My name is Dr. Stephen Haimbach and I'm the program manager for this project. There will be headphones available in the back that will carry a Spanish translation for the rest of this presentation.

This evening I will be making a short presentation. We will then have a break, where you can submit questions and comments about this project. There are forms available, we're asking you to submit them in writing so we can include them as part of the environmental assessment. After the break, the members of the panel and I will address your concerns.

I'm with the Department of Defense Counterdrug Technology Development Program Office. This office is responsible for developing and demonstrating technology and specific counterdrug system solutions. To enhance the counterdrug capabilities of the Department of Defense and as appropriate, civilians from all enforcement agencies, while remaining consistent with the National Drug Control Strategies goals of enforcing the nation's laws and shielding the U.S. borders from the drug traffic.

We're performing this project in conjunction with the United States Customs Service and

the Transportation Security Administration. This project is being performed under funding that is directly mandated by Congress to evaluate this example of the next generation of inspection technology under operational conditions in the stream of commerce at the Ysleta port of entry shown in this photograph. The truck entry point can be seen here and the PFNA site will be roughly over on this area.

In the counterterrorism and counter drug efforts, the federal government is investing considerable resources into developing technologies for detecting explosives, narcotics and other contraband hidden amongst the freight imported into the United States. Radiation-based, nonintrusive inspection tools, such as x-ray and gamma ray based systems, have been used for several years by federal agencies. These types of systems are important because they enable the inspection of cargos without the time-consuming, expensive and potentially dangerous process of unloading vehicles for manual inspection.

In order to validate a new technology's utility it is necessary to test it in an operational environment. That is to say, under the same conditions that will exist, should this technology eventually be deployed for general use by federal agencies. The

specific technology that we're planning to evaluate in this program is a Pulsed Fast Neutron Analysis System or PFNA. This acronym will be used frequently so let me repeat, PFNA stands for Pulsed Fast Neutron Analysis. Shortly I will explain what that means.

This technology has been developed by the Ancore Corporation as a vehicle inspection system, the Ancore Cargo Inspector. PFNA has been developed over the last several years for cargo inspection. PFNA is designed to directly and automatically detect and measure the presence of specific materials, such as cocaine or explosives which may be hidden within a vehicle. PFNA technology uses pulses of neutrons to nonintrusively examine packages and containers for suspect materials. While PFNA has been successfully demonstrated in a laboratory setting, it has yet to be tested in an operational environment.

Unlike other inspection systems, the PFNA approach is designed to automatically test and precisely locate drugs, explosives and other contraband concealed in fully loaded containers, trucks or automobiles. The PFNA's detection process is material specific. Materials are identified by the unique elemental signatures and because the inspection process takes place automatically, the results of inspection do

not rely on operator interpretations.

The presence of specific materials are detected and measured through the constituent elements by exposing them to short bursts of fast, subatomic particles called neutrons. Interaction between a fast neutron and the elemental components of a cargo produce signals called gamma rays that are specific to an element. Sensors around the inspected object detect these signals. The element and number of signals gives -- excuse me, the energy and number of signals gives the elemental signature and the quantity. The time of arrival pinpoints the location of these elements in the cargo.

Many elements can be directly detected, including carbon, nitrogen, oxygen, silicon, chlorine, aluminum and iron. The elemental signals are analyzed by the system computer and combined into unique material specific signatures of contraband or hazardous materials. This slide is an overview of the process. The next slide is a schematic representation of the system.

Most of the equipment is contained inside a shielded building such as the one here, this being the shield. The operation of the system is generally as follows: The trucks selected for inspection are

directed to the facility. Trucks are loaded onto an automatic Automated Ground Vehicle or AGV by the driver who then goes to a vehicle -- a driver waiting area. The system's operator, in this case a U.S. Customs inspector, enters relevant data about the truck and its manifest in this computer and initiates a scan. The AGV conveys the truck through the inspection pulse. Process of the scan -- progress of the scan is monitored by the system's operator. By the time the scan is completed, which may take two to five minutes, the results are ready to view and the truck is towed out of the premises. The AGV releases the truck and proceeds to the pick-up area to load the next truck to scan. The driver takes control of his truck and leaves the port when given the okay.

This slide shows some of the questions that we're going to answer by this operational evaluation. Because the vast majority of trucks entering the United States from Mexico do not carry any contraband, false alarms are a concern. To ensure that the false alarm rate is sufficiently low, most of the trucks for this test will be selected from the existing stream of commerce. This is important so that the test is looking at cargos that are representative of normal commerce. The ability to detect contraband has been

evaluated at the vendor's facility. To validate the system's performance under operational conditions, we will include test loads into the process. The materials used in these test loads will be in all cases validated simulants of the contraband that's being evaluated.

Let me say again, no hazardous material will be going onto the port in conjunction with this test. Also, all test loads will be routed through the port and never crossing into Mexico. Safety is a serious concern for all systems that use radiation to inspect vehicles and we clearly recognize the need to control the amount of radiation to which people are exposed to.

Three general situations have been considered in the design of the facility and the operational evaluation. One, the U.S. Customs inspectors and the system's operators. Two, the general public around the facility, mainly the truck drivers. And three, stowaways in the trucks. For all concerned, a facility's acceptance test will ensure that all designed safety requirements have been met prior to commencing with the operational evaluation.

For customs inspectors and operators, the system has been designed with shieldings and systems

interlocks to assure any operation -- any radiation exposure to them is below that allowed by OSHA and all other U.S. and international organizations that impose regulations on radiation producing machines. Radiation badges will be provided and monitored to check the system's safety performance.

The PFNA system is completely housed in a building that's constructed out of radiation blocking materials. As long as individuals are outside of the inspection building, their exposure is no greater than with any of the nonintrusive inspection systems currently used on our borders. Truck drivers will always be outside of the inspection building. The system's operational procedures, extensive safety laws, and extensive modeling and analysis to ensure that even if a stowaway should remain in the truck during the scan, the radiation they would receive would be substantially below the limits that are considered safe by U.S. Government organizations that regulate radiation proof machines and the International Commission on Radiological Protection.

An environmental assessment is being prepared to address the wide range of environmental concerns shown on this slide. The impact on the environment as a result of the building and

infrastructure requirement for the PFNA inspection system will be the same as any port expansion with a modest building placed on it, except in the following areas: air quality, hazardous waste and radiation. The impact on air quality was investigated and no significant impact was determined to result from the PFNA inspect system. The impact of potential hazardous waste was studied and it, too, was found had no impact on the environment. The impact from radiation was studied and no significant impact was found, but because this is a radiation producing system, and the level of public concern with anything concerning radiation, I will go into some detail regarding that part of the assessment.

A person's exposure to radiation is measured in units called millirems. The millirem measures the effects of radiation on the human body much as degrees measure temperature. In the United States a person's average exposure to radiation is about 360 millirems per year. Roughly 300 millirems of this average is attributed to natural sources of radiation, and the remaining 60 millirems from man-made sources, primarily medical procedures.

It is important to know that 80 percent of the radiation we're exposed to comes from such

natural sources such as sunlight, soil and certain types of rocks. Cosmic rays filtering out to the atmosphere and Radon gas filtering out to the soil are sources of natural radiation. This radiation is called background radiation. It is present everywhere all the time and varies considerably from location to location. In addition, people are exposed to radiation from man-made sources such as color televisions, smoke detectors, computer monitors, medical x-rays. These sources account for less than 20 percent of the total radiation exposure. But there's no difference between natural radiation and its effects and man-made radiation and its effects.

The PFNA-based inspection system is designed to be safe and comply with radiation safety standards and regulations. It is designed to meet the concept of radiation protection known as ALARA, "As Low as is Reasonably Achievable." To meet this criteria, the system is not only below the mandated levels, but is operated in a manner that ensures that the public exposure is as low as possible.

In general, for the PFNA system, we have set these levels at or below one tenth of the regulatory limits. To protect workers and members of the public, the system's shielding interlocks and other

safety features are designed in accordance with recommendations of the International Commission of Radiological Protection. These recommendations have been adopted into the regulations of most countries of the world.

PFNA inspection does not harm inspected items or leave hazardous residual radioactivity. Results from extensive analysis have led the U.S. Food and Drug Administration to approve the system for use in inspecting cargo containing food during this evaluation. Being near the PFNA inspection building is just as safe as being near an x-ray machine at the airport. You would receive ten times as much radiation flying in a commercial passenger airplane for an hour, about a half a millirem, than from standing next to the PFNA inspection building for an hour a 20th of a millirem.

Background radiation varies considerably from location to location. For example, people living in the northeast region of Washington State receive a dose of about 1,700 millirem per year, mostly from radiation that occurs naturally in rocks and soil. It is not uncommon for a person to receive far more than the average 360 millirem per year. Things that can affect a particular person's annual radiation exposure

level is airplane travel, dental and medical x-rays and occupation.

I have dedicated considerable time to the discussion of radiation safety. This is because while the system is safe, there's always concern by the public regarding any type of radiation. Again, the system is safe. In summer, as directed by Congress, the Department of Defense, United States Customs Service and Transportation Security Administration are jointly performing an operational evaluation of the PFNA cargo inspection system manufactured by the Ancore Corporation at the Ysleta Texas Port of Entry. This test utilizes the existing stream of commerce and test loads using safe, simulated target materials. The system's design and operation procedures will provide a safe environment for people and cargos associated with the system.

Thank you. I will now have a short break and the forms that -- were they handed out? We have forms like we mentioned, we request that you submit your questions in writing because we want to include them in the environmental assessment. There's a place for your name on there but it is not a requirement. Also, if you have comments, they're more than welcome. If you prefer them in Spanish, we have a translator who

can arrange so that I can understand because I do not speak Spanish. And so there are a number of people with those forms, if you would like to raise your hand or whatever. As I said, we'll take a brief break so you can pull them out. Make sure you keep one copy for yourself and if you, for some reason, don't want to read the question and just have me read it, that's fine also. We're very open to whatever approach anyone would like. So if we take about 15, 20 minutes to get that done. Thank you.

(A recess was taken.)

DR. HAIMBACH: We have a portable mike in the back so that those of you who prefer to read your own question, you're more than welcome to do that. If you prefer that I just read it from here, you can do that. I will ask whoever presented the question to come forward or raise their hand or whatever. First one here is from UPS-SCS Incorporated. You want the read your question?

AUDIENCE MEMBER: No, you go ahead and read it.

MR. HAIMBACH: The question is, commodities that generate radiation, can they affect the test results, i.e. smoke detectors, or any of the components be damaged? Excuse me, I got ahead of my

own schedule here. The members of the panel: First we have P. T. Wright, who is the director of field operations for West Texas/New Mexico. Mr. Ray oversees the operations for ports in West Texas/New Mexico, including El Paso. Secondly, is Mr. Richard Whitman. He's the radiation safety officer for the U.S. Custom Service. Richard has had radiation safety training with the Army, Navy, Oak Ridge and Georgetown University, including dosimetry, neutron work, hospital radiation and shield. Then we have Leslie Braby, he holds a Ph.D. in radiological sciences. Dr. Braby is a research professor of nuclear engineering at Texas A&M University. He olds a Ph.D. in radiological physics. His main area of expertise is radiation dosimetry with secondary interest in biophysics. Dr. Braby -- Braby? Am I getting his name right? Braby, I'm getting his name wrong, is a member of the National Council on Radiation Protection and Measurements and the International Commission on Radiation Units and Measurement. And the last member of our committee is, Peter Ryge who holds a Ph.D. in nuclear physics. Dr. Ryge is the Ancore Corporation's vice president of engineering. He has over 20 years experience in instrumentation development and experimental work, including using nuclear techniques in nondestructive

measurements. He's a member of the American Physics Society and the Institute & Electricals Electronic Engineers.

And just so that we don't -- I'll read the question again. Commodities that generate radiation, can they affect the test results, for example, smoke detectors, and will any of the components be damaged?

DR. RYGE: Items like smoke detectors that are being shipped legally have very low levels of radiation and will not cause our system any difficulties. It will not affect the test results in any way. And the second part about, will the components be damaged. No, they will not. The radiation level in the PFNA beam is very low, far below that which can cause any radiation damage effects.

DR. HAIMBACH: There's some people that write almost as well as I do. Is it Michael Torra? Do you want to read.

MR. TORRA: No, you can go ahead --

DR. HAIMBACH: If no hazardous materials are brought onto the test site to be run through the PFNA screen facility, how do we know whether the system could detect such materials, once made operational? Are the hazardous materials sufficient? And who is it

on that one?

DR. RYGE: We are using simulated explosives and drugs and other target items. These simulants have been validated previously by testing at our facility in California against actual explosives and drugs that we've obtained through our local bomb squad and through the cooperation of the government agencies and the -- so, that's really the answer. These materials have demonstrated that they are good simulants for purposes of this technology. For example, the explosive simulants contain the same chemical elements that are in explosives. They are simply combined -- physically combined rather than chemically combined and so they will not blow up, even though they contain the same components.

DR. HAIMBACH: U.P.S. Supply Chain? I'll keep reading for you?

AUDIENCE MEMBER: Keep reading.

MR. HAIMBACH: Are there any specific commodities, other than food, that can be prone to damage due to this type of inspection?

DR. RYGE: The answer is no. There are -- and you don't need to exclude food. The PFNA inspection radiation level is very low and it doesn't cause any damage.

MR. WRIGHT: And that, in fact, is where we have the FDA letters, because we compare the energy with all the other modalities that they have on radiation.

DR. HAIMBACH: Scanning time mentioned of five minutes compared to present time frame experience in the inspection process. Could you please review the current process in comparison with the benefits of the proposed process.

MR. WRIGHT: The two nonintrusive technologies currently in use by U.S. Customs at El Paso's two cargo facilities, one is the truck x-ray and the other is the gamma backup system. In the case of backup system, it is about a seven-minute processing time. For the truck x-ray is about a ten-minute processing time. Operationally, we're targeting a five-minute time window for this system, but anything that's less than ten will be well within the scope of what we're looking for in the test.

DR. HAIMBACH: Is the type of conveyance going to hinder those items inspected in this process? And the examples given, a full truckload versus an OSHA container.

MR. WRIGHT: Again, the contractor is to deliver a product that can currently scan all modes of

cargo, be it containerized, be it truck, be it bulk, including POV vehicles as well.

DR. HAIMBACH: The next set of question are from Earl Cook?

ADIENCE MEMBER: You may read it.

DR. HAIMBACH: What would be the dose to a stowaway in a cargo container from the gamma ray gamma/x-ray produced from a neutron radiation of the cargo in millirem and for the neutron exposure in millirem?

MR. WHITMAN: The design of this is to keep exposures at or below 100 millirem. And the reason that number was picked is because that's the maximum level that members of the public are allowed to be exposed to. Now, there are a whole lot of other -- also not mentioned is we intend to use a pre-screening process to look for stowaways ahead of time where the dose would be much, much lower. So this becomes something of a model once the machine is built and we'd like to have other modalities, but it does not appear to be insurmountable nor does it appear to be medically dangerous.

ADIENCE MEMBER: I just want to know. You said a hundred millirem. Is that the total dose of the stowaway we receive?

DR. HAIMBACH: That's the maximum.

ADIENCE MEMBER: Is that's the maximum what's the actual millirem?

MR. HAIMBACH: The actual is about a half and in the process of the initial development of the system there are tests that we will run, badges and such to determine exactly what the level is and -- but the calculations I've seen are about half or less than that.

ADIENCE MEMBER: You mentioned a hundred millirem is the legal limit for the general public. That's a hundred millirem per year, not per exposure?

MR. WHITMAN: That was just a starting point.

DR. BRABY: The National Council on Radiation Protection and Measurements studied that problem extensively and the general feeling was that it would be very unlikely that anyone would go through that process twice. Part of the requirement for operating the system is that anybody that is in a container will obviously be detected. They will be thoroughly informed of how they were detected and the medical consequences, which are actually not significant, but the fact that there was an exposure and that it will certainly not be reasonable to repeat

that exposure. The assumption was that people would only be exposed twice per year. Well, in fact, probably over a lifetime less than an average of once per year.

ADIENCE MEMBER: That would be exposure from the gamma and the neutron?

DR. BRABY: The gamma component is very small compared to the neutron component. The process of producing gammas requires the absorption of the neutron and that process is a low probability. So the gamma component is down at the level that you can count, but it doesn't really produce a significant dose.

ADIENCE MEMBER: Thank you.

DR. HAIMBACH: Next question was, how long does it take the induced radioactivity of the cargo that has been radiated to no longer be radioactive, maximum time?

MR. WHITMAN: The idea behind this is that by the time the scan finishes going through the building and comes to the outside, maybe all the radiation will be decayed. In fact, most of it is gone in seconds.

DR. BRABY: There are some other products that produce low levels. We studied the production of

various radioisotopes, for example, sodium 24 and evaluated the doses that would be produced by consuming the products that have been scanned. All of those doses turned out to be factors of thousands or hundreds of thousands below any regulatory limits, but the half-life of the most significant one is -- the most significant one is probably sodium 24 because some product contain a substantial amount of sodium and the half life of sodium 24 is 15 and a half hours. So even though that level is very low, by the time it reaches its destination products are distributed and so forth, the dose would have decayed even more than we calculated.

DR. HAIMBACH: Will the shielding of the facility built at Ysleta become radioactive, if so how long?

DR. RYGE: We have a prototype system that we have been operating in Santa Clara, California for about eight years now doing various experimental measurements of the tests and different configurations and we have taken samples of the facility shielding and had them analyzed for residual radioactivity and cannot find any. That is, that there isn't any which is above the natural background. So it's really not a problem.

ADIENCE MEMBER: Will the shielding at

this location be the same material as the shielding at Santa Clara?

DR. RYGE: Yes it's basically concrete and plastics that are used for shielding, so they're basically the same.

DR. HAIMBACH: I had a Karl McElhaney, did I get it right?

ADIENCE MEMBER: Close enough.

DR. HAIMBACH: What is the timetable to begin testing?

MR. WRIGHT: We got that same question twice. I had also another individual asked what is the expected date for the system to be operating, so I'll answer that both at the same time. We're looking at the operational testing to begin about a year from today, January 2004. That's the operational site.

MR. HAIMBACH: Next question. Does a FONSI which is a, Finding of No Significant Impact, which is the things that come out of the environmental system, clear the way for testing to begin?

MR. WHITMAN: We have -- there's a large panel of people that was not mentioned. You heard that the different groups, Transportation Security Agency, and U.S. Customs are all involved. In fact, GSA has also been a part of this and other groups have been

pulled in from time to time for comment. In the development of what's called an environmental assessment, where before you build something you're supposed to look at what are all the potential effects from the list that you saw. Those are the lists that come right out of EPA regulations. Normally, for this particular item, because we expect low to no impact at all, as you heard, it would stop with an environmental assessment, and a public meeting like this is normally not done for environmental assessment is usually done internally. But because there's some mobile agencies and a lot of hours and because it's a very new first-of-a-kind technology in the field, everyone thought that -- all of the principals that belonged to these different agencies thought that this was the best way to go and that's why we're here tonight.

DR. HAIMBACH: And in addition to all of the environmental assessments, as he mentioned before, that once the system is built, there will be a acceptance test of that system to ensure that it has met all the requirement of the safe regulation before any testing would begin. So there are other steps beyond that, too, that is working to make sure that we have everything, including the public's input, as far as designing the system to be very safe, but then

before we will do anything with it, where there's any chance of people being around we will run an extensive test of the system to make sure that it has met all of those goals and requirements.

Third question here, were there any other environment assessments conducted and if so, what were the results?

ADIENCE MEMBER: In addition, just to EPA that's ongoing, were there other analyses of it?

MR. WHITMAN: For this system?

ADIENCE MEMBER: Right.

MR. WHITMAN: There's a whole procedure that's done and we have an environmentalist in our office who's been part of this along with Dr. Paul Nicholas in the back, who's a dedicated guy at the Customs Headquarters. And there's a checklist that's driven by EPA regulations, which is Title 40 of the Code of Federal Regulations that follows that and we're following that model. When we get done with it, this is going on our location, part of the process is, we have to pass it up to department level, Department of the Treasury, where it is reviewed by a full-time environmentalist, the chief of environment for the Department of Treasury and that's to make sure that there's not -- he doesn't have an interest in whether

we do this or not, he has an interest in doing the right thing. So there's some checks and balances built in this, too.

DR. HAIMBACH: The next question is from Victor Jimenez. Have we already answered your question?

MR. JIMENEZ: Yes.

MR. HAIMBACH: I'll read it anyway. What is the expected date for the system to be in operation? And as already mentioned, is January --

DR. HAIMBACH: And lastly, Kevin Odenberg. Am I reading for you too? In the brief, Dr. Haimbach stated that the radiation levels for the PFNA system have been set at or below one tenth of the regulatory limits. Could the panel explain what the regulatory limits are?

DR. BRABY: Well, there are a number of different regulatory limits depending on the individual that is exposed, that the numerical value that's probably most concerned here is the limit for the general public and the recommendation there is a hundred millirem per year. The exposure rates set -- established for the facility are less than 50 microrem per hour and if you consider the absolute maximum kind of situation, facility running essentially continuously

eight hours a day, 2,000 hours a year, that would get you to the 100 millirem per year. But, in fact, no system would operate continuously for that period of time. No individual would be in that particular location for all of those 2,000 hours. So in general we utilize factors called occupancy factor, things of that sort. And the 50 microrem per hour would lead to much lower radiation exposures than the regulatory limit. That's how that's calculated.

DR. HAIMBACH: There's one other question on the white sheet. I'm not going to try to ruin your -- would you like to ask the question yourself or you like me to read it for you?

ADIENCE MEMBER: You do it. You're doing a good job.

DR. HAIMBACH: Okay. I don't want to have anybody feel that I impose on their validity to make the statement themselves. Even small doses of gamma rays can be harmful to any living organisms, large doses can be fatal. How can you say gamma rays are not harmful in small doses?

DR. BRABY: This is a complicated problem, actually. The primary point is that at high doses, yes, radiation exposure can be lethal, but in case of radiation we're talking about an extremely wide

range and the levels that we are talking about for this kind of facility, those levels for radiation protection of the general public are below the level at which any evidence for harmful effects can be detected. Now, we utilize in the National Council of Radiation Protection a linear model which assumes that you can measure an effect at a high dose. The most cautious way to treat that is to extrapolate in a linear fashion to zero dose and in that case you can calculate that there was potentially some harm at even a very low dose. That harm however, is immeasurably small compared to the harm that comes about just from breathing air and eating food, because we all produce the same kind of damage in our bodies from metabolizing our food as is produced by ionizing radiation. So the levels are extremely low. No harm can be detected in populations that have been studied extensively to see if anything could be picked out and there just isn't any specific evidence.

DR. HAIMBACH: He has a second question, you want me to go through that one first? And when I'm done I'm going to be open to any additional questions. So if someone has thought of something -- I have some people who will be mainly writing it down so that we'll keep it in the -- we'll enter it into our assessment.

Is it not true that radiation is accumulated in the human body and this is an unnecessary, dangerous and costly measure?

DR. BRABY: With respect to accumulation, we really have two different things to worry about. We have radiation and radioactivity. And, in fact, we have a third thing, we have the biological consequence of radiation. Radioactivity can be accumulated in the body, but there's no radio activity generated by the PFNA exposures to the person that's exposed to the beam. And the amount that is produced by activating food or pharmaceuticals and so forth, is, as I said, hundreds of thousands of times below the level of any concern. With respect to radiation itself, radiation is like light, is photons or neutrons and they just pass through us and keep on going and we don't accumulate those.

We do however, accumulate, in some sense at least, the damage that occasionally those particles do when they pass through our bodies. So depending on your background, you may be aware that one of the issues is chemical damage and macromolecules, or rDNA, for example, but in all cases that damage is repaired by the same biological systems that repair the kind of damage that's done by metabolizing food. So though

there's the theoretical possibility of accumulating damage, in fact, the vast majority of it is repaired and cells go on. Furthermore, of course, most cells don't stick around for a long time. Those turn over, so if a person receives an exposure one time, by the time they came back, if they happen to come back, and receive another exposure, they would be essentially made up of a new set of cells anyway.

MR. WHITMAN: We expect people in the beam to be an extremely rare -- and we don't really expect it to happen. One is that we're not sneaking this technology on the port, it's being analysed that we're replacing this technology on the port. Secondly, we're going to do a pre-scan of vehicles. Our own employees and anyone else on the port will be outside -- and there's some charts in back you can see later -- are at a significant distance outside of a fenced in area. And the reason for the fence isn't really the radiation. The reason for the fence is so that the automated ground vehicle, the tow vehicle, that tows the truck through, doesn't hurt you. The greater hazard here is the tow.

Also the way this thing is constructed, the scanning happens in a tunnel, inside of a contained tunnel, inside this building that's going to be put up.

It's shielded. There are no people in the building. It's interlocked, there's lights and alarms and stops just in case someone happened -- one of our employees would --

DR. HAIMBACH: The cameras require you to check in before you do anything.

MR. WHITMAN: Right. So we have lots of ways of making sure and like we have all these other -- with all the other systems we have. We don't really think it's likely that we'll expose anyone and we're looking after all the what-ifs that we can think of.

DR. HAIMBACH: I believe there's still one or two questions?

MR. GEYER: It came up about the half-life of sodium is 15 hours and you said by the time they reach their destination -- this isn't a question I wrote down. This came up since your comments -- but the half life is 15 hours and you said that by the time it reaches its destination that wouldn't be a problem, what if that destination is El Paso and somebody's unloading this product within 30 minutes after crossing the border. How can you say that?

DR. BRABY: That's a possibility, obviously.

MR. GEYER: Very real possibility.

DR. BRABY: We calculated the dose rate for various materials. We had to assume some period of time for the typical time it would take a material to reach consumers. In fact, where would you get a lot of sodium. Well, it turns out the biggest single way that you would get sodium would be as an intravenous injection following an accident. The time that it takes a package of intravenous saline solution to travel through the distribution to the pharmacy, to a hospital, and to an emergency medical technician, to actually reach a patient is almost certainly more than 24 hours.

Other kinds of process and other materials that might also involve sodium exposure typically will have, even in the local market, a substantial amount of time. Now, even if you assume that the material is consumed immediately after scanning, in the case of the sodium, that increases the dose by a factor of about four, and that is still, as I said, thousands of times less than the level that would be of concern.

MR. GEYER: This would be the sodium in foods also?

DR. BRABY: That would be the sodium in

food always, but there's very little foods that you would consume that would have anything like the amount of sodium in two liters of saline solution.

ADIENCE MEMBER: The FDA petition specifically studied food with salt in it and the FDA agreed with the petition and said that this would be well below the levels of concern for food. So that those numbers that Dr. Braby is talking about were a part also of the data that was sent to the FDA and the FDA has approved the system for food.

MR. GEYER: With NAFTA there's more and more food coming across the border and I think that's a concern that nobody really thought about, until you mentioned it tonight. I certainly hope that is being publicized to the public in El Paso for people that have a lot of salt.

DR. BRABY: It had certainly been raised by people before because the question was brought to the NCRP as an issue to request an evaluation and, as I said, the levels turned out to be extremely low. The National Council on Radiation Protection and Measurements, that group is a congressionally chartered scientific advisory committee which provides advice on radiation protection to most of the agencies of the federal government. It's an all-volunteer

organization, essentially, scientists who happen to have various kinds of expertise in the radiation area. And the way the council operates, a committee will typically write a report and that report will be evaluated by all of members of the council.

DR. HAIMBACH: How many members is that?

DR. BRABY: I'm not sure if it's 100 or 105 this year.

MR. GEYER: The three questions that I had written out -- first of all, my name is Bob Geyer -- gamma rays are the most penetrating form of electro magnetic radiation. How can you, with a clear conscience, state that the system is no more dangerous than the x-ray machines at the airport?

DR. BRABY: Well, in fact, the fact that the radiation is more penetrating, means that per particle passing through, it delivers less dose. So the penetration and the amount of biological activity that is produced, that is modified molecules and so forth, are not directly related. The amount of biological effect is related to the amount of energy deposited by the radiation, and that requires actually stopping the gamma rays that are produced in the Pulsed Fast Neutron System are hopefully highly penetrating because we want them to escape the container and be

detected so we can find out what was in the container.

MR. GEYER: But you did say earlier that damage to the body once it passes through is something to be concerned about and so -- isn't that correct?

DR. BRABY: Certainly at high doses, much higher than the limit that is set for exposure of the general public. There is evidence from cancer therapy, for example, that there can be detrimental effects, but at the low doses that are involved here, there's no direct evidence of harmful effects. We simply base our protection limits on a linear extrapolation which is an extremely cautious way of going about it.

If one person takes a hundred aspirins it's almost certainly made to be fatal. If a hundred people take one aspirin each, none of us expect any harmful effect. But if you'll apply that linear extrapolation that we do for radiation, you would assume that one person out of those hundred would die of taking a single aspirin. The fundamental point is that biological systems are far more sophisticated than a linear extrapolation. The only reason we still use the linear extrapolation is that we have not been able to experimentally determine a better approximation and in the absence of a better description of what is going on, we take the simplest one, which is the linear

approach, which we think dramatically overestimates the actual risk of low doses.

MR. GEYER: My second question was -- the gentleman on the left somewhat addressed this already -- but it was how thick would the walls be of the building, where the gamma rays are utilized and what materials would they be constructed. I believe you said concrete and plastics?

DR. RYGE: Yes. It depends a little on where in the facility and what in particular it is shielding from in that location. The plastics that were -- materials that contain a lot of hydrogen like polyethylene, affect the shielding materials for fast neutrons. Concrete is good because it's structurally strong, relatively inexpensive, contains some hydrogens and also contains heavier elements that are good for stopping gamma rays, and the thickness is different thickness in different locations in the building. At the very highest level point it is going to be four to five feet thick, but in most of the building it will be much less than that.

MR. GEYER: I'm not a nuclear physicist by any means, but my understanding was you would take several millimeters of lead to control gamma rays. That's what I've read. You're not using any of the

lead materials?

DR. RYGE: We are using some lead in certain places, although it's more for preserving our detection sensitivity. It takes many -- how much lead it takes to stop electromagnetic radiation like gamma rays depends very much on the energy. So a few millimeters is plenty for typical low energy x-ray systems, but you'd want more than that for this purpose, but it's to our advantage to use concrete here. It's just a design trade-off.

ADIENCE MEMBER: Can you clarify how much gamma radiation is, this neutron radiation because in reality --

MR. GEYER: Excuse me, when you said it's to your advantage to use concrete rather than lead, what did you mean by that? You mean the cost?

DR. RYGE: The cost and the --

MR. GEYER: I don't think that's a very good reason right there.

MR. RYGE: It's a matter of how to achieve the same effect. You can achieve the same shielding effect with -- actually you can do better with concrete against the mix of gamma rays and neutrons, but it's also because it's mechanically strong you can make a tall wall out of concrete,

whereas you really can't out of lead and it's every bit as effective, if you use an appropriate quantity. There's -- in terms of the shielding effect, this is simply a matter of you have an equivalent for a given gamma ray energy and intensity. You can achieve the same degree of shielding with concrete as with a given quantity of lead. It's just a matter of how much and, of course, concrete is much less harmful environmentally so --

MR. GEYER: Is this all addressed in the environmental assessment? Is that issue addressed to use concrete rather than lead? I just wonder if it's in writing.

DR. BRABY: The shielding calculations are done by standard procedures and there are tables that give the amount of concrete that is equivalent to a given thickness of lead. Or more specifically, there are tables that give the amount of either concrete or lead required to reduce the dose of a particular kind of gamma ray by a certain amount.

MR. GEYER: Yes, sir, but is that addressed in your environmental assessment is my question for public reading?

DR. BRABY: The issue of radiation protection is ensure that the doses to individuals and

to the public is below a certain level. The millirem, microrem numbers that we've been talking about today are the levels that you may consider equally affecting the human body. That's what a millirem is all about. It's talking about the effect on the human body. Whether it's gamma rays or neutrons or x-rays, 50 microrems of radiation to the human body is the same, regardless of -- that number is the same regardless of the source or type of radiation. So what we have addressed is that we will have sufficient shielding to bring the level to 50 microrem of radiation at the exterior of the building and it doesn't really matter because that number is a number that's independent of the type of radiation, gamma rays, neutrons, beta rays or any of the other types of ionizing radiation.

MR. GEYER: No, my question still is, does the environmental assessment address the fact that you are going to use concrete, however thick it may be as opposed to lead and what thickness this would be to guarantee as ample protection as several millimeters of lead. That was my question.

DR. BRABY: Certainly, 18 inches of concrete far exceeds several millimeters of lead.

MR. HAIMBACH: And you have what? This place is four feet of concrete so --

DR. RYGE: It's more than four feet in the highest detection areas and a couple of feet pretty much everywhere else.

MR. GEYER: And that's fine. My question still is, does it address why you used concrete rather than lead? Is there a paragraph or two or three or four or a chapter on why that was done? That's my question. Why did you all want that because I want to make sure safe and can you're guaranteeing me that the thickness of the concrete is equivalent to some of the millimeters of lead and you said there are tables that prove this and that was explained. My question is, is that part of the environmental assessment and that hasn't been answered.

DR. RYGE: Certainly the shielding is on I believe -- I haven't seen the text of the environmental assessment, but the input information we provided certainly goes into that a great length, but you're sort of implying that lead is the proper thing to do and concrete is somehow immaterial.

MR. GEYER: I certainly don't know, sir. My question is, concrete was chosen rather than lead so that should be addressed as to why.

DR. HAIMBACH: And that's one of the reasons for having this meeting. The environmental

assessment is currently a draft because the results of this meeting are a part -- will be attached as appendices to that environment assessment and so we can take and ensure that that will be addressed in the environmental assessment.

MR. GEYER: Thank you very much. The last one of my questions. I believe this is it, no promises. Why was El Paso selected as the testing site for the PFNA, and the reason I asked this, I would be interested in reviewing your environmental justice section, due to the fact that El Paso has a very low per capita income as largely as the Hispanic population. I know that wasn't one of your topics and I don't ask to be addressed now, in the environmental assessments and I was wondering how you glossed over that. The fact that we do have a very low per capita income, largely Hispanic, why not the Canadian border to test the use of gamma rays on this?

MR. HAIMBACH: Well, it's neutron based. We already have gamma ray systems all over the border, but that question -- and I'm going to take this one -- basically has three parts to it. For a large number -- or several, excuse me, of this non-radiation based, nonintrusive inspection systems, the first prototype has been tested at Ysleta and one of the reasons for

that has been that the cargos -- they have a sufficient quantity and variability of cargo so that the studies you're doing can give you meaningful results, without impacting the operations of the port. As far as -- there have been assessments looking at a variety of other possible sites and for -- those are the major reasons why Ysleta has been selected as the place to go. The last thing is in the congressional language directing the agencies to perform this test, it specifically directed us to you, the Ysleta Port of Entry. And so that included both the things that have been done in just looking and evaluating the utility of this port as well as the direct mandate from Congress.

MR. GEYER: How did that get in there? Is that our representatives who do that?

MR. HAIMBACH: Exactly who put it in there --

MR. GEYER: Could you also put that in your report?

DR. HAIMBACH: I believe that's already mentioned in there, but if not, it will be. In the congressional language.

MR. GEYER: What about the environmental justice even though it wasn't congressional language but, in fact, if it is, I'm just wondering, is that

addressed in your report?

MR. HAIMBACH: Yes.

MR. GEYER: Thoroughly? I would hope so.

MR. HAIMBACH: Yes. We're probably up to, what? We're probably getting close to 250 pages.

MR. GEYER: As far as that section?

DR. HAIMBACH: I don't know the length of this section, but your questions which have been -- we not only heard your questions, I'm sure we'll get a copy of it. We have a court reporter here so the detailed -- you know, all the statements you've made will be included as part of the environmental assessment.

MR. GEYER: Thank you.

DR. HAIMBACH: Are there any other questions that have come up at the process because I don't want anybody to feel left out. We have a gentleman here.

ADIENCE MEMBER: What are the by-products generated by this process that were determined not to be harmful to the air quality?

DR. BRABY: The primary concern is the gas tritium that is hydrogens that contains two neutrons. And that's a low energy atom emitter. It turns out that because of the nature of atomic

structure, for every neutron that the facility produces it also produces one atom of tritium and that tritium is largely contained in the target assembly until the target assembly is reprocessed, which should be done somewhere else. But if the target assembly happened to break at the site, then a certain amount of tritium would be released into the atmosphere. It turns out, again, to be roughly a factor of ten or lower than even the most cautious EPA analysis of a -- for a hazardous level. So it's well below any hazardous level. Even if it outbreaks in a fashion, that would be extremely unlikely.

DR. HAIMBACH: Any other questions? I don't want to have anyone -- and then, Tom, can you pick up that one last slide? When he gets the slide up you will notice that right about in here there's an e-mail address and if -- there's a time frame mentioned so I'll wait for him to pick it up. If there are any additional questions or concerns that you would like to forward to us, that's a good place. When he gets it up. Here we go, this one. We have an e-mail address and a fax number and so during the next two weeks because that's the time frame and then we'll need to polish up the last aspects of the EA and so -- for inclusion in the EA and that's the time frame we

need -- next week. Excuse me, next week so if there's additional questions, and as everything else they will be included in that appendix EA. The e-mail address is jspacco@scainc.biz and the fax number is 410-593-9907. Is there anyone who would like me to repeat that if they didn't get it? Then, unless there's any other questions, I'd like to thank you very much for coming and good evening.

(Conference concluded at 8:38 p.m.)

CERTIFICATION

I, the officer before whom the foregoing proceedings was taken, do hereby certify that I personally recorded the proceedings in the foregoing transcript; that said transcript is a true record of the proceedings; that I am neither attorney for, related to, nor employed by any of the parties to the proceeding in which this transcript was taken, and that I am not a relative or employee of any person employed by the parties hereto, or financially interested in the action.

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