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# **Second Line of Defense Port of Buenos Aires and Exolgan Container Terminal Operational Testing and Evaluation Plan Buenos Aires, Argentina**

BW Roberts

August 2012



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Port of Buenos Aires and Exolgan  
Container Terminal  
Operational Testing and Evaluation Plan  
Buenos Aires, Argentina**

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Prepared for  
The U.S. Department of Energy

Pacific Northwest National Laboratory  
Richland, Washington 99352

## Summary

The Office of the Second Line of Defense (SLD) Megaports project team for Argentina will conduct operational testing and evaluation (OT&E) at Exolgan Container Terminal at the Port of Dock Sud from July 16-20, 2012; and at the Port of Buenos Aires from September 3-7, 2012. SLD is installing radiation detection equipment to screen export, import, and transshipment containers at these locations. The purpose of OT&E is to validate and baseline an operable system that meets the SLD mission and to ensure the system continues to perform as expected in an operational environment with Argentina Customs effectively adjudicating alarms.

The OT&E efforts will be preceded by system level acceptance testing (SLAT) from July 10-14 at Exolgan; and August 27 to September 1 at the Port of Buenos Aires. During SLAT for each location, performance of the installed radiation detection equipment and associated communications system for that location will be evaluated. If the system is capable of generating and processing radiation alarm events and generally exhibits stable behavior, the SLAT team will recommend the system be accepted and proceed to OT&E. The U.S. Department of Energy country manager will make the final determination of successful completion of SLAT and initiation of OT&E.

At least two system operator training classes are scheduled: 10 Argentina Customs officers will participate in classroom training from July 3-5 and 10 additional Customs officers will participate in classroom training from July 10-12. Hands-on central alarm station (CAS) training will follow from July 16-20 for all trained officers (beginning during Exolgan OT&E). Nine Argentine trainers attended SLD Operator Foundations Training from March 12-16 at HAMMER and completed a train-the-trainer class in Argentina from March 20-23. During hands-on CAS training and OT&E, the OT&E team will provide in-depth system training and support CAS operations to ensure each operator is capable of operating the system and that operations are conducted in accordance with established standard operating procedures. The OT&E team will review results of classroom and on-the-job training and report conclusions in the OT&E report.

The OT&E team will evaluate the performance of the each CAS system at the conclusion of OT&E at that location and the performance of the operators during OT&E. At the conclusion of the Port of Buenos Aires OT&E, if the Argentina Megaports systems are sufficiently stable and Argentina Customs officers are fully capable of operating the systems independently, without continuing on-site support from the U.S. Megaports team, the team will recommend to the country manager that Argentina transition into the SLD sustainability phase.

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## Acronyms

AFIP	Administración Federal de Ingresos Públicos
APM	A.P. Moller-Maersk
BACTSSA	Buenos Aires Container Terminal Services, S.A.
CAS	central alarm station
DOE	U.S. Department of Energy
IP	internet protocol
LANL	Los Alamos National Laboratory
LMP	local maintenance provider
MDQ	minimum detectable quantity
NNSA	National Nuclear Security Administration
OCR	optical character recognition
OJT	on-the-job training
ORNL	Oak Ridge National Laboratory
OT&E	operational testing and evaluation
PNNL	Pacific Northwest National Laboratory
RPM	radiation portal monitor
SLAT	system-level acceptance testing
SLD	Second Line of Defense
SOP	standard operating procedure
TEU	twenty-foot equivalent units
TMP	Training Management Plan
TRP	Terminales Río de la Plata

## **1.0 Introduction**

The purpose of operation testing and evaluation (OT&E) is to validate and baseline an operable system that meets the Second Line of Defense (SLD) Program mission. An SLD system is defined as the detection technology and associated equipment, system operators, standard operating procedures (SOPs), and other elements including training and maintenance that support long-term system sustainment.

This OT&E plan summarizes activities planned to meet the intent of the OT&E phase of the SLD project lifecycle. An OT&E report will outline the status of the entire system at the end of project implementation and is used by the sustainment team or other program stakeholders to modify or revise the sustainment strategy. The activities performed during the Exolgan Container Terminal and Port of Buenos Aires OT&E will help maximize the effectiveness of the systems and potential for continued host country operation of the radiation detection systems. Another objective of OT&E is to demonstrate that the radiation detection systems can be operated effectively in real time to the satisfaction of the U.S. Department of Energy/National Nuclear Security Administration (DOE/NNSA).

In order to effectively accomplish the primary objectives of OT&E, as described in Section 2.0, a phased approach will be used. The SLD Megaports project team for Argentina will conduct Phase I of OT&E at Exolgan Container Terminal at the Port of Dock Sud from July 16-20, 2012. The Exolgan OT&E will be preceded by system-level acceptance testing (SLAT) from July 10-14, 2012. Phase II of OT&E will be at the Port of Buenos Aires from September 3-7, 2012. The Port of Buenos Aires OT&E will be preceded by SLAT from August 27 to September 1, 2012.

The Port of Dock Sud is located on the banks of the Río Plata in the Province of Buenos Aires on the southern border of the Federal Capital District of Argentina. Exolgan Container Terminal at the Port of Dock Sud is affiliated with the Port of Singapore Authority. Exolgan has three vessel berths and operates 24 hours per day, seven days per week, but Exolgan's entrance and exit gates are only open 07:00-19:00 Monday through Friday and 07:00-13:00 on Saturday. In 2010, Exolgan handled approximately 600,000 twenty-foot equivalent units (TEUs).

The Port of Buenos Aires is located on the banks of the Río Plata in Buenos Aires, the Federal Capital of Argentina, north of the city center. The port has three container terminals: Terminales Río de la Plata (TRP) is operated by Dubai Ports World and handled approximately 630,000 TEUs in 2010; Terminal 4 is operated by A.P. Moller-Maersk (APM) and handled approximately 230,000 TEUs in 2010; and Buenos Aires Container Terminal Services, S.A. (BACTSSA) is operated by Hutchison Port Holdings and handled approximately 270,000 TEUs in 2010. The port operates 24 hours per day, seven days per week, but the terminals' entrance and exit gates are only open 07:00-19:00 Monday through Friday and 07:00-13:00 on Saturday.

## **2.0 Objectives**

### **2.1 Optimize System Parameters**

During OT&E, radiation portal monitor (RPM) alarm thresholds will be adjusted to achieve maximum detection of special nuclear material and other radioactive materials while generating the minimum number of innocent alarms (i.e., maximize the likelihood of detection while minimizing the impact on port operations and, thus, increase the likelihood of long-term continued system operations). Due to high background radiation readings, lead collimators were installed in all RPMs in Argentina to promote achieving the programmatic minimum detectable quantity (MDQ) goals. Other system components such as optical character recognition (OCR) and associated components will be evaluated for accuracy and reliability and fine-tuned as appropriate. The OCR accuracy will be calculated, compared to the SLD programmatic requirement (90%), and reported in the OT&E report.

### **2.2 Assess Operator Performance and Finalize Training**

System operators (Argentina Customs personnel) will be provided on-the-job training (OJT) and observed during real-time operations. The operators will be evaluated on procedural compliance, accuracy, and ability to respond to different operational situations.

### **2.3 Review Processes and Procedures**

Processes and SOPs will be reviewed to ensure appropriate mechanisms are in place for operation of the radiation detection systems and continued operator training and assessment. Processes should include procedures for system maintenance, provision of appropriate power and communications services, agreed-upon data sharing, processes for response to alarms that require in-country technical support or source recovery, and cooperation between Argentina and the SLD Program.

### 3.0 Roles and Responsibilities

The OT&E team will have the following general roles, responsibilities, tasks, and deliverables:

SLD Country Manager – Paloma Hill, U.S. DOE/NNSA

- Review and approve the OT&E plan
- Review and approve the OT&E report
- Approve completion of SLAT and initiation of OT&E
- Approve completion of OT&E and transition into the sustainability phase

Project Manager – Bryan Roberts, Pacific Northwest National Laboratory (PNNL)

- Prepare OT&E plan
- Ensure maintenance support is sufficient for SLD-installed equipment and infrastructure, and communication system hardware and software

Deputy Project Manager – Aldo Melendez, PNNL (Phase I)

- Coordinate pre-OT&E training program with Administración Federal de Ingresos Públicos (AFIP)
- Coordinate SOP implementation with Argentina Customs
- Review SOPs and workflow processes
- Review procedures for obtaining in-country technical support for alarm response
- Assess and provide feedback on operator performance
- Provide OJT and supplementary operator training as needed

Sustainability Manager – Patricia Godoy-Kain, PNNL (Phase II)

- Coordinate SOP implementation with Argentina Customs
- Review SOPs and workflow processes
- Review procedures for obtaining in-country technical support for alarm response
- Assess and provide feedback on operator performance
- Provide OJT and supplementary operator training as needed
- Prepare OT&E report

Detection Equipment Specialist – Blaine Hadden, LANL (Phase I)

- Collect and analyze RPM data to determine necessary final alarm threshold settings
- Perform system optimization adjustments on RPMs
- Assess overall health of the system during OT&E
- Assist in responding to technical questions during OJT and OT&E

- Generate false alarms for operators to practice alarm adjudication, if needed

Detection Equipment Specialist – Loren Byers, Los Alamos National Laboratory (LANL) (Phase II)

- Collect and analyze RPM data to determine necessary final alarm threshold settings
- Perform system optimization adjustments on RPMs
- Assess overall health of the system during OT&E
- Assist in responding to technical questions during OJT and OT&E
- Generate false alarms for operators to practice alarm adjudication, if needed

Host Country Lead Agency – Héctor Guaraz, Buenos Aires Customs Operations Director; Alejandro Fernández, Resguardo II; and Terminal Customs chiefs for Exolgan, TRP, Terminal 4, and BACTSSA – AFIP/Aduana

- Provide personnel to operate the radiation detection system
- Provide all team members access to appropriate site facilities and personnel
- Develop, document, and maintain site-specific SOPs

Container Terminal Operators – Pablo Saraví, Exolgan; Ricardo Alvarez, TRP; Carlos Garcia Parra, APM Terminal 4; and Darío Trimarco, BACTSSA

- Provide all team members access to appropriate site facilities and personnel
- Contribute to development of site-specific SOPs

## 4.0 Prerequisites

Below are the activities and criteria that should be completed and met prior to initiating OT&E. Any incomplete activity or unmet criteria should be managed as high risk as it would have a high potential to impact schedule, cost, and quality.

System Accepted – Successful demonstration via SLAT that the system meets design and functional requirements. If unmet initial requirements exist and a decision is made that the system is acceptable, a field change request shall be initiated and approved accepting those deviations.

Operator Training – All training planned to be completed prior to OT&E has been completed in accordance with the training management plan.

RPM Maintenance Training and System Administrator Training – The local maintenance provider (LMP) has completed RPM Maintenance training and System Administrator training prior to the Port of Buenos Aires OT&E (Phase II).

Data-Sharing Agreement – DOE/NNSA and AFIP have established a data-sharing agreement to allow transfer of RPM daily files from AFIP to DOE/NNSA and use of daily files by DOE/NNSA to evaluate the health of the systems.

OT&E Plan – A plan has been developed that details the following:

- Schedule of events, including U.S. and foreign participants
- Roles and responsibilities of members
- OT&E deliverables.

Readiness Review – A review has been conducted and the partner country has demonstrated the items outlined below:

- An SOP is developed and approved by all partner country stakeholders
- A staffing plan is in place that coincides with the OT&E plan
- Communications with truck drivers has been completed
- The OT&E plan has been accepted.

OT&E Member Briefing – The OT&E team members shall receive training on the country-specific SOPs, communication system, system configuration, and the OT&E plan.

## 5.0 Implementation Process

### 5.1 Phased Approach

In order to effectively accomplish the three primary objectives of OT&E for two discreet radiation detection systems at two separate locations, implementation of OT&E will be conducted in two phases. Each phase of OT&E will begin immediately after the respective SLAT for each location.

1. Phase I –Exolgan Container Terminal at the Port of Dock Sud from July 16-20, 2012. The Exolgan OT&E will be preceded by SLAT from July 10-14, 2012. During OT&E Phase I, Argentina Customs operators will receive hands-on OJT. An initial site-specific SOP will be implemented and evaluated. RPM daily files will be collected and analyzed by LANL.
2. Phase II –Port of Buenos Aires from September 3-7, 2012. The Port of Buenos Aires OT&E will be preceded by SLAT from August 27 to September 1, 2012. During OT&E Phase II, Argentina Customs operators will receive supplementary hands-on OJT as needed. Initial site-specific SOPs for the three terminals at the Port of Buenos Aires will be implemented and evaluated. RPM daily files will be collected and analyzed by LANL. Also during the second phase of OT&E, the U.S. OT&E team will return to Exolgan to evaluate any revised site-specific SOPs implemented after Phase I and answer Exolgan central alarm station (CAS) operators' and supervisor's questions.

### 5.2 OT&E Schedule

The OT&E activities for Exolgan Container Terminal and the Port of Buenos Aires will not commence until the respective SLAT for each location has been completed. Phase I activities are expected to last one week. Phase II is expected to last at least one week.

The Exolgan SLAT is scheduled for July 10-14 before OT&E Phase I begins on July 16. Argentina Customs will begin operating the Exolgan system at the beginning of Phase I and the Port of Buenos Aires system at the beginning of Phase II. The U.S. OT&E team will have an opportunity to evaluate the ability of Argentina Customs to operate the Exolgan system without support from the U.S. team by returning to Exolgan during Phase II of OT&E. Phase II of OT&E will occur at least one month after the completion of Phase I.

**Table 5.1. OT&E Overview Schedule**

Activity Description	Duration	Start	Finish	Resource
OT&E Team Briefing	2 hours	July 15		Paloma Hill Bryan Roberts Aldo Melendez Blaine Hadden
OT&E Phase I	1 week	July 16	July 20	Paloma Hill Aldo Melendez Blaine Hadden
OT&E Phase II	at least one week	September 3	September 7	Patricia Godoy-Kain Raul Carreño Loren Byers LANL TBD

**Table 5.2. OT&E Phase I Resource Schedule**

<b>Monday, July 16</b>	
	<b>Exolgan CAS/Secondary Inspection Area</b>
07:00-10:00	Support First Shift: Hadden, Hill, Melendez
13:00-16:00	Support Second Shift: Hadden, Hill, Melendez
<b>Tuesday, July 17</b>	
	<b>Exolgan CAS/Secondary Inspection Area</b>
09:00-12:00	Support First Shift: Hadden, Hill, Melendez
13:00-16:00	Support Second Shift: Hadden, Hill, Melendez
<b>Wednesday, July 18</b>	
	<b>Exolgan CAS/Secondary Inspection Area</b>
09:00-12:00	Support First Shift: Hadden, Hill, Melendez
13:00-16:00	Support Second Shift: Hadden, Melendez
<b>Thursday, July 19</b>	
	<b>Exolgan CAS/Secondary Inspection Area</b>
09:00-12:00	Support First Shift: Hadden, Melendez
13:00-16:00	Support Second Shift: Hadden, Melendez
<b>Friday, July 20</b>	
	<b>Exolgan CAS/Secondary Inspection Area</b>
09:00-12:00	Support First Shift: Hadden, Melendez
13:00-16:00	Support Second Shift: Hadden, Melendez

**Table 5.3. OT&E Phase II Resource Schedule**

<b>[Day &amp; Date]</b>	
	<b>CAS</b>
<b>[times]</b>	<b>[Activity/participants]</b>

### 5.3 Data Collection

Number of Alarm Stations – Exolgan Container Terminal has one CAS workstation and one secondary inspection area. TRP has one CAS workstation and two secondary inspection areas. APM Terminal 4 has one CAS workstation and one secondary inspection area. BACTSSA has one CAS workstation and one secondary inspection area. All CAS workstations are located in the Argentina Customs office at each container terminal.

Two window CAS workstations will be located in the Customs Oversight Office near the TRP exit gate with a pan-tilt-zoom camera workstation to view all secondary inspection areas. One window CAS workstation will be located inside Centro Único de Monitoreo Aduanero at Argentina Customs Headquarters with a pan-tilt-zoom camera workstation to view all secondary inspection areas.

Number of Operators – The OT&E team will record the number of Argentina Customs operators that received operator training and OJT. The list of operators will be included in Appendix A of the OT&E report.

Operator Skills – The OT&E team will evaluate the performance of the system operators. The Argentina operators’ procedural compliance, accuracy, and ability to respond to different operational situations will be described in the OT&E report.

Operational Shifts – The OT&E team will record any changes to the Argentina Customs plan to staff the CAS workstations and perform secondary inspections. The team will also assess whether the human resources Argentina Customs has assigned to Megaports is sufficient.

Volume and Type of System Traffic – The volume and type of traffic transiting the systems during OT&E will be described in the OT&E report.

## 5.4 Optimization of System Parameters

The RPMs installed at Exolgan Container Terminal and the Port of Buenos Aires are TSA Systems dual-pillar vehicle monitors with heater and collimation (TSA SLDVHX). LANL performed functional compliance testing for the Exolgan RPMs from June 18-22. LANL will perform functional compliance testing for the Port of Buenos Aires RPMs from August 14-26. The results will be documented in a functional compliance test report for Buenos Aires, Argentina. The firmware version of the installed RPMs will also be included in the functional compliance test report and be reported in the OT&E report. The RPM settings, configuration, and calculated detection efficiency will be documented in Appendix C of the OT&E report.

During SLAT and both phases of OT&E, RPM data will be collected by LANL and Sandia National Laboratories. The data summary will be reported in the OT&E report using the template shown as Table 5.4.

**Table 5.4. Occupancy, Alarm, and Alarm Rate, Secondary Inspection Rate**

[Name] Lane	
Occupancies	[number]
Alarms	[number]
Alarm Rate	[percent]
Secondary Inspections	[number]
Secondary Inspection Rate	[percent]

Any system deficiencies identified during SLAT and a corresponding action plan will be documented in Appendix B of the OT&E report. Noted issues will also be documented in the SLAT report. The U.S. project team will only recommend a location proceed from SLAT to OT&E if the system is capable of generating and processing radiation alarm events, generally exhibits stable behavior, and any issues noted during SLAT do not impede the overall operability of the system.

CAS system deficiencies and/or resolutions and items for improvement will be described in the OT&E report. OCR system deficiencies and/or resolutions and items for improvement will also be described in the OT&E report.

A list of communication system versions, Internet protocol (IP) addresses, port numbers, and associated configurations will be generated and documented in Appendix D of the OT&E Report.

## **5.5 Final Training and Assessment**

The following Argentina Customs trainers attended SLD Operator Foundations Training from March 12-16 at HAMMER and completed a train-the-trainer class in Argentina from March 20-23: Leonardo Cagnune, Carlos Federico Rubenbach, Romina Resenite Alvarez, Vanina Fernandez, Omar Federico Ferraro, Maria Cecilia Olivera, Sebastián Muñoz, Cecilia Valle, and Mariel Tálamo.

Two system operator training classes are scheduled: 10 Argentina Customs officers will participate in classroom training from July 3-5 and 10 additional Customs officers will participate in classroom training from July 10-12. Hands-on CAS training will follow from July 16-20 for all trained officers (beginning during Exolgan OT&E). A complete list of the student participants and instructors for both courses will be documented in Appendix A of the OT&E report.

During hands-on CAS training and OT&E, the OT&E team will provide in-depth system training and support CAS operations to ensure each operator is capable of operating the system and that operations are conducted in accordance with established SOPs. The U.S. OT&E team will observe operator abilities to properly operate the CAS software and respond to RPM alarms and system fault conditions in accordance with the SOP. The OT&E team will review the results of classroom training and OJT, and report OT&E observations and conclusions in the OT&E report, including indigenous participation in training activities, any challenges faced during training activities, any additional concepts introduced during hands-on OJT, and perceived resultant operator proficiencies and deficiencies.

The LMP will participate in RPM Maintenance training and System Administrator training provided by SLD between Phase I and Phase II of OT&E. Maintenance manuals will be provided to the LMP.

Any recommended actions or follow-up activities related to training will be described in the OT&E report.

## **5.6 Evaluation of Standard Operating Procedures**

The OT&E team will evaluate the effectiveness of site-specific SOPs implemented by Argentina Customs. The following SOPs in place at the conclusion of OT&E Phase II will be described in the OT&E report:

- Gamma alarm adjudication for exports, imports, and transshipments at Exolgan, TRP, APM Terminal 4, and BACTSSA
- Neutron alarm and neutron/gamma alarm adjudication for exports, imports, and transshipments at Exolgan, TRP, APM Terminal 4, and BACTSSA, including second-pass procedures
- Secondary inspection, including use of handheld devices
- Radioactive check sources use and storage.

The list of radioactive check sources provided by SLD and associated half-lives will be documented in Appendix E of the OT&E report.

## 6.0 Completion Criteria

This section discusses the activities and criteria that should be completed and met by the conclusion of OT&E Phase II.

Objectives – Meet the objectives of the OT&E plan.

System Parameters – System parameters have been assessed and the settings of all RPMs have been optimized to achieve a balance between detection capability and innocent alarm rate. RPM configurations will be documented in Appendix C of the OT&E report.

System Operability – The systems are sufficiently stable and capable of generating and processing radiation alarm events.

Operator Proficiency – Operators have demonstrated a satisfactory level of education, training, and experience to operate the systems in accordance with procedures and best practices.

Processes and Procedures – Standard processes and procedures are in place and fully implemented such that the systems can be operated in a consistent and sustained manner. This includes established site-specific SOPs, a plan to transfer RPM daily files to Oak Ridge National Laboratory (ORNL) via their FTP site, and contact information for the LMP and SLD Help Desk.

Organization Commitment – Argentina Customs has demonstrated willingness and preparation to assume operation of the system independently without continuing on-site support from the U.S. Megaports project team.

Operator and Maintenance Manual – Operator and maintenance manuals, including parts list and as-built, drawings are available.

Maintenance Contract – Maintenance contracts are in place with in-country organizations.

## **7.0 Appendices**

The following appendices will be included in the OT&E report and should be used to facilitate data collection during OT&E for use in preparation of the report.

- Appendix A. Student Participation List, Training
- Appendix B. SLAT Reported Deficiencies and Action Plan
- Appendix C. RPM Configurations
- Appendix D. Communications System Configurations
- Appendix E. Radioactive Check Sources and Handheld Equipment
- Appendix F. Contact List
- Appendix G. Neutron Incident Report Form
- Appendix H. Equipment Summary Form
- Appendix I. OT&E Entrance and Exit Criteria Checklist

## Appendix A. Student Participant List, Training

Student	Operator Training	On-the-Job Training
[name]	[dates]	[dates]

## Appendix B. SLAT Reported Deficiencies and Action Plan

Test Case No.	Test Case Description/Failure	Requirement No.	Failure Level	Action Plan

Requests from AFIP/Aduana	Action Plan

## Appendix C. RPM Configurations

Location Desc.	Lane Name	Monitor Spacing (m)	Monitor Height (m)	Firmware Version	Background Count Rate Sum	Background Suppression (%)	Initial Nsigma	Final Nsigma	MDQ	Avg Speed (kph)	OCR and IP Camera	ICIS Plug-in Version

### RPM Daily File Transfer Method – ORNL FTP Site:

SLD Transfer site (<https://sldtransfer.ornl.gov/>):

Username: [username]

Password: [password]

## Appendix D. Communications System Configurations

## Workstations and Locations

Location	RPM	LAS/Secondary Workstation	CAS/Secondary Workstation	Maintenance Workstation

### System Configuration and IP Address List

**[OCR Type] Version: [number]**

**IP Address:** [IP address]

**Subnet Mask:** [number]

Subnet 0 - ....

**Subnet Mask:** [number]

**Subnet 0 -** ....

#	COMPONENT	IP	DESCRIPTION	LOCATION
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
13	13	13	13	13
14	14	14	14	14
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66	66	66	66	66
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71	71	71	71	71
72	72	72	72	72
73	73	73	73	73
74	74	74	74	74
75	75	75	75	75
76	76	76	76	76
77	77	77	77	77
78	78	78	78	78
79	79	79	79	79
80	80	80	80	80
81	81	81	81	81
82	82	82	82	82
83	83	83	83	83
84	84	84	84	84
85	85	85	85	85
86	86	86	86	86
87	87	87	87	87

### **Network Diagram**

[Insert Network Diagram image]

### **VPN Connectivity Diagram**

[Insert VPN Connectivity Diagram image]

## Appendix E. Radioactive Check Sources and Handheld Equipment

Isotope	Half-life	Useful Life	Initial Activity (Bq)

Location	Manufacturer	Model	Serial Number

## **Appendix F. Contact List**

## Appendix G. Neutron Incident Report Form

Incident Tracking Number: \_\_\_\_\_

Incident Location: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Reporting Technical Support Official: \_\_\_\_\_ Phone: \_\_\_\_\_

### Conveyance Information:

Vehicle Type: \_\_\_\_\_ Make/Model: \_\_\_\_\_

License: \_\_\_\_\_ Country: \_\_\_\_\_

Number of Passengers: \_\_\_\_\_

Manifested Commodity: \_\_\_\_\_

Manifest or Placarding Information: \_\_\_\_\_

Any labels or placarding indicating radioactive or hazardous materials? YES NO

Shipment documents indicate industrial neutron source? YES NO

Shipper Name and Address: \_\_\_\_\_

\_\_\_\_\_

Consignee Name and Address: \_\_\_\_\_

### Alarm Information:

Radiation Alarm: Neutron ONLY or Neutron and Gamma

Peak Neutron Alarm Level displayed on CAS/LAS: \_\_\_\_\_ cnts/sec

If present, Peak Gamma Alarm Level displayed on CAS/LAS \_\_\_\_\_ sigma

Has the vehicle been isolated? YES NO

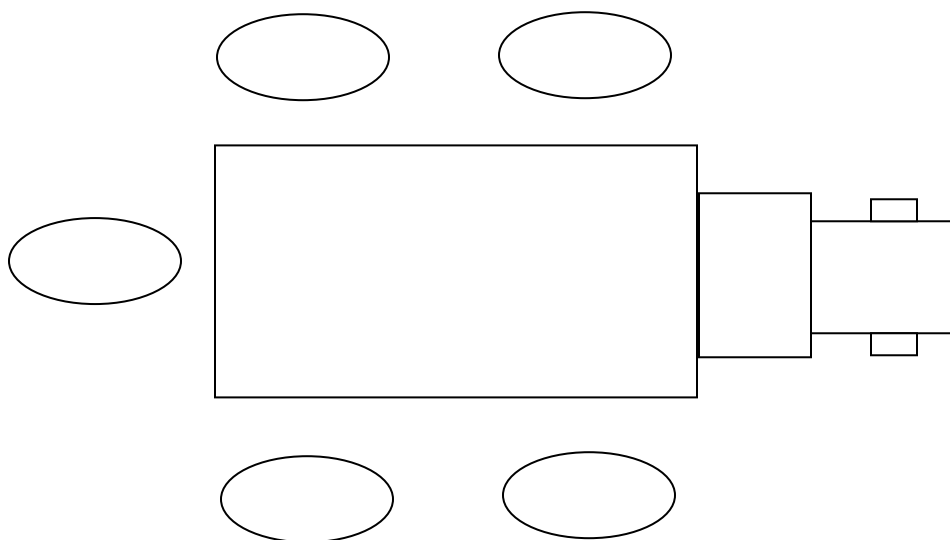
Has a perimeter been established? YES NO

Has the source been located? YES NO

Has the source been isolated? YES NO

Using the figure below,

1. Mark the location of neutron source based on CAS/LAS display,
2. Mark the location of the maximum response from hand-held detector and
3. Fill the oval shapes with measurements of hand-held neutron-responsive detector.



### Gamma and Neutron Information

Personal radiation detector (PRD) reading of "9" observed?      YES      NO

Maximum PRD reading observed: \_\_\_\_\_

Maximum Survey Meter (TSA 470PRM or equivalent) count reading: \_\_\_\_\_

Maximum RIID dose rate or count reading: \_\_\_\_\_

Distance (in meters) from source at RIID dose rate reading "20 uSv/hr": \_\_\_\_\_

Radioisotope Identification: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Equipment used for identification:

Manufacturer/Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Calibration Date \_\_\_\_\_

### Assessment and Disposition

Has the source been identified?      YES      NO

Identification(s): \_\_\_\_\_

Is the source consistent with the industrial neutron sources?      Yes      or      No

Does the source match the declaration, placarding, or shipping manifest?    Yes   or   No

What is the discrepancy? \_\_\_\_\_

\_\_\_\_\_

Was a detailed inspection required?    YES    NO

**Final Disposition:**

- ☐ Industrial source configured for legitimate end use
- ☐ Industrial source configured for illicit end use
- ☐ Neutron Source of Concern: \_\_\_\_\_
- ☐ Unresolved credible radiological threat

**INCLUDE  
PHOTO  
HERE**

## Appendix H. Equipment Summary Format

At a minimum, for each deployed radiation portal monitor, the following information, along with a picture, needs to be captured:

- RPM type
- Serial number
- RPM spacing
- Background Radiation (Sum)
- Threshold Settings (Documented settings are Official Use Only)
- Firmware Version
- IP Address
- Initial calibration date
- SLAT Date

### C Gate, Lane 1



**RPM Type:** VM-250AGN  
**Serial #:** 0090  
**RPM Spacing:** 4.92m

**Background (Sum):** 1009 cps  
**Threshold Setting:** Sigma  
**Firmware Version:** 1.08.8d

**IP Address:** 010.007.007.019  
**Calibration Date:** 19-Jan-2007  
**SLAT Date:** 2-Feb-2007

## Appendix I. OT&E Entrance and Exit Criteria Checklist

Item	Topic to Review	Remaining Work To Be Completed	Required to be Completed before OT&E Begins	Responsible Party/ Representative	Comments
Entrance Criteria					
System Accepted	SLAT is complete and system is accepted				
Operator Training	Operator training is complete				
Maintenance Training	LMP is identified and trained prior to Phase II of SLAT				
System Administrator Training	System Administrator is identified and trained prior to Phase II of SLAT				
Data Sharing	Data Sharing Agreement is established				
OT&E Plan	OT&E Plan is complete with a resource loaded schedule, roles and responsibilities, and deliverables				
OT&E Readiness Review and Team Briefing	SOPs are in place, Argentina Customs staffing plan exists, truck driver communication complete, OT&E Plan accepted, OT&E members briefed on CONOPs and SOPs, comm. system, and OT&E Plan				

Item	Topic to Review	Remaining Work To Be Completed	Required to be Completed before OT&E Begins	Responsible Party/ Representative	Comments
Exit Criteria					
Operator and Maintenance Manuals	Manuals are available				
Parts List and As-Built Drawings	Lists and drawings are available				
Maintenance Contract	Maintenance contract is in place				
System is Operational	The systems are sufficiently stable and capable of generating and processing radiation alarm events.				
Operator Performance Evaluated	Operators are capable of operating the RPMs, CAS system, secondary inspections, and understand how to respond to alarms and when to involve ARN				
Organizational Commitment	Argentina Customs demonstrates willingness and capability to operate system without US support				
Optimize System Parameters	All RPMs have been optimized to achieve a balance between detection capability and innocent alarm rate.				

Item	Topic to Review	Remaining Work To Be Completed	Required to be Completed before OT&E Begins	Responsible Party/ Representative	Comments
Data Collection	LANL determines initial alarm rates, secondary inspection rates, and types of cargo from Phases 1 and 2				
SOPs	SOPs have been evaluated and modified if necessary				
System Upgrades	Document any system upgrades that are required for long-term operations				



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