

**UNIVERSITY OF ARIZONA
HAZARDOUS MATERIALS TRANSPORTATION
SECURITY PLAN PER 49 CFR 172.800
Revised: September 2014**

I. INTRODUCTION

In response to hazardous material transportation security regulations promulgated by the federal Department of Transportation (DOT) in 2003, the University of Arizona (UA) has developed this transportation security plan. The DOT regulations require that the university implement a security plan if they ship certain categories of hazardous materials in commerce, contain a broad security training provision that will apply to all hazmat employees (regardless of whether or not a security plan is required), and a specific training provision applicable to all facilities required to have a security plan.

II. SCOPE

University employees that directly affect hazardous material transportation safety are considered a hazmat employee and are subject to the provisions of this plan. The University as a whole offers hazardous materials for shipment in commerce and is therefore a hazmat employer. Specific security plans are required for employers who ship:

- A. A highway route-controlled quantity of a Class 7 (radioactive) material, as defined in 49 CFR 173.403, in a motor vehicle, rail car, or freight container;
- B. Any radioactive materials in "Quantities of Concern" (RAM-QC) as defined by the NRC;
- C. More than 25 kilograms (55 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material in a motor vehicle, rail car, or freight container;
- D. More than one liter (1.06 quart) per package of a material poisonous by inhalation, as defined in 40 CFR 171.8, that meets the criteria for Hazard Zone A, as specified in 49 CFR 173.116(a) or 173.133(a);
- E. A shipment of a quantity of hazardous materials in a bulk packaging having a capacity equal to or greater than 13,248 liters (3,500 gallons) for liquids and gases or more than 13.24 cubic meters (468 cubic feet) for solids;
- F. A shipment in other than a bulk packaging of 2,268 kilograms (5,000 pounds) gross weight or more of one class of hazardous materials for which placarding of a vehicle, rail car, or freight container is required for that class under the provisions of 49 CFR 172 subpart F;
- G. A select agent or toxin regulated by the Centers for Disease Control (CDC) and Prevention under 42 CFR 73;
- H. A quantity of hazardous material, other than Yellow III labeled Class 7 materials which are not classified RAM-QC, that requires placarding under the provisions of 49 CFR 172 subpart F.

The scope of this security plan is limited to the above materials when they are offered or transported in commerce. The movement of hazardous materials other than Class 7 (Radioactive) between buildings or in a motor vehicle operated by a University employee for noncommercial University purposes is not subject to the Hazardous Materials Regulations and does not fall under the scope of this plan. All radioactive material transport must be approved or arranged by the Office of Radiation, Chemical and Biological Safety (ORCBS). However, all efforts should be made to follow this plan during noncommercial transportation.

III. ASSESSMENT OF RISKS

A. IDENTIFICATION OF APPLICABLE HAZARDOUS MATERIALS

The following DOT hazard classes are used by various University departments and require implementation of a transportation security plan.

Class 2.3 – Poison Gas

Class 4.3 – Dangerous When Wet

Class 6.1 – Poison (Inhalation Hazard – Zone A or B)

Class 7 - Radioactive (Highway Route Controlled Quantities, radioactive materials in quantities of concern [RAM-QC] or commercial waste shipments)

1. Additionally, placarding is required for shipments of 1001 pounds of items listed in Table 2 of 49 CFR 172.504. Some materials being delivered to the University are placarded and require security measures during off-loading. Hazardous waste shipments generated by the University are also placarded and require security during loading operations prior to departure from the Hazardous Waste Management Facility or the Radioactive Waste Storage Facility.

B. IDENTIFICATION OF AREAS WHERE APPLICABLE HAZARDOUS MATERIALS ENTER COMMERCE

The following departments have been authorized to ship hazardous materials for the University of Arizona by the University's Policy on Shipping Hazardous Materials effective October 2003.

- a. Office of Radiation, Chemical & Biological Safety (Appendix A)
- b. Risk Management Services (RMS) (Appendix B)
- c. Cryogenics and Gas Facility (Appendix C)
- d. Purchasing and Procurement (22nd and Warren location) (Appendix D)

Designated personnel in these departments have received and maintain the applicable DOT training as required by 49 CFR 172.700.

C. ASSESSMENT OF RISK

The overall risk associated with the transport of hazardous materials is considered low at UA for the following reasons:

1. UA ships and transports small quantities of the hazardous materials requiring implementation of a transportation security plan.
2. Most of the hazardous materials shipped from UA can typically be ordered directly from a chemical supplier, or purchased in hardware stores, farm supply outlets and other retail establishments.
3. The majority of radioactive materials shipped from UA are typically under exception from parts of the shipping regulations, such as "low specific activity" and "limited quantity".

4. UA ships no select agents or toxins regulated by the CDC under 42 CFR 73.
5. Appropriate security measures are taken to minimize any potential security breach associated with the transportation of hazardous materials.

D. SECURITY RISKS IN STORAGE AND HANDLING FOR SHIPMENT

The authorized departments listed in Section III. B. has developed departmental assessments of security risks for their respective areas. The departmental assessments are attached to this document as appendices as follows: Appendix A – Office of Radiation, Chemical & Biological Safety, Appendix B – Risk Management Services, Appendix C – Cryogenics and Gas Facility, and Appendix D – Purchasing and Procurement.

IV. TRAINING AND PERSONNEL

A. TRAINING

1. All UA employees who affect the shipment of hazardous materials, even in DOT excepted quantities, need to receive general awareness and general security training on the proper security of hazardous materials and who to notify if an incident occurs. General security awareness training will include suggested methods to enhance transportation security, and how to recognize/respond to security threats. Such training can be obtained through Risk Management Services, ORCBS or through an outside vendor if desired.
2. UA employees who specifically ship hazardous materials off campus in quantities listed under Section III A of this document, DOT mandated function specific and specific security awareness training is required. Function specific training will include details of the employee's role in hazardous materials shipping and details of this security plan as it relates to the performance of an employee's work, including: plan objectives, specific security procedures, employee responsibilities, actions to be taken in the event of a security breach and the UA security structure. Specific UA security awareness training is available through Risk Management Services (621-5861) or ORCBS (626-6850) and will be scheduled as soon as possible.
3. New hazardous materials shipping employees must receive general and specific security training within 90 days after employment, if required.
4. The authorized shipping departments and Risk Management will maintain official training records.
5. Specific authorized shipping laboratories and ORCBS will maintain official training records.

B. PERSONNEL

1. Pre-placement background screening checks shall be performed by the hiring department, Human Resources and Risk Management for job classifications that may involve access to and handling of hazardous materials for transport covered by this security plan.
2. Pre-placement background screening checks apply to first hire but not advancement positions, unless advancement is from a job classification not included in the security check requirement

3. The background screening shall consist of:
 - a. The hiring authority shall check references and verify employment history noted on the job application or resume. Verification will include contacting at least two of the employers list. At least two references, with at least one reference required to be a supervisor and/or co-worker, need to be verified.
 - b. Human Resources and Risk Management will conduct drug, motor vehicle and criminal background check. The hiring department must provide Human Resources with the applicant's full name, social security number and the section of the application related to prior convictions.
 - c. Human Resources will verify citizenship by ensuring I-9 forms are properly completed and maintained for all employees.
 - d. Hiring departments are also responsible for ensuring that employees who physically transport hazardous materials off campus in amounts requiring a TCP, excluding small quantity exemptions, have, or can obtain within a designated time, a valid Commercial Drivers License (CDL) with the hazardous materials endorsement.
 1. States are required to perform background checks of CDL licensees prior to issuing or renewing the hazardous materials endorsement.
 2. Due to privacy issues, employers are not notified when an employee has had their hazardous material endorsement rejected or revoked.
 3. Currently the positions on campus that require CDL licenses with the hazardous material endorsement are, Hazardous Waste Specialist. The requirement to have the hazardous materials endorsement is an internal university policy to ensure technical competence due to the fact that hazardous materials transported on campus are exempted.
4. The ORCBS coordinates additional background checks required by the NRC for personnel requiring unescorted access to RAM-QC and the CDC for personnel authorized to work with SA/T's. These background checks consist of:
 - a. Applicant fingerprinting and criminal background check.
 - b. Interviews with the applicants professional references.
 - c. Security determination by the Universities' Trustworthiness and Reliability Officiate.

V. SECURITY STRUCTURE AND ACTIONS

Security structure and action(s) to be taken in case of a security breach:

- a. The UA Police Department (UAPD) is the primary provider of security services at UA. Security and public safety related incidents occurring off campus become the joint responsibility of the agency of jurisdiction and UAPD.
- b. RMS and other involved departments shall work collaboratively with the police on any potential security breach associated with regulated hazardous materials for transport.

- c. UAPD and RMS are to be notified by the originating department in the event of stolen, lost, or missing hazardous materials or any suspicious activity associated with hazardous materials.

VI. EMPLOYEE RESPONSIBILITY

- A. Any employee who handles hazardous materials is required to complete applicable security training as specified in Section IV. A.
- B. Any employee who handles regulated hazardous materials in preparation for transport is required to ensure the materials are secured from unauthorized access or removal. This means the hazardous materials are secured or within the eyesight of an authorized employee from the time they are stored in preparation for shipment until the transporter takes over security of the materials for transport.
- C. Any employee who handles hazardous materials in preparation for transport that notices or suspects hazardous materials have been stolen, lost or are missing is required to report the occurrence immediately to:
 - 1. UAPD, if the incident occurred within UAPD jurisdiction or to the agency of jurisdiction. UAPD may help facilitate this reporting.
 - 2. RMS
 - 3. Employee's supervisor
 - 4. The 24 hour emergency contact listed on the parcel declaration or bill of lading
- D. UAPD shall:
 - 1. Investigate incidents of presumed stolen, lost, or missing hazardous materials for incidents occurring within UAPD jurisdiction.
 - 2. Report such incidents of presumed stolen, lost, or missing hazardous materials to RMS.
 - 3. Investigate any reported suspicious persons or activities surrounding hazardous materials. The police shall coordinate suspicious incident reviews with RMS.
 - 4. If needed, seek assistance of external authorities.
- E. RMS staff shall:
 - 1. Conduct an investigation of potentially missing hazardous materials.
 - 2. Report all incidents of stolen, lost, or missing materials to UAPD.
 - 3. Assist Human Resources in background checks.
 - 4. Provide specific training to any UA employee for whom it is required upon request.
 - 5. Notify ORCBS of hazardous material transport incidents/issues caused by the ORCBS or an ORCBS regulated material Approval.

- F. All UA employees who affect the shipment of hazardous materials, even in excepted quantities, are required to attend DOT training and will receive basic guidance on proper security of hazardous materials and who to notify if an incident occurs.
- G. If an unusual shipment is to be transported (explosive, highly toxic, large quantity, RAM-QC, Radioactive Yellow III, etc.) an employee shall discuss the shipment with RMS and ORCBS to determine if additional security measures are necessary.
 - 1. The discussion shall be part of the preparation for shipment.
 - 2. The employee shall perform any additional security measures stipulated with the shipment.
- H. UA Human Resources shall:
 - 1. Provide background checks as outlined in Section IV. B.
 - 2. Verify citizenship by ensuring I-9 forms are properly completed and maintained for all employees.
- I. A hiring department will ensure hazmat employees:
 - 1. Are adequately screened according to Section IV. B.
 - 2. Attend applicable training listed in Section IV. A.
 - 3. Hiring and training records are maintained within the department or by the laboratory Approval Holder / Principle Investigator.

VII. LOADING AND SECURING SHIPMENTS

The authorized departments listed in Section III. B. have developed departmental procedures for load and securing shipments from their respective areas. The departmental assessments are attached to this document as appendices as follows: Appendix A – Office of Radiation, Chemical & Biological Safety, Appendix B – Risk Management & Safety, Appendix C – Cryogenics and Gas Facility, and Appendix D – Purchasing and Procurement.

VII. UNAUTHORIZED ACCESS

All hazardous materials shall be secured to an appropriate level determined by departmental staff and applicable regulations. Once a hazardous material is prepared for transport, the following measures shall be taken to minimize unauthorized access:

- A. All hazardous material transfer requiring a motor vehicle shall be made in a UA or contractor designated vehicle.
 - 1. Hazardous materials shall not be left unattended in an unsecured UA or contractor vehicle.
- B. All off-site hazardous material shipments shall be through a UA approved vendor.
 - 1. Shipments shall be scheduled directly with the vendor by the department requiring the shipment.

2. Hazardous materials shall only be transferred to known vendor personnel on scheduled dates. Shipments shall only be transferred to an individual when there is reasonable assurance the individual is an employee of the transporter. "Reasonable assurance" is wearing the transporter's uniform, having a company identification card, and the individual conducts the transfer in accordance with known standards for the transporter.
- C. Unauthorized access during loading is reduced by requiring that UA personnel trained in this security plan be present during the loading process. Suspicious or unauthorized individuals may be asked to leave the loading area. Loading may be temporarily suspended if necessary or police help may be requested depending upon assessment of the situation.

VIII. EN ROUTE SECURITY

En route security measures include:

- A. All hazardous material shipments shall be packaged and accompanied by the necessary supporting documentation as required by the involved regulatory agencies.
- B. Vendors must provide verification of the transportation security plan, required backgrounds checks and training.
- C. Adequate security must be provided for storage during transportation. Overnight storage while in transit must be secure. Temporary storage exceeding one night must be at an approved location.
- D. Vendors are required to notify UA of any accidents or breaches in security that occur while university hazardous materials shipments are in transit.

IX. EVALUATION

Evaluation of this plan will occur under the following circumstances:

- A. Any suspected or actual breach in security covered by this plan.
- B. Known security breaches at other institutions.
- C. Acts of terrorism in the U.S. related to activities covered by this plan.
- D. Newly identified security risks.

X. NOTIFICATION AND REPORTING

If a known or suspected breach of this plan occurs, the discoverer of the breach must notify UAPD (621-8273) and RMS (621-1790).

UAPD and RMS will evaluate individual incidents of security breach and following consultation notify appropriate university personnel and regulatory agencies as necessary. Potential agencies/entities that may be notified include:

- A. Arizona Highway Patrol District 8 (520) 746-4500
- B. Arizona Department of Environmental Quality (800) 234-5677

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|----|---|----------------|
| C. | Environmental Protection Agency Region 9 | (800) 300-2193 |
| D. | Arizona Department of Administration
Risk Management Section | (602) 542-2182 |
| F. | Alcohol, Tobacco and Firearms | (520) 670-4725 |
| G. | Office of Radiation, Chemical & Biological
Safety | (520) 626-6850 |
| H. | Arizona Radiation Regulatory Agency | (602) 255-4845 |
| I. | Nuclear Regulatory Commission (Region IV) | (817) 860-8100 |

XI. DOCUMENTATION

The security plan will be updated as needed to reflect current or anticipated circumstances. Copies are available to employees responsible for implementing the plan, consistent with personnel security clearance or background investigation restrictions and a demonstrated need to know. All copies of the plan shall be maintained as of the most current revisions.

APPENDIX A

UNIVERSITY OF ARIZONA OFFICE OF RADIATION, CHEMICAL & BIOLOGICAL SAFETY HAZARDOUS MATERIALS TRANSPORTATION SECURITY PLAN PER 49 CFR 172.800

I. INTRODUCTION

In response to hazardous material transportation security regulations promulgated by the federal Department of Transportation (DOT) in 2003, the University of Arizona (UA) has developed this transportation security plan. The DOT regulations require that the University implement a security plan if they ship certain categories of hazardous materials in commerce, contain a broad security training provision that will apply to all hazmat employees (regardless of whether or not a security plan is required), and a specific training provision applicable to all facilities required to have a security plan.

The Office of Radiation, Chemical & Biological Safety (ORCBS) has developed this supplement to the University plan to specifically address its requirements and procedures for the transportation security of radioactive materials, biohazardous research materials and hazardous research chemicals.

II. SCOPE

The scope of this security plan is limited to radioactive materials (shipments) in commerce that require a TCP.

III. ASSESSMENT OF RISKS

A. IDENTIFICATION OF APPLICABLE RADIOACTIVE MATERIALS

1. Commercial waste shipments;
2. Shipments of RAM-QC or IAEA Category 1 & 2 materials.
3. HWRC quantity shipments

B. ASSESSMENT OF RISK

The overall risk associated with the transport of regulated materials by the ORCBS is considered low for the following reasons:

1. The ORCBS performs a very limited number of commercial radioactive material shipments per year.
2. Most shipments requiring a TCP involve low specific activity waste. Shipment of RAM-QC or SA/T is very rare.
3. The shipments are made by the same ORCBS personnel and transported by the same broker/transporter personnel allowing positive recognition of all involved personnel.
4. Appropriate security measures are taken to minimize any potential security breach associated with the transportation of regulated materials.

5. Loading and staging procedures ensure minimal time is required to physically move the radioactive materials from our secure storage facility to the transporter's vehicle.

C. SECURITY RISKS IN STORAGE AND HANDLING FOR SHIPMENT

1. Regulated materials offered for transport in commerce are packaged in shipping containers and configurations per DOT regulations. These containers include DOT Type A containers and drums, as well as strong tight fiber board boxes and drums.
2. The radioactive material waste storage facility is protected by an alarm system with 24-hour monitoring, backup communications and procedures integrated with the UA Police Department (UAPD). It has a restricted access keying system. All rollup doors are locked and have electrical power interrupted when not in active use.
3. The ORCBS shipping office (AHSC 1101) has restricted access keying system.
4. RAM-QC facilities are protected with a 24-hour monitoring, backup communications and procedures integrated with UAPD. These areas are protected by either biometric or pinpad readers as well as continual video and radiation level surveillance.
5. When achievable, HMR required materials are stored within a secondary enclosure within the facility prior to shipment.
6. Unauthorized and/or untrained personnel are not allowed independent access to RAM-QC or ORCBS shipping facility keys and alarm code assignment are restricted to ORCBS personnel.
7. The ORCBS performs regular regulated material possession inventory verifications during facility/approval audits and semi-annual waste facility inventory verification checks. All discrepancies are resolved, and then reported internally as required within the ORCBS and externally as required by UA licensing requirements.
8. An annual internal audit of the ORCBS records and operations is performed. A periodic external audit of the ORCBS records and operations is performed by the Arizona Radiation Regulatory Agency.
9. Prior to shipment, all regulated materials within the scope of this plan offered for transport in commerce have their containers and/or drums inspected for physical integrity and proper identification and hazard labeling.
10. The contents of every regulated material shipment container is tracked from vendor receipt to disposal site or consignee by both paper and electronic records.
11. Procedures for the packaging and transferring of radioactive, research biohazardous and hazardous chemicals have been established.

IV. TRAINING AND PERSONNEL

A. TRAINING

1. All ORCBS personnel who affect the shipment of regulated materials, even in DOT excepted quantities, receive periodic general awareness and general security training from outside vendors, internal ORCBS training, as well as Risk Management Services (RMS).

2. ORCBS personnel, as well as UA employees, who will handle and/or work with regulated materials are required to receive general and function specific training prior to performing either of the above activities through various ORCBS training programs.

B. PERSONNEL

1. All ORCBS job positions have been designated as being security sensitive, requiring appropriate background verifications for current and future employees.

V. SECURITY STRUCTURE AND ACTIONS

A. Security structure and action(s) to be taken in case of a security breach:

1. The alarming monitoring and maintenance company (Amer-X) has been instructed to simultaneously attempt to contact the ORCBS and UAPD in case of any alarm conditions.
2. ORCBS shall coordinate with the UAPD and any other responding agency to address any potential security breach associated with regulated materials for transport.
3. While in transport, any initial questions regarding transport safety and accident response are handled by CHEMTREC.
4. In general, the responsibility for the transportation security of the regulated materials in commercial transport will be assumed by the transporter themselves once the material is secured in the transporter's vehicle.

VI. EMPLOYEE RESPONSIBILITY

A. ORCBS staff members shall:

1. Complete applicable security training as specified in Section IV. A. if they handle regulated materials addressed in this document.
2. Ensure that all regulated materials are secured from unauthorized access or removal. This means the regulated materials are secured or within the eyesight of an authorized employee from the time they are stored in preparation for shipment until the transporter takes over security of the materials for transport.
 - a. report immediately to the staff member's immediate supervisor they notice or suspect regulated materials have been stolen, lost or are missing.

B. ORCBS shall:

1. Conduct an investigation of missing regulated materials.
2. Report all incidents of stolen, lost, or missing materials to proper authorities.
3. If needed, seek assistance of proper authorities.
4. Assist Human Resources with background checks.
5. Ensure that all members shipping regulated materials have passed required trustworthiness and reliability determinations by the NRC or FDA.
6. Maintain a technical expert on 24 hour call via an emergency pager that is coordinated with UAPD.

7. If required, ensure that the shipping dock is registered as per APHIS/CDC rules for shipment of select agents and toxins (SA/T).
 8. Guide SA/T users through the pre-authorization process for transfer of SA/T.
- C. If a shipment of regulated material requiring this TCP is planned, a staff member shall discuss the shipment with the staff member's supervisor to determine if additional security measures are necessary.
- a. The discussion shall be part of the preparation for shipment.
 - b. The staff member shall perform any additional security measures stipulated with the shipment.

VII. LOADING AND SECURING SHIPMENTS

- A. All regulated materials shall be secured to an appropriate level determined by the ORCBS and applicable regulations. Once regulated materials are prepared for transport, the following measures shall be taken to ensure proper loading and securing :
1. The ORCBS staff member(s) involved in the regulated materials transfer shall:
 - a. Visually verify that the associated shipping containers are properly loaded onto the transport vehicle and braced (as necessary) for transport.
 - b. Have the appropriate placards available for the transporter's driver and ensure that the placards are properly posted on the transporter's vehicle per 49 CFR 172 Part F.
 - c. Ensure that the regulated materials are locked within the transporter's vehicle prior to moving out of visual sight of the vehicle.
 - d. Monitor the status of the radioactive materials until their ultimate disposal site and/or transfer of liability. Reasonable time requirements will be set for each radioactive materials shipment on a case-by-case basis.
 2. The Transporter shall provide the ORCBS with:
 - a. An estimated time of travel from the ORCBS to its intended intermediate or final receiver.
 - b. Copies of shipping documents with delivery tracking data/contact information.
 - c. Written affirmation of their transporting employee's trustworthiness & reliability determinations.
 - d. Copies of delivery confirmation documents.
 3. ARRA and the receiver shall be informed of all applicable radioactive materials transport at least one (1) week prior to the event itself by the transporter and/or the ORCBS.
 4. All regulated material shipments shall be accompanied by all documents deemed adequate by the US Department of Transportation (DOT), the State of Arizona and the Receiver's State as specified by 49 CFR. Additional information may be required by the Transporter,

Receiver or other entities to completely explain any handling, processing and/or special circumstances.

VIII. UNAUTHORIZED ACCESS

All regulated materials shall be secured to an appropriate level determined by the ORCBS and applicable regulations. Once regulated materials are prepared for transport, the following measures shall be taken to minimize unauthorized access:

1. All regulated materials shipment requiring a motor vehicle shall be made in an ORCBS or contractor designated vehicle.
2. Regulated materials shall not be left unattended in an unsecured vehicle.
3. All off-site hazardous material shipments shall be through an ORCBS approved vendor.
4. Shipments shall be scheduled directly with the vendor by the ORCBS.
5. Regulated materials shall only be transferred to known vendor personnel on scheduled dates. Shipments shall only be transferred to an individual when there is reasonable assurance the individual is an employee of the transporter. "Reasonable assurance" is wearing the transporter's uniform, having a company identification card, and the individual conducts the transfer in accordance with known standards for the transporter.
6. Unauthorized access during loading is reduced by requiring that ORCBS personnel trained in this security plan be present during the loading process. Suspicious or unauthorized individuals may be asked to leave the loading area. Loading may be temporarily suspended if necessary or police help may be requested depending upon assessment of the situation.

IX. EN-ROUTE SECURITY

A. En-route security measures include:

1. All hazardous material shipments shall be packaged and accompanied by the necessary supporting documentation as required by the DOT and ARRA.
2. Vendors must provide verification of transportation security plan and required training.
3. Adequate security must be provided for storage during transportation.
4. Overnight storage while in transit must be secure. Temporary storage exceeding one night must be at a location approved by the ORCBS.
5. The transporter shall provide the ORCBS with:
 - a. A report, verbal at the very least, that the regulated materials have arrived and been accepted by the receiver.
 - b. A written report, via letter or email, with a detailed explanation, must be obtained if any problems and/or incidents should occur during transport.

X. EVALUATION

A. Evaluation of this plan will occur under the following circumstances:

1. Any suspected or actual breach in security covered by this plan.

2. Known security breaches at other institutions.
3. Acts of terrorism in the U.S. related to activities covered by this plan.
4. Newly identified security risks.

XI. NOTIFICATION AND REPORTING

- A. If a known or suspected breach of this plan occurs, the discoverer of the breach must notify ORCBS (626-6850).
- B. ORCBS will evaluate individual incidents of security breach and following consultation notify appropriate university personnel and regulatory agencies as necessary. Potential agencies that may be notified include:
 1. Arizona Radiation Regulatory Agency (602) 255-4845
 2. Arizona Highway Patrol (602) 223-2212
 3. Centers for Disease Control Select Agent & Toxin Group (800) 447-8477
 4. Alcohol, Tobacco and Firearms (520) 670-4725
 5. Drug Enforcement Agency (602) 664-5600
 6. Arizona Department of Environmental Quality (800) 234-5677
 7. Nuclear Regulatory Commission (Region IV) (817) 860-8100

XII. DOCUMENTATION

- A. The security plan will be updated as needed to reflect current or anticipated circumstances. Copies are available to employees responsible for implementing the plan, consistent with personnel security clearance or background investigation restrictions and a demonstrated need to know. All copies of the plan shall be maintained as of the most current revisions.

APPENDIX B

UNIVERSITY OF ARIZONA DEPARTMENT OF RISK MANAGEMENT SERVICES HAZARDOUS MATERIALS TRANSPORTATION SECURITY PLAN PER 49 CFR 172.800

I. INTRODUCTION

In response to hazardous material transportation security regulations promulgated by the federal Department of Transportation (DOT) in 2003, the University of Arizona (UA) has developed this transportation security plan. The DOT regulations require that the University implement a security plan if they ship certain categories of hazardous materials in commerce, contain a broad security training provision that will apply to all hazmat employees (regardless of whether or not a security plan is required), and a specific training provision applicable to all facilities required to have a security plan.

Risk Management Services (RMS) has developed this supplement to the University plan to specifically address its requirements and procedures for the transportation security of hazardous wastes.

II. SCOPE

The scope of this security plan is limited to hazardous waste shipments in commerce that require placarding under 49 CFR 172 Part F.

III. ASSESSMENT OF RISKS

A. IDENTIFICATION OF APPLICABLE HAZARDOUS WASTES

Under 49 CFR 172 Part F, placarding is required for any of the following:

- Class 2.3 – Poison Gas
- Class 4.3 – Dangerous When Wet
- Class 6.1 – Poison (Inhalation Hazard – Zone A or B)

Additionally, placarding is required for shipments of 1001 pounds of items listed in Table 2 of 49 CFR 172.504. All hazardous waste shipments generated by the University require placarding and security prior to departure from the Hazardous Waste Management Facility.

B. ASSESSMENT OF RISK

The overall risk associated with the transport of placarded hazardous waste by RMS is considered low for the following reasons:

1. Although there is a large volume of hazardous waste shipped monthly, the waste materials can typically be ordered directly from a chemical supplier, or purchased in hardware stores, farm supply outlets and other retail establishments.
2. The shipments are made by the same RMS personnel and transported by the same transporter personnel allowing positive recognition of all involved personnel.

3. Appropriate security measures are taken to minimize any potential security breach associated with the transportation of hazardous waste.
4. Loading and staging procedures ensure minimal time is required to physically move the hazardous waste from the secure storage facility to the transporter's vehicle.

C. SECURITY RISKS IN STORAGE AND HANDLING FOR SHIPMENT

1. Hazardous waste offered for transport in commerce is packaged per DOT regulations in the container and configuration approved for the type of waste. These containers include metal or polyethylene drums/pails and fiberboard boxes.
2. The Hazardous Waste Management Facility (HWMF) is surrounded by an 8 foot brick wall on the south perimeter inside the AHSC Facilities Management compound. The north, east and west perimeters consist of an 8 foot chain link fence. It has a restricted access keying system.
3. All hazardous waste is stored in designated areas inside the building. Chemical compatibility determines the storage location for each container of waste. Each area has a maximum volume storage capacity that is not to be exceeded.
4. Unauthorized and/or untrained personnel are not allowed independent access to the facility. RMS personnel are the only UA employees authorized to have keys/swipe cards. UA maintenance personnel are escorted and overseen by an RMS employee while working in the interior of the HWMF.
5. Security concerns are part of the weekly inspection of the HWMF. However, all access points are checked and secured before employees leave at the end of the day.
6. Smaller containers of liquid waste that are consolidated into larger containers are tracked in the HWMF Liquid Operating Log. Containers are given unique identification numbers and can be tracked from the time the containers are removed from the requesting lab to the day that the smaller container is consolidated. The consolidated container is then tracked from day of consolidation to the day of shipment to the disposal facility. All discrepancies are resolved and noted in the HWMF Liquid Operating Log and the HWMF Drum Log.
7. Items to be lab packed are assigned unique identification numbers and a drum number and are tracked in the HWMF Lab Pack Operating Log and the computerized waste management program. Items are checked with the computer generated drum inventory. Discrepancies are resolved and noted in the HWMF Lab Pack Operating Log and the HWMF Drum Log. The packing date is recorded in the HWMF Lab Pack Operating Log and the shipment date and Hazardous Waste Manifest Number assigned to the shipment is recorded in the HWMF Drum Log.
8. Prior to shipment, all containers that have been assigned to the shipment are inspected for physical integrity and proper identification and hazard labeling. The assigned manifest number and container number is written on the label.
9. Procedures for the packaging and transferring of hazardous waste have been established.

IV. LOADING AND SECURING SHIPMENTS

A. All hazardous waste shall be secured to an appropriate level determined by RMS and applicable regulations. Once hazardous wastes are prepared for transport, the following measures shall be taken to ensure proper loading and securing:

1. The RMS staff member(s) involved in the hazardous waste shipment shall:
 - a. Visually verify that the associated shipping containers are properly loaded onto the transport vehicle and braced (as necessary) for transport.
 - b. Verify that the total number of containers loaded on the transport vehicle coincides with the total number of containers listed on the hazardous waste manifest(s).
 - c. Have the appropriate placards available for the transporter's driver and ensure that the placards are properly posted on the transporter's vehicle per 49 CFR 172 part F.
 - d. Ensure that the hazardous wastes are locked within the transporter's vehicle prior to moving out of visual sight of the vehicle.
3. All hazardous waste shipments shall be accompanied by all documents deemed adequate by the US Department of Transportation (DOT), the State of Arizona and the Receiver's State as specified by 49 CFR. Additional information may be required by the Transporter, Receiver or other entities to completely explain any handling, processing and/or special circumstances.

V. UNAUTHORIZED ACCESS

A. All hazardous wastes shall be secured to an appropriate level determined by RMS and applicable regulations. Once hazardous wastes are prepared for transport, the following measures shall be taken to minimize unauthorized access:

1. All off-site hazardous waste shipments shall be through a RMS approved vendor.
2. Shipments shall be scheduled directly with the vendor by RMS. Hazardous wastes shall only be transferred to known vendor personnel on scheduled dates. Shipments shall only be transferred to an individual when there is reasonable assurance the individual is an employee of the transporter. "Reasonable assurance" is wearing the transporter's uniform, having a company identification card, and the individual conducts the transfer in accordance with known standards for the transporter.
3. Unauthorized access during loading is reduced by requiring that RMS personnel trained in this security plan be present during the loading process. Suspicious or unauthorized individuals may be asked to leave the loading area. Loading may be temporarily suspended if necessary or police help may be requested depending upon assessment of the situation.

APPENDIX C

UNIVERSITY OF ARIZONA CRYOGENICS AND GAS FACILITY HAZARDOUS MATERIALS TRANSPORTATION SECURITY PLAN PER 49 CFR 172.800

I. INTRODUCTION

In response to hazardous material transportation security regulations promulgated by the federal Department of Transportation (DOT) in 2003, the University of Arizona (UA) has developed this transportation security plan. The DOT regulations require that the University implement a security plan if they ship certain categories of hazardous materials in commerce, contain a broad security training provision that will apply to all hazmat employees (regardless of whether or not a security plan is required), and a specific training provision applicable to all facilities required to have a security plan.

The Cryogenics and Gas Facility has developed this supplement to the University plan to specifically address its requirements and procedures for the transportation security of cryogenic liquids and gases.

II. SCOPE

Cryogenics Facility employees that directly affect hazardous material transportation safety are considered a hazmat employee and are subject to the provisions of this plan. The Cryogenics Facility offers hazardous materials for shipment in commerce and is therefore a hazmat employer. Since the Cryogenics Facility meets the following DOT specifications, a security plan is required:

- A. More than one liter (1.06 quart) per package of a material poisonous by inhalation, as defined in 40 CFR 171.8, that meets the criteria for Hazard Zone A, as specified in 49 CFR 173.116(a) or 173.133(a);
- B. A quantity of hazardous material that requires placarding under the provisions of 49 CFR 172 subpart F.

The DOT's minimum requirement for a hazardous materials security plan should include the following elements: personnel security, unauthorized access, and en route security.

III. ASSESSMENT

List the material handled and identify the potential for use as a weapon or target of opportunity:

- Bulk Helium Gas
- Bulk Liquid Nitrogen
- Delivery Vehicles
- Gas Cylinders
- Bulk Liquid helium

What are we doing now?

- Preparing a daily manifest.
- Deliveries are made to known labs, researchers and vendors.
- Keys are in the drivers possession at all times.
- Products are delivered to the custody of lab or vendor personnel.
- The Cryogenics Facility area is equipped with cameras and lights.
- A metal fence secures the Cryogenics Facility.
- The Cryogenics Facility area is attended by an employee.
- Signs are posted to restrict unauthorized personnel from the Cryogenics Facility area.
- Doors and gates are locked when area is closed or unattended.
- Background checks on new employees hired.

What could go wrong?

- Helium bulk tanks could be compromised.
- Liquid nitrogen bulk tank could be compromised.
- Liquid helium bulk tank could be compromised.
- Vehicles could be stolen.
- Dry ice could be stolen.
- Cylinders could be stolen.

What could we do differently?

- Setup a recorder for all of the Cryogenics Facility cameras.
- Revise and update manifest after each stop.
- Poisonous and toxic cylinders must never be left unattended.
- 2 employees will be utilized in the transportation of poisonous and toxic gases.
- Install a digital video recording device.

IV. PERSONNEL SECURITY

This portion addresses the possibility that a new hire may pose a potential security risk within the university. The following are adopted guidelines from the University of Arizona's hazardous materials transportation security plan.

- A. Pre-placement background screening checks shall be performed by the Cryogenics Facility / URIC, Human Resources and Risk Management for job classifications that may involve access to and handling of hazardous materials for transport covered by this security plan.
- B. Pre-placement background screening checks apply to first hire but not advancement positions, unless advancement is from a job classification not included in the security check requirement.
- C. The background screening shall consist of:
 1. The Cryogenics Facility / URIC shall check references and verify employment history noted on the job application or resume. Verification will include contacting at least two of the employers listed. At least two references, with at least one reference required to be a supervisor and/or co-worker, need to be verified.
 2. Human Resources and Risk Management will conduct drug, motor vehicle and criminal background check. The Cryogenics Facility / URIC must provide Human Resources with the applicant's full name, social

- security number and the section of the application related to prior convictions.
3. Human Resources will verify citizenship by ensuring I-9 forms are properly completed and maintained for all employees.
 4. The Cryogenics Facility / URIC is responsible for ensuring that employees who physically transport hazardous materials off campus in placarded amounts, excluding small quantity exemptions, have, or can obtain within a designated time, a valid Commercial Drivers License (CDL) with the hazardous materials endorsement.
 - a. States are required to perform background checks of CDL licensees prior to issuing or renewing the hazardous materials endorsement.
 - b. Due to privacy issues, employers are not notified when an employee has had their hazardous material endorsement rejected or revoked.

Currently the positions at the Cryogenics Facility / URIC requiring a CDL licenses with the hazardous material endorsement are Cryogenics Technician Senior and Cryogenics Technician. The requirement to have the hazardous materials endorsement is an internal university policy to ensure technical competence due to the fact that hazardous materials transported on campus are exempted.

VII. UNAUTHORIZED ACCESS

All hazardous materials shall be secured within the Cryogenics and Gas Facility area. Once a hazardous material is prepared for transport, the following measures shall be taken to minimize unauthorized access:

- A. All hazardous material transfer requiring a motor vehicle shall be made in a UA or contractor designated vehicle.
 1. Hazardous materials shall not be left unattended in an unsecured departmental or contractor vehicle.
 2. When leaving the departmental vehicle in a secured area, the driver is to remove the keys and lock the cab of the vehicle. The keys are to remain with the driver at all times.
- B. All off-site hazardous material shipments shall be through a UA approved vendor.
 1. Shipments shall be scheduled directly with the vendor by the Cryogenics Facility.
 2. Hazardous materials shall only be transferred to known vendor personnel on scheduled dates. Shipments shall only be transferred to an individual when there is reasonable assurance the individual is an employee of the transporter. "Reasonable assurance" is wearing the transporter's uniform, having a company identification card, and the individual conducts the transfer in accordance with known standards for the transporter.
- C. All hazardous materials will be loaded and handled by trained and qualified Cryogenics Facility personnel.
 1. Suspicious or unauthorized individuals may be asked to leave the loading area.

2. Unauthorized access during loading is reduced by requiring that Cryogenics Facility personnel trained in this security plan be present during the loading process. Loading may be temporarily suspended if necessary or police help may be requested depending upon assessment of the situation.
- D. Signs which read “ Authorized Personnel Only “ have been posted.
1. Cryogenics Facility staff must and is obligated to escort any unauthorized or suspicious persons from the posted areas.

VII. EN ROUTE SECURITY

En route security measures include:

- A. All hazardous material shipments shall be packaged and accompanied by the necessary supporting documentation as required by the involved regulatory agencies.
- B. Adequate security must be provided for storage during transportation. Overnight storage while in transit must be secure. Temporary storage exceeding one night must be at an approved location.
- C. Vendors are required to notify The Cryogenics and Gas Facility of any accidents or breaches in security that occur while university hazardous materials shipments are in transit.
- C. The Cryogenics and Gas Facility is requiring that 2 employees be present when transporting toxic and poisonous gas. In the event of an emergency or accident, 1 of the Cryogenics and Gas facility employees is to remain with the secured toxic or poisonous gas at all times.

VIII. NOTIFICATION AND REPORTING

If a known or suspected breach of this plan occurs, the discoverer of the breach must notify the Cryogenics and Gas Facility Director. The Director upon verifying that a breach has occurred will notify UAPD (621-8273) and RM&S (621-1790).

UAPD and RM&S will evaluate individual incidents of security breach and notify all appropriate and regulatory agencies when necessary. Potential agencies that may be notified include:

- | | | |
|----|---|----------------|
| A. | Arizona Highway Patrol | (520) 746-4500 |
| B. | Arizona Department of Environmental Quality | (800) 234-5677 |
| C. | Environmental Protection Agency Region IX | (800) 300-2193 |
| D. | Arizona Department of Administration
Risk Management Section | (602) 542-2182 |
| F. | Alcohol, Tobacco and Firearms | (520) 670-4725 |

APPENDIX D

UNIVERSITY OF ARIZONA CENTRAL RECEIVING DEPARTMENT HAZARDOUS MATERIALS TRANSPORTATION SECURITY PLAN PER 49 CFR 172.800

I. INTRODUCTION

In response to hazardous material transportation security regulations promulgated by the federal Department of Transportation (DOT) in 2003, the University of Arizona (UA) has developed this transportation security plan. The DOT regulations require that the University implement a security plan if they ship certain categories of hazardous materials in commerce, contain a broad security training provision that will apply to all hazmat employees (regardless of whether or not a security plan is required), and a specific training provision applicable to all facilities required to have a security plan.

The Central Receiving Department has developed this supplement to the University plan to specifically address its requirements and procedures for the transportation security of hazardous materials.

II. SCOPE

The scope of this security plan is limited to hazardous materials shipments in commerce that require placarding under 49 CFR 172 Part F.

III. ASSESSMENT OF RISKS

A. IDENTIFICATION OF APPLICABLE HAZARDOUS WASTES

Under 49 CFR 172 Part F, placarding is required for any of the following:

- Class 2.3 – Poison Gas
- Class 4.3 – Dangerous When Wet
- Class 6.1 – Poison (Inhalation Hazard – Zone A or B)

Additionally, placarding is required for shipments of 1001 pounds of items listed in Table 2 of 49 CFR 172.504. All hazardous material shipments generated by the University require placarding and security prior to departure from the Central Receiving Facility.

B. ASSESSMENT OF RISK

The overall risk associated with the transport of placarded hazardous waste by Central Receiving is considered low for the following reasons:

1. There is a very low volume of hazardous shipments made by Central Receiving.
2. Appropriate security measures are taken to minimize any potential security breach associated with the transportation of hazardous materials.
4. Loading and staging procedures ensure minimal time is required to physically move the hazardous materials from the secure storage facility to the transporter's vehicle.

C. SECURITY RISKS IN STORAGE AND HANDLING FOR SHIPMENT

1. Hazardous materials transported in commerce are packaged per DOT regulations
2. Hazardous materials waiting to be processed are stored in a locked fenced area within the brick warehouse and locked fenced compound
3. Unauthorized and/or untrained personnel are not allowed independent access to the locked fenced area within the building. Central Receiving personnel are the only UA employees authorized to have keys
4. Security concerns are part of the daily inspection of the 22nd Street warehouse. All access points are checked and secured before employees leave at the end of the day.
5. Prior to shipment, all containers that have been assigned to the shipment are inspected for physical integrity and proper identification and hazard labeling. Central Receiving creates a Bill of Lading through the shipper. Central Receiving affixes the proper hazardous material labels to the shipment.
6. Central Receiving keeps a copy of the Bill of Lading for tracking purposes. The original Bill of Lading is given to the driver of the contracted carrier. A copy of the Bill of Lading is taped to the shipment.
7. The driver of the contracted carrier puts a "pro" label on the shipment with their internal tracking number.
8. Central Receiving staff observe the shipment being loaded onto the shipper's truck.
9. The contracted carrier driver calls his dispatch to verify the pickup has been made from the University of Arizona
10. Procedures for the packaging and transferring of hazardous materials have been established.

IV. LOADING AND SECURING SHIPMENTS

A. All hazardous material shall be secured to an appropriate level determined by Central Receiving and applicable regulations. Once hazardous wastes are prepared for transport, the following measures shall be taken to ensure proper loading and securing:

1. The Central Receiving staff member(s) involved in the hazardous material shipment shall:
 - a. Visually verify that the associated shipping containers are properly loaded onto the transport vehicle and braced (as necessary) for transport.
 - b. Verify that the total number of containers loaded on the transport vehicle coincides with the total number of containers listed on the hazardous material manifest(s).
 - d. Ensure that the hazardous materials are locked within the transporter's vehicle prior to moving out of visual sight of the vehicle.

2. All hazardous material shipments shall be accompanied by all documents deemed adequate by the US Department of Transportation (DOT), the State of Arizona and the Receiver's State as specified by 49 CFR. Additional information may be required by the Transporter, Receiver or other entities to completely explain any handling, processing and/or special circumstances.

V. UNAUTHORIZED ACCESS

A. All hazardous material shall be secured to an appropriate level determined by Central Receiving and applicable regulations. Once hazardous materials are prepared for transport, the following measures shall be taken to minimize unauthorized access:

1. Shipments shall be scheduled directly with the vendor by Central Receiving
2. Shipments shall only be transferred to an individual when there is reasonable assurance the individual is an employee of the transporter. "Reasonable assurance" is wearing the transporter's uniform, having a company identification card, and the individual conducts the transfer in accordance with known standards for the transporter.
3. Unauthorized access during loading is reduced by requiring that Central Receiving personnel trained in this security plan be present during the loading process. Suspicious or unauthorized individuals may be asked to leave the loading area. Loading may be temporarily suspended if necessary or police help may be requested depending upon assessment of the situation.

APPENDIX E

FedEx Documentation



U.S. Department
of Transportation
**Federal Motor
Carrier Safety
Administration**

1200 New Jersey Ave., S.E.
Washington, DC 20590
May 14, 2014

In reply refer to:
USDOT Number: 164025
MC Number: MC141898/FP3926

VIRGINIA ALBANESE
PRESIDENT
FEDEX CUSTOM CRITICAL INC
PO BOX 5000
GREEN, OH 44232-5000

HAZARDOUS MATERIALS SAFETY PERMIT
HM Safety Permit ID: US-164025-OH-HMSP
Effective Date: May 14, 2014

Dear VIRGINIA ALBANESE:

The Hazardous Materials Safety Permit (HMSP) is verification of the motor carrier's permission to engage in the transportation of hazardous materials listed in 49 CFR 385.403 by motor vehicle in interstate, intrastate, or foreign commerce.

This HMSP will be effective beginning May 14, 2014 and remain effective through May 31, 2016 if your company maintains compliance with the requirements pertaining to the safe and secure movement of hazardous materials for the protection of the public (49 CFR 385 and other applicable Federal Motor Carrier Safety Regulations and Hazardous Material Regulations). Failure to maintain compliance will constitute sufficient grounds for suspension or revocation of this authority.

Willful and persistent noncompliance with applicable safety fitness regulations as evidenced by a Department of Transportation safety fitness rating less than "Satisfactory" or by other indicators, could result in a proceeding requiring the holder of this permit to show cause as to why this authority should not be suspended or revoked.

For questions regarding this document you may contact the FMCSA Hazardous Materials Division at 202-366-6121.

Sincerely,

Joseph P. DeLorenzo
Director, Office of Enforcement and Compliance

1475 Beechler Road
Uniontown, OH 44685-9004

PO Box 6000
Green, OH 44237-5000

Telephone 800.782.3787
Fax 234.310.4152
www.fedexcustomcritical.com



Sept. 8, 2003

Dear FedEx Custom Critical Customer:

Please accept this letter as notification that FedEx Custom Critical has prepared a Hazardous Materials Security Plan, as required by 49 CFR Part 172 (and Department of Transportation HM 232) pertaining to driver hazardous materials endorsements (the "HazMat Security Plan").

The HazMat Security Plan, along with continuing security awareness training throughout our entire organization, will be in effect on Sept. 25, 2003.

Inquiries regarding this notification may be directed to Kellie Toth at 234.310.4087.

Sincerely,

A handwritten signature in black ink, appearing to read "Virginia Albanese".

Virginia Albanese
President & CEO