From: <dwalter@adph.state.al.us>
To: <phl@nrc.gov>
Date: 9/13/05 12:46PM
Subject: Increased Control and Security documents

Paul,

As you instructed during the teleconference last week, please find attached documents we propose to send to our licensees that are in Groups 1-4.

These attachments include the cover letter, Attachment 1 (description of the increased controls), Attachment 2 (Table of Radionuclides of Concern), sample wording to be used in the license amendment, and a copy of our policy for protecting information from unauthorized disclosure.

Your comments are appreciated. If NRC approval is received, we will amend the affected licenses in a timely manner.

Please feel free to contact me, or Kirksey Whatley, if you or your staff have any questions.

Thank you.

David Walter, Director
Radioactive Materials Licensing
Alabama Office of Radiation Control
Phone: (334) 206-5391
Fax: (334) 206-5387

(See attached file: Security license conditions cover.wpd)

(See attached file: Security license conditions Attachment 1.doc)

(See attached file: Security Conditions Attachment 2.wpd)

(See attached file: Security Increased Control License Condition.wpd)

(See attached file: Security Policy Statement 0407.pdf)

CC: <kwhatley@adph.state.al.us>

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Subject:	Increased Control and Security documents
Creation Date:	9/13/05 12:46PM
From:	<dwalter@adph.state.al.us>
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Recipients

nrc.gov
twf1_po.TWFN_DO
PHL (Paul Lohaus)

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Files	**Size**	**Date & Time**
MESSAGE	1110	09/13/05 12:46PM
TEXT.htm	1306	
Security license conditions cover.wpd		37247
Security license conditions Attachment 1.doc		45056
Security Conditions Attachment 2.wpd		61325
Security Increased Control License Condition.wpd		4827
Security Policy Statement 0407.pdf		58521
Mime.822	289081	

Options

Expiration Date:	None
Priority:	Standard
Reply Requested:	No
Return Notification:	None
Concealed Subject:	No
Security:	Standard

DATE

[LICENSEE NAME]
ATTN [RSO]
[LICENSEE ADDRESS]
[CITY] [STATE] [ZIP]

Dear [RSO]:

The U.S. Nuclear Regulatory Commission (NRC) and the Agreement States (which includes Alabama) are in the process of implementing increased controls for licensees that possess certain radioactive materials in quantities of concern. The NRC has determined that additional requirements need to be implemented to supplement existing regulatory requirements in 10 CFR §§ 20.1801-1802 (rules similar to Alabama Rules 420-3-26-.03(25) and (26). The increased controls are a matter of compatibility with the NRC and must be implemented in a time frame desired by the NRC and with essentially identical content to those being used by the NRC for its licensees.

Your radioactive material license has been identified as authorizing possession of certain radioactive material in one of the affected categories. Therefore, in accordance with Rule 420-3-26-.01(7), your license has been amended to require you to comply with the increased controls detailed in the enclosed Attachment 1. A table of radionuclides of concern (Table 1) is enclosed as Attachment 2. Your newly amended license is also enclosed.

Within twenty-five (25) days of the date of this letter:

1. You shall notify this office:

   A. If you are unable to comply with any of the requirements in Attachment 1;

   B. If compliance with any of the requirements is unnecessary because of your specific circumstances; or

   C. if implementation of any of the requirements would cause you to be in violation of the provisions of any regulation or your license.

   The notification shall provide your justification for seeking relief from, or variation of, any specific requirement.

2. If you consider that implementation of any of the requirements detailed in Attachment 1 would adversely impact safe operation of your facility, you must notify this office, in writing, of the adverse safety impact, the basis for your determination that the requirement would have an adverse safety impact, and either a proposal for achieving the same objectives specified in Attachment 1, or a schedule for

modifying the facility to address the adverse safety condition. If neither approach is appropriate, you must supplement your response to paragraph 1 above to identify the condition as a requirement with which you cannot comply, and provide justifications as required in paragraph 1 above.

3. You shall submit to this office a schedule for completion of each requirement detailed in attachment 1.

Responses to paragraphs 1-3, above, shall be submitted to the Alabama Office of Radiation Control, P.O. Box 303017, Montgomery, Alabama, 36130-3017. In addition, your response shall be marked as "Withhold from Public Disclosure" as required by Policy Directive No. 04-07 of the Alabama Department of Public Health.

The Alabama Office of Radiation Control may, in writing, relax or rescind any of the above conditions upon your demonstration of good cause.

As provided by Rule 420-3-26-.13(3), you have an opportunity to request a hearing to contest this action. In accordance with 420-3-26-.13(3), if you wish such a hearing to be convened, we must have your request to that effect, in writing, within 25 days of the date of this letter.

If you have any questions, please feel free to contact this office at 334-206-5391, or on our in-state toll free number, 800-582-1866.

Sincerely,

Kirksey E. Whatley, Director

3 Attachments
1. Increased Controls
2. Table 1
3. License Amendment

bcc: file

Attachment 1

INCREASED CONTROLS FOR LICENSEES THAT POSSESS SOURCES CONTAINING RADIOACTIVE MATERIAL QUANTITIES OF CONCERN

Increased controls are being put into place for radioactive material in quantities greater than or equal to values described in Table 1. The purpose of the increased controls is to reduce the risk of unauthorized use of radioactive materials by controlling access to these materials, and thereby aid prevention, and prompt detection, assessment, and response to mitigate potentially high consequences that would be detrimental to public health and safety. These increased controls for radioactive sources are established to delineate licensee responsibility to maintain control of licensed material and secure it from unauthorized removal or access. The following increased controls apply to licensees which, at any given time, possess radioactive sources greater than or equal to the quantities of concern of radioactive material defined in Table 1.

IC 1. In order to ensure the safe handling, use, and control of licensed material in use and in storage, each licensee shall control access at all times to radioactive material quantities of concern and devices containing such radioactive material (devices), and limit access to such radioactive material and devices to only approved individuals who require access to perform their duties.

1. The licensee shall allow only trustworthy and reliable individuals, approved in writing by the licensee, to have unescorted access to radioactive material quantities of concern and devices. The licensee shall approve for unescorted access only those individuals with job duties that require access to such radioactive material and devices. Personnel who require access to such radioactive material and devices to perform a job duty, but who are not approved by the licensee for unescorted access, must be escorted by an approved individual.

2. For individuals employed by the licensee for three years or less, and for non-licensee personnel, such as physicians, physicists, house-keeping personnel, and security personnel under contract, trustworthiness and reliability shall be determined, at a minimum, by verifying employment history, education, and personal references. The licensee shall also, to the extent possible, obtain independent information to corroborate information provided by the employee (i.e., seeking references not supplied by the individual). For individuals employed by the licensee for longer than three years, trustworthiness and reliability shall be determined, at a minimum, by a review of each employee's employment history with the licensee.

3. Service providers shall be escorted unless determined to be trustworthy and reliable by an NRC-required background investigation as an employee of a manufacturing and distribution (M&D) licensee. Written verification attesting to or certifying the person's trustworthiness and reliability shall be obtained from the manufacturing and distribution licensee providing the service.

4. The licensee shall document the basis for concluding that there is reasonable assurance that an individual granted unescorted access is trustworthy and reliable, and does not constitute an unreasonable risk for unauthorized use of radioactive material quantities of concern. The licensee shall maintain a list of persons approved for unescorted access to such radioactive material and devices by the licensee.

IC 2. In order to ensure the safe handling, use, and control of licensed material in use and in storage, each licensee shall have a documented program to monitor and immediately detect, assess, and respond to unauthorized access to radioactive material quantities of concern and devices. Enhanced monitoring shall be provided during periods of source delivery or shipment, where the delivery or shipment exceeds 100 times the Table 1 values.

1. The licensee shall respond immediately to any actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices. The response shall include requesting assistance from a Local Law Enforcement Agency (LLEA).

2. The licensee shall have a pre-arranged plan with LLEA for assistance in response to an actual or attempted theft, sabotage, or diversion of such radioactive material or of the devices which is consistent in scope and timing with realistic potential vulnerability of the sources containing such radioactive material. The pre-arranged plan shall be updated when changes to the facility design or operation affect the potential vulnerability of the sources. Pre-arranged LLEA coordination is not required for temporary job sites.

3. The licensee shall have a dependable means to transmit information between, and among, the various components used to detect and identify an unauthorized intrusion, to inform the assessor, and to summon the appropriate responder.

4. After initiating appropriate response to any actual or attempted theft, sabotage, or diversion of radioactive material or of the devices, the licensee shall, as promptly as possible, notify the Alabama Office of Radiation Control at 334-206-5391 (other contact numbers are available on our Radiological Emergency Assistance contact sheet).

5. The licensee shall maintain documentation describing each instance of unauthorized access and any necessary corrective actions to prevent future instances of unauthorized access.

IC 3. a. In order to ensure the safe handling, use, and control of licensed material in transportation for domestic highway and rail shipments by a carrier other than the licensee, for quantities that equal or exceed those in Table 1 but are less than 100 times Table 1 quantities, per consignment, the licensee shall:

1. Use carriers which:

   A. Use package-tracking systems,

   B. Implement methods to assure trustworthiness and reliability of drivers,

   C. Maintain constant control and/or surveillance during transit, and

   D. Have the capability for immediate communication to summon appropriate response or assistance.

   (The licensee shall verify and document that the carrier employs the measures listed above.)

2. Contact the recipient to coordinate the expected arrival time of the shipment;

3. Confirm receipt of the shipment; and

4. Initiate an investigation to determine the location of the licensed material if the shipment does not arrive on or about the expected arrival time. When, through the course of the investigation, it is determined the shipment has become lost, stolen, or missing, the licensee shall immediately notify the Alabama Office of Radiation Control at 334-206-5391. If, after 24 hours of investigating, the location of the material still cannot be determined, the radioactive material shall be deemed missing and the licensee shall immediately notify the Alabama Office of Radiation Control at 334-206-5391.

b. For domestic highway and rail shipments, prior to shipping licensed radioactive material that exceeds 100 times the quantities in Table 1 per consignment, the licensee shall:

1. Notify the NRC[1], in writing, at least 90 days prior to the anticipated date of shipment. The NRC will issue the Order to implement the Additional Security Measures (ASMs) for the transportation of Radioactive Material Quantities of Concern (RAM QC). The licensee shall not ship this material until the ASMs for the transportation of RAM QC are implemented or the licensee is notified otherwise, in writing, by NRC.

2. Once the licensee has implemented the ASMs for the transportation of RAM QC, the notification requirements of IC 3.b.1 shall not apply to future shipments of licensed radioactive material that exceed 100 times the Table 1 quantities. The licensee shall implement the ASMs for the transportation of RAM QC.

c. If a licensee employs an M&D licensee to take possession of the licensed radioactive material and ship it under its M&D license, the requirements of IC 3.a. and IC 3.b above shall not apply.

d. If the licensee is to receive radioactive material greater than or equal to the Table 1 quantities, per consignment, the licensee shall coordinate with the originating licensee to:

4. Establish an expected time of delivery; and

5. Confirm receipt of transferred radioactive material. If the material is not received at the expected time of delivery, notify the originating licensee and assist in any investigation.

IC 4. In order to ensure the safe handling, use, and control of licensed material, in use and in storage, each licensee that possesses mobile or portable devices containing radioactive material in quantities greater than or equal to Table 1 values, shall:

a. For portable devices, have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when

[1]Director, Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555

the device is not under direct control and constant surveillance by the licensee.

b. For mobile devices:

1. that are only moved outside of the facility (e.g., on a trailer), have two independent physical controls that form tangible barriers to secure the material from unauthorized removal when the device is not under direct control and constant surveillance by the licensee.

2. that are only moved inside a facility, have a physical control that forms a tangible barrier to secure the material from unauthorized movement or removal when the device is not under direct control and constant surveillance by the licensee.

c. For devices in or on a vehicle or trailer, licensees shall also utilize a method to disable the vehicle or trailer when not under direct control and constant surveillance by the licensee.

IC 5. The licensee shall retain documentation required by these increased controls for three years after they are no longer effective:

a. The licensee shall retain documentation regarding the trustworthiness and reliability of individual employees for three years after the individual's employment ends.

b. Each time the licensee revises the list of approved persons required by IC 1.d., or the documented program required by IC 2., the licensee shall retain the previous documentation for three years after the revision.

c. The licensee shall retain documentation on each radioactive material carrier for three years after the licensee discontinues use of that particular carrier.

d. The licensee shall retain documentation on shipment coordination, notifications, and investigations for three years after the shipment or investigation is completed.

e. After the license is terminated or amended to reduce possession limits below the quantities of concern, the licensee shall retain all documentation required by these increased controls for three years.

IC 6. Detailed information generated by the licensee that describes the physical protection of radioactive material quantities of concern is sensitive information and shall be protected from unauthorized disclosure.

a. The licensee shall control access to its physical protection information to those persons who have an established need to know the information, and are considered to be trustworthy and reliable.

b. The licensee shall develop, maintain and implement policies and procedures for controlling access to, and for proper handling and protection against unauthorized disclosure of, its physical protection information for radioactive material covered by these requirements. The policies and procedures shall include the following:

1. General performance requirement that each person who produces, receives, or acquires the licensee's sensitive information, protect the information from unauthorized disclosure,

2. Protection of sensitive information during use, storage, and transit,

3. Preparation, identification or marking, and transmission,

4. Access controls,

5. Destruction of documents,

6. Use of automatic data processing systems, and

7. Removal from the licensee's sensitive information category.

Attachment 2

Table 1: Radionuclides of Concern

Radionuclide	Quantity of Concern[1] (TBq)	Quantity of Concern[2] (Ci)
Am-241	0.6	16
Am-241/Be	0.6	16
Cf-252	0.2	5.4
Cm-244	0.5	14
Co-60	0.3	8.1
Cs-137	1	27
Gd-153	10	270
Ir-192	0.8	22
Pm-147	400	11,000
Pu-238	0.6	16
Pu-239/Be	0.6	16
Se-75	2	54
Sr-90 (Y-90)	10	270
Tm-170	200	5,400
Yb-169	3	81
Combinations of radioactive materials listed above[3]	See Footnote Below[4]	

[1] The aggregate activity of multiple, collocated sources of the same radionuclide should be included when the total activity exceeds the quantity of concern.

[2] The primary values used for compliance with this Order are TBq. The curie (Ci) values are rounded to two significant figures for informational purposes only.

[3] Radioactive materials are to be considered aggregated or collocated if breaching a common physical security barrier (e.g., a locked door at the entrance to a storage room) would allow access to the radioactive material or devices containing the radioactive material.

[4] If several radionuclides are aggregated, the sum of the ratios of the activity of each source, *I* of radionuclide, *n*, $A_{(I,n)}$, to the quantity of concern for radionuclide *n*, $Q_{(n)}$, listed for that radionuclide exceeds one. [(aggregated source activity for radionuclide A) ÷ (quantity of concern for radionuclide A)] + [(aggregated source activity for radionuclide B) ÷ (quantity of concern for radionuclide B)] + etc..... ≥ 1

Use the following method to determine which sources of radioactive material require increased controls (ICs):

- Include any single source larger than the quantity of concern in Table 1

- Include multiple co-located sources of the same radionuclide when the combined quantity exceeds the quantity of concern

- For combinations of radionuclides, include multiple co-located sources of different radionuclides when the aggregate quantities satisfy the following unity rule: [(amount of radionuclide A) ÷ (quantity of concern of radionuclide A)] + [(amount of radionuclide B) ÷ (quantity of concern of radionuclide B)] + etc.....≥ 1

Guidance for Aggregation of Sources

NRC supports the use of the IAEA's source categorization methodology as defined in TECDOC-1344, "Categorization of Radioactive Sources," (July 2003) (see http://www-pub.iaea.org/MTCD/publications/PDF/te_1344_web.pdf) and as endorsed by the agency's Code of Conduct for the Safety and Security of Radioactive Sources, January 2004 (see http://www-pub.iaea.org/MTCD/publications/PDF/Code-2004.pdf). The Code defines a three-tiered source categorization scheme. Category 1 corresponds to the largest source strength (greater then 100 times the quantity of concern values listed in Table 1.) and Category 3, the smallest (equal or exceeding one-tenth the quantity of concern values listed in Table 1.). Increased controls apply to sources that are greater than the quantity of concern values listed in Table 1, plus aggregations of smaller sources that add up to greater than the quantities in Table 1. Aggregation only applies to sources that are co-located.

Licensees who possess sources in total quantities that exceed the Table 1 quantities are required to implement increased controls. Where there are many small (less than the quantity of concern values) co-located sources whose total aggregate activity exceeds the Table 1 values, licensees are to implement increased controls.

Some source handling or storage activities may cover several buildings, or several locations within specific buildings. The question then becomes: When are sources considered co-located for purposes of aggregation? For purposes of the additional controls, sources are considered co-located if breaching a single barrier (e.g., a locked door at the entrance to a storage room) would allow access to the sources. Sources behind an outer barrier should be aggregated separately from those behind an inner barrier (e.g., a locked source safe inside the locked storage room). However, if both barriers are simultaneously open, then all sources within these two barriers are considered to be co-located. This logic should be continued for other barriers within or behind the inner barrier.

The following example illustrates the point: A lockable room has sources stored in it. Inside the lockable room, there are two shielded safes with additional sources in them. Inventories are as follows:

The room has the following sources outside the safes: Cf-252, 0.12 Tbq (0.3 Ci); Po-210, 0.36 TBq (10 Ci), and Pu-238, 0.3 Tbq (8 Ci). Application of the unity rule yields: $(0.012 \div 0.2) + (0.36 \div 0.6) + (0.3 \div 0.6) = 0.06 + 0.6 + 0.5 = 1.2$. Therefore, the sources would require increased controls. If the sources are distributed and shipped individually, PMs would not apply because they do not exceed the quantities in Table 1.

Shielded safe #1 has a 1.9 Tbq (51 Ci) Cs-137 source and a 0.75 Tbq (20 Ci) Ra-226 source. In this case, both sources would require increased controls, because they exceed the quantities in Table 1. The Ra-226 source was co-located with an NRC licensed source and therefore would need to be similarly protected.

Shielded safe #2 has two Po-210 sources, each having an activity of 0.2 Tbq (5 Ci). In this case, neither source would require increased controls. (total activity = 0.4 Tbq (10 Ci). They do not exceed the threshold quantity 0.6 Tbq (20 Ci).

Because certain barriers may cease to exist during source handling operations (e.g., a storage location

may be unlocked during periods of active source usage), licensees should, to the extent practicable, consider two modes of source usage — "operations" (active source usage) and "shutdown" (source storage mode). Whichever mode results in the greatest inventory (considering barrier status) would require increased controls for each location.

RADIOACTIVE MATERIALS LICENSE AMENDMENT EXAMPLE

34.A. Except as specifically provided otherwise by this license, the licensee shall possess and use the radioactive material authorized by this license in accordance with statements, representations, and procedures contained in the following:

application dated ...
letters dated...

B. The licensee shall comply with the requirements described in Agency letter dated **[insert date]** and attached document entitled "Increased Controls for Licensees that Possess Sources Containing Radioactive Material Quantities of Concern." The licensee shall complete implementation of said requirements within 6 months from the issuance of the license amendment or the first day that radionuclides in quantities of concern are possessed at or above the limits specified in Table 1 of the attachment, whichever is later. Within 25 days after the implementation of the requirements of this condition, the licensee shall notify the Alabama Office of Radiation Control in writing that it has completed the requirements of this condition.

POLICY ID# 04-07
CLEARED BY: DD
DATE: 01/20/04

STATE OF ALABAMA DEPARTMENT OF
PUBLIC HEALTH

Donald E. Williamson, MD
State Health Officer

ALABAMA DEPARTMENT OF PUBLIC HEALTH POLICY FOR PROTECTING NUCLEAR REGULATORY COMMISSION INFORMATION FROM UNAUTHORIZED DISCLOSURES

POLICY

It is the policy of the Alabama Department of Public Health to ensure that all sensitive information provided by and designated as such by the U.S. Nuclear Regulatory Commission or other governmental agencies be adequately protected from unauthorized disclosure.

PROCEDURES

1. Any and all documents and information designated by the United States Nuclear Regulatory Commission or other government agencies as SGI, Safeguards Information. SGI-M. Safeguards Information Modified Handling, Official Use Only information, and/or Proprietary information may be received and reviewed only by the State Health Officer, the Director of the Office of Radiation Control or those either or both of them authorize.

2. The State Health Officer and the Director shall limit access to this information to persons who have a need to know.

3. Such information shall not be considered to be public records and shall not be disclosed in response to requests made pursuant to the Alabama Public Records law.

4. All Federal Freedom of Information Act (FOIA) requests shall be forwarded to the Nuclear Regulatory Commission for direct reply.

5. All SGI, Safeguards Information, SGI-M, Safeguards Information Modified Handling, Official Use Only information, and proprietary information shall be kept in a locked file cabinet in the Office of Radiation Control in a space that is attended by the Director.

6. All suspected breaches of this policy must be reported to the Office of General Counsel.

7. The Office of Personnel in conjunction with the Office of General Counsel shall investigate all alleged breaches of this policy and determine what adverse personnel action would be appropriate.

Donald E. Williamson, M.D. Date 1/27/04

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P.O. Box 303017 • Montgomery, AL 36130-3017