

UNITED STATES NUCLEAR REGULATORY COMMISSION
REGION III
CONVERSATION RECORD

(X) TELEPHONE (X) OUTGOING () INCOMING () CONVERSATION

TIME 1:00

DATE 6/4/96

NAME OF PERSON(S) CONTACTED ORGANIZATION TELEPHONE NO.

Don Hayes, Radiation Officer
Wyle Labs
614-522-8743

SUBJECT

New license application dated March 1, 1996
Control Number 301020

SUMMARY:

Deficiency telephone conversation dated April 17, 1996, did not include Question 12. Therefore, Question 12 is included here.

1. Describe the access control systems for the cobalt-60 panoramic irradiator with respect to the requirements of 10 CFR Part 36.23. Provide enough detail to show that the design of the access control system is adequate to meet all of the requirements of 10 CFR 36.23. It may be helpful to quote each requirement and provide the relevant description underneath.

Note: Based on discussions with Don Hayes it appears that the licensee's facilities currently do not meet the requirements of 36.23. In addition, they are eager to receive their license ASAP. We discussed several options related to this item:

- a. Place the cobalt-60 calibrator in storage until the facility is brought up to specs.
- b. Modify the facility to bring it up to standards (before license can be issued); or
- c. Request an exemption from the regulations. If you do this, you must provide adequate justification as to why you cannot comply and demonstrate an equivalent level of radiation safety.

Therefore, please advise me as to which course of action you wish to follow.

2. Column C, Item 7 of your letter dated April 19, 1996 states that Monsanto model 2726-B sealed source is used in the JL Shepherd Model 149, however, the Sealed Source and Device Registration Certificate dated April 18, 1989 does not list this source as being approved for this device. Please verify the model number of your source or demonstrate that the source is approved for the device.
3. Column C, Item 13, of your letter dated April 19, 1996, references Amersham Type X.60/1 sealed source in the Alan-Tech dosimeter calibrator. Similarly as stated above, we do not show this source device combination has been approved. Please provide additional information to resolve the issue.

ACTION REQUIRED:

Control Number 301020

ACTION TAKEN

NAME OF PERSON DOCUMENTING CONVERSATION

Evelyn R. Matson

SIGNATURE

9610070023 961001
PDR ADOCK 03034085
C PDR

DATE

June 3, 1996

June 20, 1996

U. S. Nuclear Regulatory Commission, Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Attention: Evelyn R. Matson, Materials Licensing Section

Reference: Wyle Laboratories, Newark Metrology Center, Application For New
Radioactive Material License, Dated March 1, 1996, Control Number
301020

Subject: Response to Questions for Wyle Laboratories Application, Dated June 4,
1996, Control Number 301020

10 CFR Part 36.23. The following is a paragraph-by-paragraph description of the Cobalt-60 range and 10 CFR 36.23 requirements. Where it appears that the range may not meet the specific requirements to the letter of the paragraph, **a description of what we believe demonstrates an equivalent level of radiation safety is described.**

Reference Supplement to Item 9 of NRC Form 313, Facilities and Equipment.

Building 92, the RADIAC Laboratory was designed to provide a high level of security. The RADIAC Laboratory is itself a separate building located over 100 yards from the nearest entrance to other buildings on the Base. The only personnel who enter the building on a regular basis are the approximately five technicians, engineers and supervisors who are trained in accordance with the Standard Operating Procedures to the RADIAC Lab. The customers of the RADIAC Lab, (Air Force users of radiation calibrators, monitors, and dosimeters) do not physically come to the lab for services. The instruments are shipped in via established procedures. There is virtually no pedestrian traffic through the RADIAC Laboratory, such as there might be in a medical or research facility. If during working hours a non-assigned person walked in the front door of the RADIAC Laboratory, and got in the elevator to the lower level, upon stepping out of the elevator they would be met by the visitor control station, which has the visitor logbook, the required personal dosimeters for visitors, and a door locked with an X81 Key. (The X81 key may only be obtained by a letter from the Director of Metrology, and is issued only to those approximately five persons mentioned above.) A visitor would have to knock on the door to gain entry, and would be escorted by one of the RADIAC Laboratory technicians or engineers during their stay. During non-duty hours, the door to the RADIAC lab would be locked. AND a chain-link fence around the building would also be locked, preventing unauthorized entry. A boundary Intrusion Detection System (IDS) is activated during non-duty periods.

10 CFR Part 36.23. The following is a paragraph-by-paragraph description of the Cobalt-60 range and 10 CFR 36.23 requirements.

RECEIVED

JUN 25 1996

REGION III

(a) Each entrance to a radiation room at a panoramic irradiator must have a door or other physical barrier to prevent inadvertent entry of personnel if the sources are not in the shielded position. Product conveyor systems may serve as barriers as long as they reliably and consistently function as a barrier. It must not be possible to move the sources out of their shielded position if the door or barrier is open. Opening the door or barrier while the sources are exposed must cause the sources to return promptly to their shielded position. **The personnel entrance door or barrier must have a lock that is operated by the same key used to move the sources.** The doors or barriers must not prevent any individual in the radiation room from leaving.

- The RADIAC Laboratory meets all the requirements of this paragraph. The personnel entrance door does not require a key different from the key used to move the source. The door is operated with an interlock which does not require a key.
- Although the Cobalt-60 source may be classified as a "panoramic" irradiator, the radiation is collimated in the direction 180 degrees away from the shielded door. Although the door is not operated by key, any attempt to open the door while the source is not in the shielded position would result in the door interlock opening, immediately moving the source to the shielded position.
- The Cobalt-60 source has one shielded door for personnel entry into the range. The door has an interlock (two metal pins in the door) that must be retracted before the source can be exposed. The interlock pins are retracted when the door is closed. If the door opens while the source is opened, the interlock pins will release and cause the source to immediately return to the shielded position.
- No matter what else is done, unless the ON-OFF toggle switch *on the source housing* is in the correct position, the source will not move from its shielded position. This switch is normally in the OFF position and is not immediately obvious, so that an untrained person would not be able to start the process.
- The door does not prevent a person from leaving the range. If a person were to find themselves in the range with the door closed, he or she could get out either by pushing the door-open button or by walking toward the door and breaking the photodetector beam which traverses the entryway in the maze. Either action would cause the door to open, allowing personnel to exit. We believe the intent of this paragraph is satisfied.

(b) In addition, each entrance to a radiation room at a panoramic irradiator must have an independent backup access control to detect personnel entry while the sources are exposed. Detection of entry while the sources are exposed must cause the sources to return to their fully shielded position and must also activate a visible and audible alarm

to make the individual entering the room aware of the hazard. The alarm must also alert at least one other individual who is onsite of the entry. That individual shall be trained on how to respond to the alarm and prepared to promptly render or summon assistance.

- There is a photo electric beam within the entrance to the range which when the beam is broken causes the interlock to open. This is detected when the an individual enters the range. This interlock will cause the source to return to the shielded position.
- There is an audible alarm which sounds throughout the lab for 10 seconds after the operator has turned the key on the source controller (outside the range).
- There are numerous visible indications (lights) which activate when the source is exposed. One black and white lighted caution light goes on over the entrance door, another identical black and white caution light goes on inside the range. The light inside the range can be seen from the shielded viewing window outside the range. Also, the red indicator lights on the source controller show indicate "source moving" and "source exposed".
- Although there is no audible or visible alarm specifically tied to an individual entering the range, the interlock system is designed to return the source to the shielded position immediately should the door open. There is no other way into the range other than the one interlocking door. All RADIAC workers are trained in the workings of the visible and audible alarm systems. We believe the intent of this paragraph is satisfied.

(c) A radiation monitor must be provided to detect the presence of high radiation levels in the radiation room of a panoramic irradiator before personnel entry. **The monitor must be integrated with personnel access door locks to prevent room access when radiation levels are high. Attempted personnel entry while the monitor measures high radiation levels, must activate the alarm described in paragraph (b) of this section.** The monitor may be located in the entrance (normally referred to as the maze) but not in the direct radiation beam.

- There is a range monitor that detects the radiation levels in the range. When high levels of radiation are detected an alarm will sound.
- Although there is no integration between the monitor and the door or alarms described in Section b, there is integration between the door interlocks and the radiation source--the instant the door opens the radiation source would be returned to the shielded position. We believe the intent of this paragraph is satisfied.

(d) Before the sources move from their shielded position in a panoramic irradiator, the source control must automatically activate conspicuous visible and audible alarms to alert people in the radiation room that the sources will be moved from their shielded position. The alarms must give individuals enough time to leave the room before the sources leave the shielded position.

- There is an audible alarm that sounds for 10 seconds before the source is to be opened. There are visible alarms in the range and outside the range which activate at the time the source is being moved from the shielded position. With the size of the range, 10 seconds is adequate time for an individual inadvertently remaining within the range to exit the range before the source would leave its shielded position.
- There are numerous visible indications (lights) which activate when the source is exposed. One black-and-white lighted caution light goes on over the entrance door, another identical black-and-white caution light goes on inside the range. The light inside the range can be seen from the shielded viewing window outside the range. Also, the red indicator lights on the source controller indicate "source moving" and "source exposed".
- The operating technician would have to be outside the range to use the key to move the source from the shielded position. We believe the intent of this paragraph is satisfied.

(e) Each radiation room at a panoramic irradiator must have a clearly visible and readily accessible control that would allow an individual in the room to make the sources return to their fully shielded position.

- The range has an interlock switch at the source that must be closed before the source can be opened and if it is opened while the source is opened will cause the source to return to its shielded position. Also the photo electric beam system operates the same way. If the beam is broken the interlock will open and the source cannot be opened or will return to the shielded position if it is open. This requirement has been met.

(f) Each radiation room of a panoramic irradiator must contain a control that prevents the sources from moving from the shielded position unless the control has been activated and the door or barrier to the radiation room has been closed within a preset time after activation of the control.

- The ON-OFF switch on the source itself must be in the correct position, the source controller outside the range must be activated, and the door must be in the closed position before the Cobalt-60 source can be moved from the shielded position. Therefore, the preset time referred to above is zero or negative for this system,

because the door to the radiation room must have been closed before activation of the control. We believe this meets the intent of the requirement.

(g) Each entrance to the radiation room of a panoramic irradiator and each entrance to the area within the personnel access barrier of an underwater irradiator must have a sign bearing the radiation symbol and the words, "Caution (or Danger) Radioactive Material". Panoramic irradiators must also have a sign stating "High Radiation Area," or otherwise made inoperative when the source is fully shielded.

- We have no underwater irradiators. The panoramic irradiator (which is actually a collimated irradiator) range has several warning signs, indicating "Caution Radiation". This requirement has been met.

(h) If the radiation room of a panoramic irradiator has roof plugs or other movable shielding, it must not be possible to operate the irradiator unless the shielding is in its proper location. This requirement may be met by interlocks that prevent operation if shielding is not placed properly or by an operating procedure requiring inspection of shielding before operating.

- Our ranges do not have roof plugs or movable shielding. This requirement does not apply to our facility.

(i) Underwater irradiators must have a personnel access barrier around the pool which must be locked to prevent access when the irradiator is not attended. Only operators and facility management may have access to keys to the personnel access barrier. There must be an intrusion alarm to detect unauthorized entry when personnel access barrier is locked. Activation of the intrusion alarm must alert an individual (not necessarily on site) who is prepared to respond or summon assistance.

- We do not have an underwater irradiator. This requirement does not apply to our facility.

Question 2, J. L. Shepherd Model 149, Source Model 2726-B.

This is the correct model number for the source. Per our telephone conversation, J. L. Shepherd had not registered this source model number for the 149. They are in the process of doing so at the present time.

Question 3, Alan-Tech Dosimeter Calibrator, Source Model X60/1.

As per our telephone conversation the correct model number for the Amersham sealed source is CDC.PE3 which is a registered model number for the Alan-Tech dosimeter calibrator. This should clear up the problem with this source.

Please provide a written response to us as soon as possible. We need this information to provide to the Air Force per our contract to operate the Air Force Primary Standards

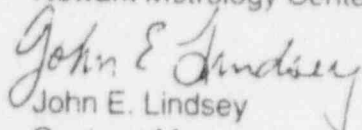
JL-96-116
June 20, 1996
Page 6

Laboratory. We have a schedule to transition the workload from Air Force responsibility to Wyle responsibility on July 15, 1996. We need to have our license before that time to transition the workload. Please advise us of our options relating to this item.

Please note some changes in telephones numbers for our personnel. Charles Nichols, the Photonics/Nucleonics Department Manager can be reached at (614) 522-7765, Don Hayes, our RSO at (614) 522-7865. The fax number is now (614) 788-5804. Thank you for your assistance in this matter.

Sincerely,

WYLE LABORATORIES
Newark Metrology Center


John E. Lindsey
Contract Manager

cc: MLA/Karen Semer
Wyle/Don Hayes
Wyle/Fred Marx
Wyle/Robert Everleigh

JL/dh (c:\data\jl-96-116.doc)

UNITED STATES NUCLEAR REGULATORY COMMISSION
REGION III
CONVERSATION RECORD

(X) TELEPHONE (X) OUTGOING () INCOMING () CONVERSATION

TIME 2:00

DATE 6/24/96

NAME OF PERSON(S) CONTACTED ORGANIZATION TELEPHONE NO.
Chuck Nichols
Wyle Labs
614-522-1765
fax 614-788-5804

SUBJECT:

New license application
Review of Response letter from Wyle Labs dated June 20, 1996
Control Number 301020

SUMMARY:

1. As discussed, it appears that your facility as described does not meet the criteria contained in 10 CFR 36.23. Several options are available to you at this time:
- a. Modify the facility to conform to the standards; **OR**
 - b. Request an exemption from certain criteria in 10 CFR 36.23 for those item for which you are not in conformance; To request an exemption, submit the following:
 - A written request for an exemption from 10 CFR 36.23
 - specify which paragraphs you are seeking relief from;
 - a justification explaining why you are seeking an exemption. **OR**
 - c. Request the Co-60 calibrator be placed in secure storage until such time as the facility can be brought into compliance with 36.23. With the device in storage and not being used, the NRC can issue the remaining authorizations in the license.

Please indicate which option you wish to pursue. Your response letter to this telephone conversation will be appended to your letter dated June 20, 1996, for our consideration.

2. Column C, Item 7 of you letter dated April 19, 1996 states that Monsanto model 2726-B sealed source is used in the JL Shepherd Model 149, however, the Sealed Source and Device Registration Certificate dated April 18, 1989 does not list this source as being approved for this device. Since this is not an approved sealed source and device combination, we cannot authorize it on your license until the Sealed Source and Device Registration Certificate has been amended. Apparently, the manufacturer has initiated this amendment process with the NRC.

ACTION REQUIRED:

Please respond in writing as soon as possible so that we may begin the exemption review, if applicable. Submit two copies of your response and refer to Control Number 301020.

ACTION TAKEN:

NAME OF PERSON DOCUMENTING CONVERSATION
Evelyn R. Matson
708-829-9822

SIGNATURE

EL Matson

DATE

June 24, 1996