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Friday 1 August 2014

Nuclear Materials Licensing Section
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Suite 210
Lisle, IL 60532-4352

Reference: License No. 24-21362-01

NRC,

American Radiolabeled Chemicals, Inc (ARC) requests an emergency amendment to Materials License 24-21362 to permit repair and /or replacement of the exhaust system of Building 300 Laboratory. The principal reasons for doing this is to reduce the number ninety-degree turns on the roof; to remove outdated filter housings no longer needed; and to update the quality of ductwork.

As the current ductwork has been in use for many years, it is likely to be contaminated, however the work being done is in a non-contaminated area.

A New SOP, number 44, has been written to cover this task. A copy is attached. This SOP includes all precautions, limitations and requirements we believe necessary to safely complete this repair or replacement.

At this time all hoods are operating at acceptable flow rates. ARC requests expedited processing of this request.

If additional information is required, please contact our Radiation Safety Officer, Donald Lite, directly.

Thank you for your attention in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Surendra K Gupta', is written over a horizontal line.

Surendra K Gupta, PhD

President

American Radiolabeled Chemicals, Inc

RECEIVED AUG 06 2014

Supersedes: new
Reviewed by RSC: ~~TBD~~ | AUG 14
Approved by NRC: TBD

SUBJECT: Repair or Replace Hood Exhaust System

OBJECTIVE: To ensure that no contaminated, or potentially contaminated, ductwork is removed from the ARC site due to repair and/or replacement of the hood exhaust system.

To provide the contract workers with radiation safety training commensurate with the hazard involved.

RESPONSIBILITY: Radiation Safety Officer

PROCEDURE:

1.0 **Scoping Survey**

- 1.1 A direct scan survey using a calibrated survey meter with a G-M pancake probe will be performed covering an area of ductwork.
- 1.2 The results of the area surveyed should be indicative of the overall contamination of that segment of ductwork. All results will be documented

2.0 **Radiation Safety Training**

2.1 Requirement

- 2.1.1 Training is required for individuals who perform work functions such as (but not limited to) the removal of contaminated (or potentially contaminated) roofing material.
- 2.1.2 Contract employees who only cut the ductwork and do not handle the contaminated ductwork will only need direct supervision by a member of the radiation safety staff. Provided the work takes place in a non-contaminated area.

2.2 Training subjects.

- 2.2.1 Nature of radioactive material
- 2.2.2 Difference between radiation and contamination
- 2.2.3 Beta emitters vs other emissions
- 2.2.4 Effect of beta energy

Supersedes: new
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- 2.2.5 Beta shielding from clothing, etc
- 2.2.6 Dose, internal vs external, internal only
- 2.2.7 Protective clothing and equipment (PCE)
- 2.2.8 Donning and wear of PCE
- 2.2.9 Removal of protective clothing when exiting a contaminated area.
- 2.2.10 Surveys and survey meters.

3.0 Certification of Training and Dose

- 3.1 A record of each contract worker trained will be kept on file along with all bioassay records. Contract workers under direct supervision receive verbal training.

4.0 Location and Description Repair Site

- 4.1 The majority of the ductwork is on the roof of building 300, a non-contaminated area. The ductwork goes down into the attic, also a non-contaminated area. All work should take place in a non-contaminated area.
- 4.2 If any work need be done in a contaminated area, an experienced ARC employee should be used if possible.

5.0 Disposal

- 5.1 Any ductwork that exceeds the release levels will be disposed of as radioactive waste. The release levels are,

Total – 5000 dpm/100 cm² average, not to exceed 15,000 for a single point

Removable – 1000 dpm/100 cm²

6.0 End of Day

- 6.1 All workers handling radioactive material will be surveyed with a calibrated GM as they leave the roof and again at the end of the workday before leaving site.



Duct Systems, Inc.

Voted Outstanding MEP Subcontractor Of The Year

July 29, 2014

Mr. Donald Lite
ARC
101 ARC Drive
St. Louis, Missouri 63146

Regarding: Rooftop Exhaust Ductwork Modifications
Quote No: B9546

Dear: Mr. Lite:

We are pleased to offer the following quotation for your consideration. We propose to provide necessary labor and material to complete the following scope of work:

- Remove ~~four (4)~~ ^{three (3)} inoperable HEPA filter housings from roof as requested (disposal by others).
- Remove four (4) Branch Duct Start Collars and replace with 45 degree taps for more efficient airflow.
- Inspect existing ductwork for obvious leaks and seal as necessary on roof.
- Balance the system to achieve airflows that are acceptable to NRC standards.

We propose to complete this project in a workmanlike manner for the sum of [REDACTED]

Clarifications:

- All work is to be performed during normal working hours of 7 a.m. – 3:30 p.m. Monday through Friday.
- Disposal of ALL material associated with existing system is to be removed from work area by Owner.

Note: While these improvements in duct design will help with airflow issues, the system would perform more efficiently with the addition of a variable frequency drive on the exhaust fan and the make-up air unit. The cost of these improvements would pay for themselves in a short time by decreasing the electrical requirements of running the equipment at full speed all day. Pricing of these changes will require additional investigation prior to submitting actual costs.

Thank you for the opportunity to be of service to you. Additional information will be furnished upon request.

Respectfully submitted,
DUCT SYSTEMS, INC.

Robert A. Willig

Robert A. Willig
Vice President/Operations

Signature approval to proceed

seh

All Pricing is Guaranteed for Thirty (30) Days

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