

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812



June 28, 2016

Br. 2

Reply to Attn of:

AS01

Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

*01-06571-10
03003575*

REC RG 10701 15 AM 10:16

Please find enclosed the requested Certification of Financial Assurance, Statement of Intent, and Decommissioning Funding Plan for the Marshall Space Flight Center. Should you have further questions, please feel free to contact our Radiation Safety Officer, Philip Brown at 256-544-5738 or philip.o.brown@nasa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Edward H. Kiessling".

Edward H. Kiessling
Manager, Environmental Engineering and Occupational Health Office

591440
NMSS/RGNI MATERIALS-002

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812



Reply to Attn of: RS01

CERTIFICATION OF FINANCIAL ASSURANCE

Principal: National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Huntsville, Alabama 35812

License Number 01-06571-10
National Aeronautics and Space Administration
George C. Marshall Space Flight Center
NASA, MSFC, AS10
Huntsville, Alabama 35812

Issued to: U.S. Nuclear Regulatory Commission

I certify that National Aeronautics and Space Administration, George C. Marshall Space Flight Center, (MSFC) is licensed to possess the following types of sealed, foil or plated sources with a half-life greater than 120 days licensed under 10 CFR Part 30 and the following types of unsealed ("any") byproduct material with a half-life greater than 120 days licensed under 10 CFR Part 30 in the following amounts:

Type of Material and Chemical or Physical Form	Maximum Amount of Material Allowed Under MSFC License
Any byproduct material with atomic numbers 3 through 83 - "Any"	0.6 millicuries per radionuclide and 2 millicuries total
Any byproduct material with atomic numbers 84 through 91 - "Any"	0.6 microcuries per radionuclide and 2 microcuries total
Krypton 85 - "Any"	40 curies

As stated in the Statement of Intent dated June 21, 2016. I also certify that financial assurance in the amount of \$39,063 will be requested for the purpose of decommissioning as prescribed by 10 CFR Part 30.

Should MSFC require the use of radioactive material in excess of what is stated in our current license and in amounts requiring Financial Assurance, a new Statement of Intent and Decommissioning Funding Plan, and a new Certification of Financial Assurance will be presented to the NRC for approval.

A handwritten signature in black ink, appearing to read "William R. Hicks".

William R. Hicks
Chief Financial Officer

National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812



Reply to Attn of: RS01

DECOMMISSIONING FUNDING PLAN

Principal: National Aeronautical and Space Administration
George C. Marshall Space Flight Center
Huntsville, Alabama 35812

License Number 01-06571-10
National Aeronautical and Space Administration
George C. Marshall Space Flight Center
NASA, MSFC, AS10
Huntsville, Alabama 35812

Issued to: U.S. Nuclear Regulatory Commission

Following a historical review of radioactive material use at Marshall Space Flight Center (MSFC) it was found that there were no cases of leaking sealed sources and the only significant use of unsealed material was tritium in liquid form in Building 4481. This material was moved to the National Space Science and Technology Center (NSSTC) on the campus of the University of Alabama, Huntsville (UAH) in 2002. The tritium was then used under the UAH Alabama Radioactive Materials License. Surveys were performed of the area in building 4481 where the material was used and the area was released on October 19, 2007.

Currently the only unsealed materials in use or projected to be in use at MSFC are Krypton-85, Depleted Uranium, and natural Uranium. Only the Krypton-85 will be used in quantities requiring Financial Assurance. The other materials listed in 6A and 6B of the MSFC license whose form is listed as "any" are actually being used at the NSSTC under the UAH Alabama license. All materials used by MSFC personnel at the NSSTC are required to be on the MSFC license and to be initially received at MSFC. The material is then transferred to the NSSTC for use. There is currently no plan to use the material in unsealed form at MSFC.

Based on this review the amount to currently decommission is restricted to the \$39,063 for Krypton-85.

A handwritten signature in black ink, appearing to read "William R. Hicks".

William R. Hicks
Chief Financial Officer

NONNEGOTIABLE



National Aeronautics and Space Administration
George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812

June 21, 2016

Reply to Attn of: RS01

STATEMENT OF INTENT

Principal: National Aeronautical and Space Administration
George C. Marshall Space Flight Center
Huntsville, Alabama 35812

License Number 01-06571-10
National Aeronautical and Space Administration
George C. Marshall Space Flight Center
NASA, MSFC, AS10
Huntsville, Alabama 35812

Issued to: U.S. Nuclear Regulatory Commission

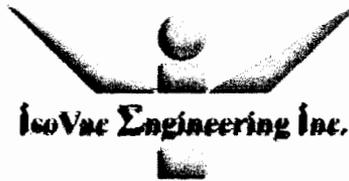
As Chief Financial Officer of NASA, George C. Marshall Space Flight Center (MSFC), I exercise express authority and responsibility to request from NASA Headquarters funds for decommissioning activities associated with operations authorized by U.S. Nuclear Regulatory Commission Material License No. 01-06571-10. This authority is established by Resources Authority Warrants issued from NASA Headquarters. Within this authority, I intend to request that funds be made available when necessary in the amount of \$39,036 (Iso Vak bid plus 25%) to decommission an Iso Vak Engineering, Inc. Radiflo Mark V leak detection device housed in Building 4484 of NASA, MSFC. Attached is a bid from Iso Vak Engineering detailing the decommissioning process and specifying the cost of decommissioning. I intend to request and obtain these funds sufficiently in advance of decommissioning to prevent delay of required activities.

A handwritten signature in black ink, appearing to read "William R. Hicks".

William R. Hicks
Chief Financial Officer

Enclosure

NONNEGOTIABLE



Philip Brown
Pat McManus
NASA/MSFC
Huntsville, Alabama

June 6, 2016

RE: Decommissioning

Reference: Quote RQ-4721

IsoVac is very familiar with the Decommissioning Rule, and is licensed to perform the decommissioning of the Krypton85 leak testing machines. Due to the well established procedures and minor safety concerns associated with the process of venting and disposing of Kr85 handling equipment, most of the States, and NRC, have allowed the financial assurances for the process to be kept to a minimum value, as long as the following steps were adhered to.

1. IsoVac prepares the Sutton Meteorological calculations for the venting of the quantity of gas in your Kr85 machine over a twenty-four to 36 hour period. Those calculations provide assurance that the discharge rate with dilution of the Kr85 gas will maintain a concentration that will be well below allowable levels.
2. The Krypton85 gas must be first vented from the machine, That step requires two days of regulated venting at a rate that maintains the concentration at the "DPMC", (Downwind Point of Maximum Concentration, at ground level), at two to three orders of magnitude below the nationally allowed level of 3×10^{-7} uCi/atm cc.
3. The machine is then removed from the room under IsoVac supervision, along with all accessory pieces of equipment, and shipped to IsoVac for complete dismantling and disposal.
4. A radiation survey is performed on your facility where the Kr85 equipment was housed.
5. Upon receipt of the equipment at IsoVac, the machines are completely dismantled, deactivated, and any residual contaminated parts and materials are compacted and shipped to a nuclear waste facility for disposal.
6. Following the final disposal of the equipment residues, IsoVac will provide you with a certification of disposal of the equipment, and facility survey. You then submit those documents to your Regulatory Agency, with a request to terminate your license for that material.

The costs associated with the above process, are as follows:

- a) The Sutton Meteorological calculations cost \$450.00
- b) The 2 day venting step cost is \$2,400, plus travel expenses.
- c) Crates and Shipping costs, (Prepaid), (usually ~ \$2,400.00)
- d) Dismantling and disposal of machine at IsoVac: NTE \$26,000.00

The total projected costs for the Decommissioning are ~\$31,250.00.

Prices noted above are good for 4 years from the date on this quote.

Our experience has been that, due to the simplicity of the venting and disposal of these machines you need only provide a financial assurance for the above costs, and certainly not for a bond associated with reactor and other such facilities.

You should submit a letter to the State saying that you have obtained a quotation from IsoVac Engineering to decommission your Radiflo equipment, and that cost is projected to be \$31,250.00. The equipment will be vented by IsoVac, and transported to IsoVac and transferred to the IsoVac Byproduct Materials License # 1673-19, where it will be completely dismantled, deactivated and the final residues disposed of at a nuclear waste site. Provide a letter that states that **Vishay Siliconix** is providing Corporate Financial Assurance for that amount of money to be available for the decommissioning process.

Please let us know how we can assist you further in establishing your Decommissioning Plan.

Very truly yours,

Jimmie K. Neff

Jimmie K. Neff
Vice President, R.S.O.

The Nuclear Regulatory Commission (NRC) requires a statement of assurance (SOA) of its licensee to ensure that, government licensees make their funding bodies aware of (1) decommissioning requirements and costs and (2) the eventual need for funding. A SOA demonstrates that a government licensee can request special funding from its funding body when necessary. MSFC last submitted our SOA in 2014. A copy has been provided.

We are currently renewing our NRC license and as part of that renewal process an updated SOA is required and to be signed by the Center's CFO.

)
)

This for an NRC Radioactive Materials License amendment to allow the purchase of an IsoVac, Inc. Krypton 85 (Kr-85) leak test system for ES43. The amount of Kr-85 required is 20 curies which per 10CFR30 requires MSFC to provide Financial Assurance to the NRC concerning decommissioning of the equipment. As a governmental agency we are not required to provide a bond for the amount required, only to provide them with this Statement of Intent to provide the funding at the proper time. We are telling the NRC that we will provide the funds necessary to dispose of any contaminated equipment and de-contaminate any areas when it comes time to decommission the equipment. We have a bid from the manufacturer of \$26,000 to perform this service. The NRC requires that the signatory of the Statement be someone authorized to commit the funds. We asked Legal for help in deciding who this person should be and what documents gave them the authority. Gray Marsee provided this information below and determined you are the one to sign the Statement of Intent.

Attached is a statement from Jeff D. Brown, ES43 Branch Chief, stating they will provide the funding.



ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

Name and Address of Applicant and/or Licensee

National Aeronautics and Space Administration
ATTN: Edward H. Kiessling, Manager
George C. Marshall Space Center
NASA, MSFC, AS10M
Huntsville, AL 35812

Date

July 18, 2016

License Number(s)

01-06571-10

Mail Control Number(s)

591440 (F/A)

Licensing and/or Technical Reviewer or Branch

Commercial, Industrial, R&D, and Academic Branch
(Branch 2)

This is to acknowledge receipt of your: Letter and/or Application Dated: 06/28/2016

The initial processing, which included an administrative review, has been performed.

Amendment Termination New License Renewal

There were no administrative omissions identified during our initial review.

This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>
Follow the instructions on the form for submission.

The following administrative omissions have been identified:

[Empty box for administrative omissions]

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Region I
U. S. Nuclear Regulatory Commission
Division of Nuclear Materials Safety
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713
(610) 337-5260, (610) 337-5313,
(610) 337-5398, or (610) 337-5239