

Received (b)(7)(C)  
Entered 07/16/2013  
Closed 10/21/2013

## CLOSED CASE CHRONOLOGY

Total Days Open 104

**RII-2013-A-0100**

CONCERN NO.	ACTION NO.	PERSON ASSIGNED	DATE ASSIGNED	DATE DUE	DATE COMPLETE	DAYS TO COMPLETE
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Non Responsive Record

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CONCERN NO.	ACTION NO.	PERSON ASSIGNED	DATE ASSIGNED	DATE DUE	DATE COMPLETE	DAYS TO COMPLETE
2	5	HICKEY Status Letter	10/03/2013	10/30/2013	10/21/2013	18
	4	HICKEY Review Submittal Review the Licensee response, complete an RFI checklist and prepare closure documentation as appropriate.	09/30/2013	10/30/2013	10/03/2013	3
	3	HICKEY Response to Referral On 8/23 Lic called to request a 30 day extension to respond to allegation RII-2013-A-0100. The licensee reported that many of the records requiring review are 30 years old so the process for locating, obtaining and reviewing will be very time consuming. The licensee informed that they have a letter in route to the NRC making the request and including the circumstances involved. The licensee request for 30 day extension was granted.	08/01/2013	09/30/2013	09/27/2013	57
	2	HICKEY Licensee RFI Callback	08/01/2013	08/15/2013	08/02/2013	1
	1	HICKEY Referral Letter RFI	07/23/2013	08/06/2013	08/01/2013	9

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Non Responsive Record

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**INDEX OF CONCERNS**

*Wednesday, November 06, 2013*

**RII-2013-A-0100**

Non Responsive Record





## INDEX OF CONCERNS

Wednesday, November 06, 2013

RII-2013-A-0100

CONCERN: 2 Training/Qualifications Fuel Facility Former Licensee Employee NMSS

WORKERS DID NOT RECEIVE PROPER TRAINING OR PROTECTION WHILE HANDLING (b)(4)  
(b)(4) FROM RUSSIA TO BE CONVERTED INTO UF6.

SUBSTANTIATED: N

ENF: No

EA NO:

DT CLSD: 10/21/2013

Response to Concern:

The NRC requested that MTW evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator which performed interviews with the (b)(4)

(b)(4) According to the (b)(4) shipments of ore concentrates from the former Soviet republics (b)(4) shipments from other locations. However, ore concentrates from the (b)(4) (b)(4) The ore concentrates are still, however, classified as (b)(4)

The investigator reviewed records and interviewed personnel and determined that the ore concentrates from the former (b)(4) do not require additional worker training or safety measures to ensure proper handling. As (b)(4), the activity concentrations of ore concentrates from the former Soviet republics remain below levels that would warrant additional training or safety measures beyond those already in place at MTW.

Conclusion:

The NRC has not observed any problems with Honeywell's workers receiving proper training or protection while handling (b)(4). The NRC inspector was unable to substantiate the concern.

Non Responsive Record

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**INDEX OF CONCERNS**

*Wednesday, November 06, 2013*

**RII-2013-A-0100**

Non Responsive Record



## REGION II ALLEGATION RECEIPT FORM

<b>Allegation Number: RII-2013-A-0100</b>	
<b>Received By:</b> Nicholas Peterka	<b>Date Received:</b> (b)(7)(C)
<b>Allegation Received Via:</b> <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> In person <input type="checkbox"/> Fax <input type="checkbox"/> Email <input type="checkbox"/> Letter <input type="checkbox"/> DOL Complaint <input type="checkbox"/> OI Transcript #	<b>Facility:</b> Honeywell <b>Docket No:</b> 40-3392
<b>Prepared By:</b> Nicholas Peterka	<b>Date Prepared:</b> 7/11/2013

**Is there a potential overriding safety issue that requires an Emergency ARB?** Y ☐ N ☒

**Note:** (b)(7)(C)

Non Responsive Record

### Concern #: 2

**Concern Description:**

**Workers did not receive proper training or protection while handling** (b)(4) **from Russia to be converted into UF6.**

**Concern Background Information:**

The CIs stated that workers were exposed to (b)(4) when they began processing drums of material from Russia. The CIs stated they did not received additional training or personal protection equipment to handle the (b)(4) (The following information is supplemental to the concern) In addition, the CIs stated due to the (b)(4) workers were told to only dump one drum per shift.

**Did the allegor raise the concern to management?** Unknown

If so, what actions have been taken, and when? If no, why not?:

Comments: This specific allegation was taken (b)(7)(C) and the individual stated that he had to leave. This question was not asked.

Non Responsive Record

Non Responsive Record

#### Alleger's Information – CI#1

Allegation Source: (b)(7)(C)

Alleger's Name: ☒ Mr. ☐ Ms. (b)(7)(C)

Alleger's Employer: NA Alleger's Position/Title: NA

Alleger's Home Address: (b)(7)(C)

Home Phone Number: (b)(7)(C) Work Phone Number: NA Cell Phone Number: NA

Email Address: NA

#### Preferences for method and time of contact:

Method: ☐ Letter  
☐ Email  
☒ Telephone - Which number? (b)(7)(C)

Time: ☐ AM  
☐ PM

#### Alleger's Information – CI#2

Allegation Source: Former Licensee Employee

Alleger's Name: ☒ Mr. ☐ Ms. (b)(7)(C)

Alleger's Employer: NA Alleger's Position/Title: NA

Alleger's Home Address: (b)(7)(C)

Home Phone Number: (b)(7)(C) Work Phone Number: NA Cell Phone Number: NA

Email Address: NA

#### Preferences for method and time of contact:

Method: ☐ Letter  
☐ Email  
☒ Telephone - Which number? (b)(7)(C)

Time: ☐ AM  
☐ PM

#### Identity Protection Policy/Confidentiality

Was the alleger informed of ID Protection Policy?: No

Comments: (b)(7)(C)

(b)(4)

Was Confidentiality Requested?: No

Comments: NA

#### RFI Considerations

Alleger Objects to RFI?: No

Comments: (b)(4)

(b)(4)

Is the alleger concerned about being identified to the licensee?: No

If so, why?

Does the alleger object to having his/her identity released?: No

If so, why?

**Discrimination/ Harassment & Intimidation (H&I) – to be discussed only if the alleged brings it up**

**Is the alleged asserting discrimination (i.e. alleged retaliation for raising a safety concern)?:** No

**Was alleged informed of DOL rights?:** No

**No further contact requests – to be discussed only if the alleged brings it up**

**Did the alleged request no further contact with the NRC?:** No

**Were the benefits of continued process involvement discussed?:** Select



# ALLEGATION REVIEW BOARD SUMMARY

Tuesday, July 23, 2013

ARB MINUTES ARE REVIEWED AND APPROVED BY THE ARB CHAIR AT THE ARB

Allegation Number: RII-2013-A-0100	
ARB Type: Initial ARB Date: 7/16/2013 ARB Purpose: To determine course of action	Facility: Honeywell Responsible Branch: DFFI/FFB2
Received Date: (b)(7)(C) 30-Days = (b)(7)(C) 150-Days = 180-Days =	Allegation Source: (b)(7)(C) Total # Concerns: 4

Non Responsive Record

## ALLEGATION REVIEW BOARD SUMMARY

Tuesday, July 23, 2013

ARB MINUTES ARE REVIEWED AND APPROVED BY THE ARB CHAIR AT THE ARB

Estimated Completion Time: 14 DAYS

Concern #: 2

Concern Type: Allegation

Discipline: Select Training/Qualifications (Select Only One)

Concern Description:

WORKERS DID NOT RECEIVE PROPER TRAINING OR PROTECTION WHILE HANDLING

(b)(4)

(b)(4)

Follow-Up ARB Input: (if applicable)

Safety Impact and Applicable Regulation:

Safety Significance: Low

Describe potential safety impact, assuming concern is true : Potential exposure to workers not accounted for and exposure records not documented.

Applicable Regulation:

When did potential violation occur (date)?

(b)(7)(C)

Concern Disposition Method/Branch Input and Comments:

☐ Transfer to: (NRC Internal Exchange to another region/NRR/NMSS, etc.)

☒ Request for Additional Information (RFI): Letter to licensee for additional information.

Branch to review the licensee response to the RFI:

☐ Provide to Licensee for Information Only:

☐ Referral to Select :

☐ Inspection Follow-Up: (Provide information on what is to be inspected, inspection schedule, etc.)

☐ ADR: (For discrimination cases, after prima facie has been established)

☐ Office of Investigations (OI): (Provide draft NOV to Allegations Office)

☐ Too General/Need More Details: (Provide recommendation, e.g. Inspector contact allegor for details, etc.)

☐ Closure in acknowledgment letter:

☐ Closure Letter or Memo to File:

☐ Other: Specify recommendation (e.g. Contact licensee, chilling effect letter etc.)

☐ EICS Close File Administratively:

Prompt notification of SRI/RI or region-based inspector required: Already Notified

Related previous allegation number: N/A ☒

Related OI Case Number: N/A ☒

Is this a response after closure?: Select

To be filled out at the ARB

ARB Assigned Actions:

RFI

Assigned Branch/Individual: DFFI/FFB2

Estimated Completion Time: 14 DAYS

Non Responsive Record

**ALLEGATION REVIEW BOARD SUMMARY**

**Tuesday, July 23, 2013**

**ARB MINUTES ARE REVIEWED AND APPROVED BY THE ARB CHAIR AT THE ARB**

Non Responsive Record



ALLEGATION REVIEW BOARD SUMMARY

Tuesday, July 23, 2013

ARB MINUTES ARE REVIEWED AND APPROVED BY THE ARB CHAIR AT THE ARB

Non Responsive Record

RFI Considerations

Applicable Concern(s): 4

Does the concern(s) present an Overriding Safety Issue? Y ☐ N ☒

If yes, an RFI will normally be issued to the licensee (verbally first, then in writing)

Notes/Comments:

Conditions Inhibiting RFI:

- ☐ Will compromise allegor identity protection
- ☐ Will compromise investigation or inspection
- ☐ Against management that would review RFI
- ☐ Fed or State agency disapproves of RFI

Other RFI Considerations if Inhibiting Conditions Do Not Apply

- ☐ Release could bring harm to allegor. Describe:
- ☐ Allegor Objects to RFI. Describe:
- ☐ Allegor objects to releasing their identity in RFI, when necessary for adequate follow-up. Describe:
- ☐ Allegor is concerned about being identified to the licensee. Describe:
- ☐ Allegor has raised concern to licensee w/ unsatisfactory results. Describe:
- ☐ Recent NRC concerns w/ licensee RFI responses. Describe:

Other Items Potentially Affecting RFI Response Quality:

- ☐ Recent Inspection findings? Last PI&R? Describe:

## ALLEGATION REVIEW BOARD SUMMARY

Tuesday, July 23, 2013

**ARB MINUTES ARE REVIEWED AND APPROVED BY THE ARB CHAIR AT THE ARB**

- ☐ Substantive Cross-Cutting Issue? Describe:
- ☐ Allegation history issues? Describe:
- ☐ Licensee policy/process issues? Describe:
- ☐ Resource issues? Describe:
- ☐ Other? Describe:

**Is RFI an Acceptable Option? Y ☒ N ☐ Summarize reason: Both CIs do not object to an RFI nor to being identified to the licensee.**

(b)(7)(C)

### ARB Attendees

Chairs: C. CHRISTENSEN, W. JONES, T. GODY

EICS: O. DEMIRANDA, M. CHECKLE, A. ALLEN

OI: (b)(7)(C)

OGC/Counsel: C. EVANS

Branch Chiefs: J. HICKEY

Other Attendees: J. DODSON, R. PATTERSON, I. HALL, J. BROWN

**CHECKLIST FOR NRC STAFF REVIEW  
OF LICENSEE RESPONSE TO AN ALLEGATION REQUEST FOR INFORMATION**

The purpose of this checklist is to assist the staff in evaluating the adequacy of a licensee's response to an allegation Request for Information (RFI), independently verifying aspects of the information provided by the licensee, and to support the development of the proposed basis for additional staff actions if it is determined that the licensee's response is inadequate, inaccurate, or otherwise unacceptable.

Note: The term "licensee" in the worksheet refers to any NRC licensee, certificate holder, license or certificate applicant, or vendor that may be the subject of an allegation concern.

**ALLEGATION NUMBER:** RII-2013-A-0100

**FACILITY:** Honeywell

**AFFECTED CONCERN(S):** Concerns 1 - 4

**A: Determining the Adequacy of the Licensee's Response to an Allegation RFI**

Note: "Yes" answers normally indicate that the licensee's response to an RFI is adequate, while "No" answers indicate additional action may be necessary.

Evaluator Independence

Yes ☒ No ☐ Does the relationship between the individual(s) chosen by the licensee to evaluate the concern(s) and the concern(s) being evaluated allow for appropriate objectivity (e.g., third party or internal evaluator, but not in the same management chain as those involved in concern(s))?

Note: Use best judgment for smaller organizations when clear management chain independence may not be possible.

Comments: The Independent Investigator is an outside counsel.

Evaluator Competence

Yes ☒ No ☐ Based on the information provided, is the evaluator competent in related functional area?

Comments: He has (b)(7)(C)

(b)(7)(C)

Depth and Scope of Evaluation

Yes ☒ No ☐ Are all RFI-related concerns addressed?

Yes ☒ No ☐ Is the evaluation rigor commensurate with the level of concern detail provided? For example, if appropriate, did evaluation include extent of condition review, root/apparent cause assessment, or generic considerations?

Yes ☒ No ☐ Are the conclusions provided by the licensee supported by the evaluation?

Yes ☒ No ☐ Are all affected personnel/groups/departments considered in the evaluation?  
For example, if interviews were conducted, did the licensee describe the basis  
for the number and cross section of individuals interviewed and is basis  
adequate? Were the interview questions appropriate?

Yes ☒ No ☐ N/A ☐ If the NRC asked additional specific questions, are they answered  
satisfactorily?

Yes ☒ No ☐ N/A ☐ If the names of specific individuals were referenced in the RFI, did the  
licensee contact those individuals and/or appropriately consider their  
involvement in the allegation concern?

Yes ☒ No ☐ N/A ☐ If specific documentation was referenced in the RFI, did the licensee  
evaluate that documentation and/or appropriately consider it in the  
evaluation of the allegation concern?

Yes ☒ No ☐ N/A ☐ If the licensee reviewed a sample of related documentation and/or  
potentially affected structures, systems, and components, did the  
licensee describe the sample and provide the basis for determining  
that the sample size was appropriately representative?

Comments: \_\_\_\_\_

#### Effectiveness of Corrective Actions

Yes ☐ No ☐ N/A ☒ If applicable, were appropriate immediate corrective actions taken by  
the licensee?

Yes ☐ No ☐ N/A ☒ If applicable, were operability and reportability determinations  
appropriate?

Yes ☐ No ☐ N/A ☒ If applicable, were appropriate corrective actions proposed?

Yes ☐ No ☐ N/A ☒ If applicable, were issues entered into the corrective action program?

Comments: \_\_\_\_\_

#### NRC Violations (substantiated concerns only)

Yes ☐ No ☐ N/A ☒ If the substantiated concern represents a violation, did the licensee  
appropriately acknowledge and articulate the violation in response to  
the RFI? Comments: \_\_\_\_\_

#### **B: NRC Independent Review Effort**

NRC staff evaluating licensee RFI response should attempt to independently validate aspects of  
the information provided by the licensee. Indicate any of the following that apply:

- ☐ Additional questions posed to the licensee.
- ☐ Performed or coordinated an independent inspection or technical review activity to verify a  
condition indicated in the response.
- ☐ Reviewed the results of recently conducted NRC inspections in the functional area related  
to the allegation concerns.
- ☒ Verified the existence and applicability of technical references noted in the response.
- ☐ Verified the existence and applicability of procedures referenced in the response.  
Ensured revision number referenced is appropriate.
- ☐ Verified the existence and content of corrective action program documentation referenced  
in the response.
- ☐ Checked calculations noted in the response.



☐ Other. Describe: \_\_\_\_\_

Comments: \_\_\_\_\_


**C: CONCLUSION**

☒ Adequate RFI Response

☐ Inadequate RFI Response

Basis: The licensee has an adequate response to the requested information in the RFI.

Note: Notify the responsible Branch Chief and the OAC of the results of this review.
--

**PREPARED BY:** R. Gibson 

**DATE PREPARED:** 10/2/2013

**BRANCH CHIEF:** 

**DATE REVIEWED:** 10/3/2013

**Performance Materials and Technologies**

Honeywell  
P.O. Box 430  
2768 North US 45 Road  
Metropolis, IL 62960

September 27, 2013

CERTIFIED 7010 0290 0001 5998 0229

Mr. Oscar DeMiranda  
Senior Allegation Coordinator, EICS  
Office of the Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
P.O. Box 56274  
Atlanta, GA 30343

Docket No. 40-3392  
License No. SUB-526

RE: HONEYWELL METROPOLIS WORKS' RESPONSE TO ALLEGATION  
NO. RII-2013-A-0100

This letter forwards the report of the investigation performed by an Independent Investigator to evaluate the concerns identified in the NRC's August 1, 2013 letter transmitting Allegation RII-2013-A-0100. The Independent Investigator is outside counsel from Winston & Strawn LLP, with more than ten years of experience in nuclear regulatory matters.

Upon evaluating the concerns set forth in the NRC's letter, Honeywell determined that it needed additional time to finalize the investigation, and requested that the reply date be extended to 60 days from the date of the NRC's letter. This extension was granted by you via telephone on August 23, 2013, and documented in Honeywell's letter to Mr. James A. Hickey on that same date.

The Independent Investigator found that the four concerns in the Allegation were unsubstantiated. Specifically: (1) Non Responsive Record

Non Responsive Record

(2) While material from (b)(4)

(b)(4)

additional training and protections are not warranted; (3) Non Responsive Record

Non Responsive Record

Non Responsive Record

and (4) Non Responsive Record

Non Responsive Record

Supporting documentation is attached to the Independent Investigator's report.

MTW intends to ensure that all concerns expressed by MTW employees and contractors are received and resolved in an effort to continue to improve our safety and performance.

If there are any questions regarding the enclosed information, please call (b)(7)(C)

(b)(7)(C)

Sincerely,

(b)(7)(C)

Enclosures

**Honeywell  
Metropolis Works (MTW)**

**Review of  
Nuclear Regulatory Commission (NRC)  
Allegation No. RII-2013-A-0100  
Dated August 1, 2013**

**Independent Investigator**

(b)(7)(C)

– Outside Counsel (Winston & Strawn LLP)

Washington, DC  
September 27, 2013



## **BACKGROUND**

By letter dated August 1, 2013,<sup>1</sup> the U.S. Nuclear Regulatory Commission (NRC) forwarded to Honeywell International Inc. (Honeywell) four concerns regarding activities at the Honeywell Metropolis Works (MTW) facility in Metropolis, Illinois. The NRC requested that Honeywell evaluate the information described in the letter's enclosure and provide the results to the NRC RII Allegations Coordinator. This report presents the results of an independent investigation of the concerns forwarded by the NRC.

## **ISSUES INVESTIGATED**

Non Responsive Record

*Concern 2: Workers did not receive proper training or protection while handling*

(b)(4)

*Did the material from Russia have (b)(4)? And if so, did it require additional training to ensure proper handling?*

Non Responsive Record

## **INVESTIGATION APPROACH**

These allegations were evaluated by an independent investigator, (b)(7)(C) (b)(7)(C) (b)(7)(C) is outside counsel from Winston & Strawn LLP. (b)(7)(C) (b)(7)(C)

<sup>1</sup> Letter, J. Hickey to (b)(7)(C), "Allegation No. RII-2013-A-0100," Aug. 1, 2013. The enclosure is marked as "Not For Public Disclosure."

matters.

(b)(7)(C)

He has a

(b)(7)(C)

(b)(7)(C)

The investigation began with a review of current and historical documents relevant to the concerns identified by the NRC. The investigator also obtained MTW procedures relating to the issues addressed in this report. The relevant documents reviewed by the investigator are listed for each concern. In addition, (b)(7)(C) questioned subject matter experts at MTW, also identified below, who had knowledge of events or responsibilities in functional areas relevant to the concerns.

From the review of the original concerns, the documents identified during the investigation, and the interviews with subject matter experts, the investigator assembled a list of incidents or examples that are encompassed by the concerns. The investigator evaluated each incident or example to the extent practicable given the nature of the matter, and also evaluated the overall timeline in assessing the overarching issues raised in the allegations.

#### **FINDINGS OF FACT**

Non Responsive Record

Non Responsive Record



Non Responsive Record

## **Concern 2 – Unsubstantiated**

The investigator reviewed the requirements of NRC license SUB-526 issued to Honeywell for the MTW facility and obtained information and documentation regarding (b)(4)

The investigator also interviewed (b)(7)(C) the MTW (b)(7)(C), to obtain background information on MTW processes for receipt and sampling of incoming material. (b)(7)(C) has worked at MTW for [ ] years and is responsible for the (b)(7)(C) (b)(7)(C)  
(b)(7)(C)

Honeywell's license authorizes it to possess up to 68 million kg (150 million lbs) of natural uranium in the form of "yellow cake,"  $U_3O_8$ ,  $UO_2$ ,  $UO_3$ ,  $UF_4$ ,  $UF_6$ , and chemical intermediates of these compounds. The license does not impose any specific restrictions on the "activity," "specific activity," or "activity concentration" of natural uranium ore concentrates received by Honeywell.

Honeywell receives uranium ore concentrates in 55-gallon drums via common carrier from uranium mills throughout the world.<sup>3</sup> Each shipment is unloaded at the Sampling Plant. Each lot of concentrates is weighed and stored on storage pads until accountability procedures and uranium and impurity analyses are completed.

The uranium ore concentrates are sampled in the Sampling Plant (except for hard or wet ore) to obtain statistically-significant analytical samples in accordance with ASTM standards. The sampling results confirm that the material is natural uranium ore concentrates, as defined in ASTM standards. In addition, MTW sampling procedures ensure that any material that deviates from the range of acceptable ore concentrates is identified and appropriate steps taken to address any safety concerns.

According to (b)(7)(C) MTW does not currently receive ore from Russia. MTW does, however, receive ore from former Soviet republics, including (b)(7)(C) and (b)(7)(C). Shipments from these countries are often referred to colloquially as "Russian" ore. For the purpose of this report, the investigator assumes that the concern relates to ore concentrates from the former Soviet republics, rather than ore concentrates from Russia itself.

According to (b)(7)(C), uranium ore shipments are typically designed to maximize the amount of ore in a single shipment in order to minimize transportation costs. Because

(b)(4)  
(b)(4) . According to (b)(7)(C) material from the former

<sup>3</sup> According to 10 CFR 71.4, the natural uranium ore concentrates at MTW are low specific activity materials. The International Atomic Energy Agency (IAEA) also defines natural uranium as a low specific activity material.



(b)(4)

A review of shipment manifests addressing uranium from multiple locations indicates

(b)(4)

Country of Origin	Total Activity	# Drums	Activity/drum <sup>6</sup>
(b)(4)			
USA	~344 GBq	43	8.0 GBq/drum
(b)(4)			

<sup>4</sup> According to (b)(7)(C), the samples listed are broadly representative of the range of material received by MTW.

<sup>5</sup> For natural ore concentrates, activity is proportional to the quantity of uranium. The term "activity concentration" is used to indicate the activity per unit mass (or volume) of material and is similar to "specific activity." Specific activity, however, is typically reserved for use in reference to a pure sample of a radionuclide, while activity concentration is used when referring to a material that contains radionuclides.

<sup>6</sup> This represents the average activity concentration for drums of ore concentrates.

Country of Origin	U (%)	U-234	SO <sub>4</sub> (%) <sup>(a)</sup>	Na (%) <sup>(a)</sup>
(b)(4)				
USA	76.21	46.12 ppm	0.99	0.44
USA	78.92	51.47 ppm	0.44	0.52
USA	81.02	54.28 ppm	3.04	0.48
USA	81.29	53.81 ppm	1.89	0.54
(b)(4)				

<sup>(a)</sup> Sulfur and sodium are just two of many elements that may be found in uranium ore concentrates. They are listed here to help illuminate the reasons for differences in uranium concentrations among material from different regions.

Although the ore concentrates from former Soviet republics (b)(4) (b)(4) the material still meets the definition of natural uranium ore concentrates per ASTM standards (e.g., ASTM C967, *Standard Specification for Uranium Ore Concentrate*). The (b)(7)(C) (b)(4) between a drum of material from a former Soviet republic and from another location is not significant from a safety perspective. According to (b)(7)(C) (b)(7)(C) the (b)(7)(C) (b)(4) at MTW, no special precautions are necessary to account for (b)(4) (b)(4) between ore concentrates from former Soviet republics and ore concentrates from other locations. No additional training or safety measures beyond those already in place at MTW are necessary because MTW's Radiation Protection and ALARA programs are designed to provide protection for a wide range of radiological materials, including natural uranium ore concentrates (b)(4) (b)(4)

## Response to NRC questions regarding Concern No. 2:

1. Did the material from Russia have higher activity?

(b)(4)

(b)(4) The ore concentrates are still, however, classified as natural uranium ore concentrates.

2. And if so, did it require additional training to ensure proper handling?

Ore concentrates from former Soviet republics do not require additional training or safety measures to ensure proper handling. As natural uranium, the activity concentrations of ore concentrates from former Soviet republics remain below levels that would warrant additional training or safety measures beyond those already in place at MTW. In addition, MTW sampling procedures ensure that material that could pose additional safety concerns is identified and addressed.

**Actions Planned**

No additional actions are considered necessary at this time.

**Actions Taken**

This investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013.

Non Responsive Record







Non Responsive Record

### **Actions Planned**

No additional actions are considered necessary at this time.

### **Actions Taken**

This investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013.

### **CONCLUSION**

After reviewing the evidence, the independent investigator concludes that:

- Non Responsive Record
- **Concern 2:** *"Workers did not receive proper training or protection while handling (b)(4) from Russia to be converted into uranium hexafluoride (UF<sub>6</sub>)" is unsubstantiated.* While material from former Soviet republics (b)(4) (b)(4) additional training and protections are not warranted.

- Non Responsive Record
-

## ATTACHMENTS

### *List of Attachments*

Non Responsive Record

### *List of Persons Interviewed*

- (b)(7)(C)
- 
-

ATTACHMENT 1

Letter from (b)(7)(C) Allied Signal, to NRC,  
"Retraction of Request for License Amendment," dated July 17, 1998.





AlliedSignal Inc.  
Nuclear/Fluorine Specialties  
Route 45 North  
P.O. Box 430  
Metropolis, IL 62960 USA

618 524 2111  
618 524 6239 Fax

July 17, 1998

Certified Mail:  
P-218-965-303

Director  
Office of Nuclear Material and Safeguards,  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk,  
Washington, D.C. 20555

**Re: Retraction of Request for License Amendment**  
**Source Material License SUB-526**  
**Docket 40-3392**  
**TAC No. L31076**

Dear Sir:

AlliedSignal has previously requested a license amendment dated May 8, 1998 to include receiving, possessing, processing and converting unirradiated material potentially contaminated with plutonium-239 to uranium hexafluoride. This request was initiated due to extremely low but allegedly detectable levels of Pu-238 and Pu-239 reported in this material. In conjunction with the request for license amendment, AlliedSignal has requested further analysis of the material in question from two different laboratories.

Nine duplicate samples were prepared and forwarded to FluorDaniel Fernald and to Thermo NuTech laboratories for independent analyses. The samples were selected from lots that indicated relatively moderate to high concentrations of plutonium based on the original analyses by FluorDaniel. Lots showing low values were not retested. Included with these samples were four samples of natural uranium tetrafluoride produced at Metropolis Works for comparison.

We have received the results from both laboratories and the results are consistent with natural material. Nine lots were analyzed for Pu-238 and Pu-239. Seven of the nine lots tested showed less than minimum detectable concentration (MDC) of plutonium by both laboratories. One lot, #2641, tested slightly above the minimum detectable concentration by Thermo NuTech for Pu-238 at 0.100 pCi/g. The MDC for this analysis was 0.060 with an error of 0.054. One lot, #2562, tested slightly above the minimum detectable concentration (MDC) by FluorDaniel for Pu-239 at 0.032 pCi/g. The MDC for this analysis was 0.031 with an error of 0.028. In both of these cases, the other laboratory showed less than MDC quantities for the respective isotopes.

Four samples of natural uranium tetrafluoride produced at Metropolis works were included for comparison. Thermo NuTech showed Pu-238 slightly greater than detectable in three of the four samples. FluorDaniel showed slightly greater than MDC in the other sample. Once again, no sample tested positive for any plutonium isotope by both laboratories.

Analysis of the data indicates that in every case where a laboratory yielded a positive result for either Pu-238 or Pu-239, the laboratory counting error was sufficient to cause the value to be above the MDC. It is our feeling that we are dealing with an analytical method that is so sensitive and minimum detectable quantities that are so low that any noise, counting error, or background interference may calculate to a value near or above the MDC. Although we do not propose dilution as an acceptable method to reduce the analytical results, we do realize that commingling with the material in our existing process would certainly reduce the concentrations well below the detection limit making any further analysis a moot point. It is likely that we would get similar analytical results hovering around and mostly below the minimum detectable concentration. Once again, interference, counting error and background may calculate to some positive but meaningless result.

When comparing plutonium levels in the Metropolis natural material to the "contaminated" material, it was found that the levels were very similar. This would confirm the original contention that the uranium tetrafluoride purchased from Fermco is indeed **not contaminated** with plutonium. Any indication of plutonium contamination could be due to a variety of factors including: a) reporting of results that are below the MDC; b) laboratory error that would make an analytical value that should be below the MDC slightly higher than the MDC; c) performing analyses at such low levels that background or other interference may yield false positive results.

We also believe that the positive plutonium results reported in the Metropolis Works UF<sub>4</sub> are a result of a similar phenomenon and that there has been no contamination of our facility. Work room air sampling has been performed and there is no evidence of plutonium contamination in the samples. It is our intention to perform additional sampling during and upon completion of the processing of the UF<sub>4</sub> to verify these results.

Furthermore, the analytical results for this material were compared to the IAEA definition of unirradiated uranium as defined in paragraph 245 of IAEA ST-1, *Regulations for the Safe Transport of Radioactive Material*, 1996 Edition. This paragraph defines unirradiated material using 3 parameters: total plutonium, fission product activity, and U<sup>235</sup> concentration. The following table compares the highest value of the analyses for either laboratory to the IAEA standard:

Director, Office of Nuclear Material and Safeguards  
U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Page 3

Analytical Parameter	Units	Lot Number	Laboratory	Highest Laboratory Result	IAEA Standard
Plutonium	Bq/g U <sup>235</sup>	2565	Thermo NuTech	2.266	2,000
Fission Products	Bq/g U <sup>235</sup>	2639	Fluor Daniel	629	9,000,000
U <sup>236</sup>	g U <sup>236</sup> / g U <sup>235</sup>	All	Fluor Daniel	<0.000140	0.005

For each parameter, the analyzed value is several orders of magnitude below the IAEA definition.

Based upon these concurring results by independent laboratories and the fact that no parameter approaches the IAEA definition of unirradiated uranium, it is our contention that the uranium tetrafluoride in question meets the requirements of our existing operating license and that no amendment is required to possess or process this material. These laboratory results also indicate that the plutonium in the UF<sub>4</sub> is at or below the laboratory counting error and therefore, this facility is not contaminated with plutonium. We respectfully request that the request for license amendment be retracted. We apologize for any inconvenience that you may have incurred as a result of our initial request.

We will appreciate your prompt review of this submittal. If you have any questions or need more information, please call (b)(7)(C) or

(b)(7)(C)

Sincerely,

(b)(7)(C)

PGG/sm

cc:

(b)(7)(C)

Mr. Mike Lamastra  
Div. of Fuel Cycle Safety & Safeguards  
US NRC  
Washington, D.C. 20555

Mr. Pat Hiland  
NRC – Region III  
801 Warrenville Rd.  
Lisle, IL 60532-4351

ATTACHMENT 2

*Letter from M. Lamastra, NRC, to (b)(7)(C) Allied Signal, "Amendment Request to Process Pu-239 Contaminated Material," dated August 5, 1998.*

August 5, 1998

Mr. P. G. Gasperini  
Interim Plant Manager  
AlliedSignal, Inc.  
P.O. Box 430  
Metropolis, Illinois 62960

SUBJECT: AMENDMENT REQUEST TO PROCESS Pu-239 CONTAMINATED MATERIAL  
(TAC No. L31076)

Dear Mr. Gasperini:

This refers to your application dated May 8, 1998, requesting an amendment to Materials License SUB-526 for approval to process material that is contaminated with Pu-239, and your July 17, 1998, request to withdraw the amendment. Based on the new information submitted by your July 17, 1998, letter that the Pu-238 and Pu-239 is at minimum detectable concentrations and is consistent with natural material, we agree that the material may be processed under your current authorization with no amendment required. Accordingly, no further action is required, and TAC No. L31076 is consider closed.

If you have questions regarding this matter, please contact me at (301) 415-8139.

Sincerely,

Original signed by:

Michael A. Lamastra  
Licensing Section 2  
Licensing Branch  
Division of Fuel Cycle Safety  
and Safeguards, NMSS

Docket 40-3392  
License SUB-526

Enclosure: As stated

Distribution (Control No. 300S)  
Docket 40-3392 PUBLIC  
FCSS R/F Region III  
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OFC	FCLB <i>E</i>	FCLB <i>E</i>	FCLB <i>E</i>	FCLB
NAME	MLamastra	Hastwood <i>HH</i>	<i>PH</i>	MG <i>Galloway</i>
DATE	8/5/98	8/5/98	8/5/98	8/5/98

7808120183 780803  
FOR ADDR 0400272  
C FOR

COPY





UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

August 5, 1998

(b)(7)(C)


**SUBJECT: AMENDMENT REQUEST TO PROCESS Pu-239 CONTAMINATED MATERIAL  
(TAC No. L31076)**

Dear (b)(7)(C)

This refers to your application dated May 8, 1998, requesting an amendment to Materials License SUB-526 for approval to process material that is contaminated with Pu-239, and your July 17, 1998, request to withdraw the amendment. Based on the new information, submitted by your July 17, 1998, letter that the Pu-238 and Pu-239 is at minimum detectable concentrations and is consistent with natural material, we agree that the material may be processed under your current authorization with no amendment required. Accordingly, no further action is required, and TAC No. L31076 is consider closed.

If you have questions regarding this matter, please contact me at (301) 415-8139.

Sincerely,

  
Michael A. Lamastra  
Licensing Section 2  
Licensing Branch  
Division of Fuel Cycle Safety  
and Safeguards, NMSS

Docket 40-3392  
License SUB-526



ATTACHMENT 3

*Representative Railcar Stenciling*

HYDROGEN FLUORIDE, ANHYDROUS  
INHALATION HAZARD  
DOT-SP11759  
SR 5530

OWNERSHIP SUBJECT TO A SECURITY AGREEMENT  
FILED WITH THE SURFACE TRANSPORTATION BOARD

PAINT - SHERWIN WMS 862140/865160/8651604  
TRN - TXIX 07-2006

DOT 112S500W

	SEARCH STATUS	QUALIFIED	DUE
TANK QUALIFICATION	TFSR	2006	2016
THICKNESS TEST	TFSR	2006	2016
SERVICE EQUIPMENT	HSMAD	2011	2016
PRD. VALVE 375 PSI	HSMAD	2011	2016
LINING:			
BB.B.2 INSPECTION	TXIX	2006	2016
STUB SILL INSPECTION	TXIX	2006	2016



ATTACHMENT 4

*Representative Railcar ID Plate*

TANK MFG: TRINITY IND., INC.

SERIAL NO: T05084-13

AAR CERT NO: L066023

TANK SPEC: DOT112A500W

SHELL MATL: ASTM A516-70 NOR

HEAD MATL: ASTM A516-70 NOP

INSULATION MATL:

INSULATION MATL:

UNDERSTUB SILL

DATE OF MFG:

TRN 023

07-2006



**Honeywell****Performance Materials and Technologies**

Honeywell  
P.O. Box 430  
2768 North US 45 Road  
Metropolis, IL 62960

September 27, 2013

CERTIFIED 7010 0290 0001 5998 0229

Mr. Oscar DeMiranda  
Senior Allegation Coordinator, EICS  
Office of the Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
P.O. Box 56274  
Atlanta, GA 30343

Docket No. 40-3392  
License No. SUB-526

RE: HONEYWELL METROPOLIS WORKS' RESPONSE TO ALLEGATION  
NO. RII-2013-A-0100

This letter forwards the report of the investigation performed by an Independent Investigator to evaluate the concerns identified in the NRC's August 1, 2013 letter transmitting Allegation RII-2013-A-0100. The Independent Investigator is outside counsel from Winston & Strawn LLP, with more than ten years of experience in nuclear regulatory matters.

Upon evaluating the concerns set forth in the NRC's letter, Honeywell determined that it needed additional time to finalize the investigation, and requested that the reply date be extended to 60 days from the date of the NRC's letter. This extension was granted by you via telephone on August 23, 2013, and documented in Honeywell's letter to Mr. James A. Hickey on that same date.

The Independent Investigator found that the four concerns in the Allegation were unsubstantiated. Specifically: (1) Green salt from Fernald did not contain plutonium or neptunium in analytically significant quantities; (2) While material from former Soviet republics sometimes has a higher activity concentration than material from other locations, additional training and protections are not warranted; (3) Railcars used to store anhydrous hydrofluoric acid (AHF) contain pressure relief valves with appropriate set points, and no scrubber system is necessary given the substantial margin between the vapor pressure of AHF and the relief valve set point; and (4) While Metropolis Works (MTW) at one time required exit monitoring only for personnel working in process areas, by the mid-1990s all persons leaving the restricted area were required to perform exit monitoring, and no records were found of offsite contamination during the period of interest.

Supporting documentation is attached to the Independent Investigator's report.

MTW intends to ensure that all concerns expressed by MTW employees and contractors are received and resolved in an effort to continue to improve our safety and performance.

If there are any questions regarding the enclosed information, please call Mark Wolf, Nuclear Compliance Director, at (618) 309-5013.

Sincerely,

*Mark A. Wolf for*  
Larry A. Smith  
Plant Manager

Enclosures



**Honeywell  
Metropolis Works (MTW)**

**Review of  
Nuclear Regulatory Commission (NRC)  
Allegation No. RII-2013-A-0100  
Dated August 1, 2013**

**Independent Investigator**

**Tyson Smith – Outside Counsel (Winston & Strawn LLP)**

**Washington, DC  
September 27, 2013**

## **BACKGROUND**

By letter dated August 1, 2013,<sup>1</sup> the U.S. Nuclear Regulatory Commission (NRC) forwarded to Honeywell International Inc. (Honeywell) four concerns regarding activities at the Honeywell Metropolis Works (MTW) facility in Metropolis, Illinois. The NRC requested that Honeywell evaluate the information described in the letter's enclosure and provide the results to the NRC RII Allegations Coordinator. This report presents the results of an independent investigation of the concerns forwarded by the NRC.

## **ISSUES INVESTIGATED**

***Concern 1:** In the mid 90s, workers were unknowingly exposed to Plutonium and Neptunium while processing green salt from the Fernald Department of Energy (DOE) facility.*

*Determine if a Plutonium and Neptunium hazard resulted from processing green salt from the Fernald DOE facility. If so, were workers properly trained for those hazards? Were there any exposure events involving Plutonium and Neptunium? If so, what were the levels and results?*

***Concern 2:** Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into uranium hexafluoride (UF<sub>6</sub>).*

*Did the material from Russia have higher activity? And if so, did it require additional training to ensure proper handling?*

***Concern 3:** The railcars stored on-site for transfer of anhydrous hydrofluoric acid (AHF) to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and are not connected to a scrubber system.*

*What features are required and/or available for rail cars stored onsite which may be subject to an over-pressurization event?*

***Concern 4:** In the mid 90s, individuals were not required to monitor out of the facility and could have been spreading contamination offsite. One individual was noted to have gone home contaminated.*

*Provide information regarding offsite contamination event(s) and correct actions resulting from any event(s) which occurred in the mid 90s.*

## **INVESTIGATION APPROACH**

These allegations were evaluated by an independent investigator, Tyson R. Smith. Mr. Smith is outside counsel from Winston & Strawn LLP. Mr. Smith has more than ten years of experience in NRC regulatory matters, including investigations and enforcement

<sup>1</sup> Letter, J. Hickey to L. Smith, "Allegation No. RII-2013-A-0100," Aug. 1, 2013. The enclosure is marked as "Not For Public Disclosure."

matters. Mr. Smith was employed by the NRC from 2003-2005. He has a B.S. in Civil and Environmental Engineering from Vanderbilt University, an M.S. in Civil and Environmental Engineering from Stanford University, and a J.D. from Lewis & Clark Law School.

The investigation began with a review of current and historical documents relevant to the concerns identified by the NRC. The investigator also obtained MTW procedures relating to the issues addressed in this report. The relevant documents reviewed by the investigator are listed for each concern. In addition, Mr. Smith questioned subject matter experts at MTW, also identified below, who had knowledge of events or responsibilities in functional areas relevant to the concerns.

From the review of the original concerns, the documents identified during the investigation, and the interviews with subject matter experts, the investigator assembled a list of incidents or examples that are encompassed by the concerns. The investigator evaluated each incident or example to the extent practicable given the nature of the matter, and also evaluated the overall timeline in assessing the overarching issues raised in the allegations.

## **FINDINGS OF FACT**

### **Concern 1 – Unsubstantiated**

Through a review of historical documents, including correspondence with the NRC, the investigator compiled a regulatory history relating to shipments of green salt from the Fernald DOE facility.<sup>2</sup> The available documentation supports the conclusion that MTW workers were not exposed to plutonium or neptunium while processing green salt from Fernald. Additionally, the documents confirm that no plutonium or neptunium hazard resulted from processing this green salt, and that workers therefore needed no special training.

The following chronology of events provides detailed background regarding green salt received at MTW, which at the time was operated by AlliedSignal, from the Fernald DOE facility.

- November 1995: AlliedSignal receives shipment of uranium tetrafluoride (UF<sub>4</sub>) green salt from FERMCO (Fernald, Ohio).
- November 1996: Five lots of potentially contaminated UF<sub>4</sub> from FERMCO are identified for the first time during a review of material for sale.
- February 1997: FERMCO green salt is tested for contaminants by two separate laboratories. All lots except one show non-detectable levels of plutonium. Neptunium contamination was not detected in any samples.

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<sup>2</sup> Uranium tetrafluoride (UF<sub>4</sub>) is a green crystalline solid known as green salt. Green salt is an intermediate compound in the conversion of uranium oxides to uranium hexafluoride.

- March 17, 1997: AlliedSignal requests a license amendment from the NRC that would authorize possession of UF<sub>4</sub> contaminated with plutonium (for the one lot showing detectable level of plutonium).
- April 2 and 16, 1997: AlliedSignal responds to NRC Staff requests for information regarding the license amendment request.
- May 6, 1997: NRC grants license amendment authorizing AlliedSignal to possess the contaminated FERMCO UF<sub>4</sub>.
- May 8, 1998: AlliedSignal requests license amendment to authorize processing and conversion of contaminated FERMCO UF<sub>4</sub>.
- June 17, 1998: NRC issues request for additional information regarding license amendment request.
- July 17, 1998: AlliedSignal withdraws request for license amendment. Based on subsequent analysis, MTW determined that the FERMCO green salt in fact met the requirements of the MTW operating license at that time. As a result, no amendment was necessary to possess or process that green salt.

According to the July 17, 1998 letter, analyses of nine lots of the green salt by two separate laboratories showed results consistent with natural (unirradiated) green salt. Seven lots had less than the minimum detectable concentrations (MDC) of plutonium based on results from both laboratories. One lot showed slightly above MDC by one laboratory, and a different lot showed slightly above MDC by the other laboratory. In both of these cases, the other laboratory showed less than MDC quantities. Also, in both of these cases the laboratory counting error alone was sufficient to cause the value to be above MDC. AlliedSignal therefore concluded that UF<sub>4</sub> from FERMCO was not in fact contaminated with plutonium, and that any indication of contamination was likely the result of laboratory error or other analytical issue. AlliedSignal also affirmatively stated that there was no contamination of the facility.

- August 5, 1998: NRC agreed that, based on the information in AlliedSignal's July 17, 1998 letter, the plutonium was at minimum detectable concentrations in the FERMCO green salt. The NRC concluded that the green salt material analyses were consistent with natural material and that the FERMCO green salt could be processed under the MTW license without amendment.
- Present day: Seven drums of the FERMCO green salt remain onsite. The drums are individually identified and marked. No special procedures or supplemental protections relating to the storage or handling of the green salt are in place or necessary.

**Response to NRC questions regarding Concern No. 1:**

1. Determine if a plutonium and neptunium hazard resulted from processing green salt from the Fernald DOE facility.

Based on a review of MTW correspondence with the NRC, there were (and are) no plutonium or neptunium hazards resulting from green salt received from the Fernald facility. Extensive laboratory testing indicated that green salt from Fernald did not contain plutonium or neptunium in analytically significant quantities. As a result, the green salt could be processed under the then-existing MTW license. The FERMCO green salt has been and will be processed in accordance with the MTW license and applicable procedures. In addition and as documented in the letter from the NRC to AlliedSignal on August 5, 1998, the NRC specifically agreed with AlliedSignal that there was no special hazard associated with the FERMCO green salt.

Honeywell has attached the following documents to support this conclusion:

- Letter from P.G. Gasperini, Allied Signal, to NRC, "Retraction of Request for License Amendment," dated July 17, 1998.
- Letter from M. Lamastra, NRC, to P.G. Gasperini, Allied Signal, "Amendment Request to Process Pu-239 Contaminated Material," dated August 5, 1998.

2. If so, were workers properly trained for those hazards?

As noted above, there was (and is) no special hazard associated with the Fernald green salt. Since there were no plutonium or neptunium hazards resulting from green salt from the Fernald facility, workers needed no special training for processing and handling the green salt (i.e., no additional training is necessary beyond that normally required for site workers handling radiological materials).

3. Were there any exposure events involving Plutonium and Neptunium?

No. The investigation identified no exposure events involving plutonium or neptunium.

4. If so, what were the levels and results?

Not applicable. The investigation identified no exposure events involving plutonium or neptunium.

**Actions Planned**

No additional actions are considered necessary at this time.

## **Actions Taken**

This investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013. No further action is necessary.

### **Concern 2 – Unsubstantiated**

The investigator reviewed the requirements of NRC license SUB-526 issued to Honeywell for the MTW facility and obtained information and documentation regarding the activity of shipments of uranium, including those from Kazakhstan and Uzbekistan. The investigator also interviewed Jason Cybulski, the MTW Site Services Manager, to obtain background information on MTW processes for receipt and sampling of incoming material. Mr. Cybulski has worked at MTW for 17 years and is responsible for the supply chain and uranium inventory control.

Honeywell's license authorizes it to possess up to 68 million kg (150 million lbs) of natural uranium in the form of "yellow cake,"  $U_3O_8$ ,  $UO_2$ ,  $UO_3$ ,  $UF_4$ ,  $UF_6$ , and chemical intermediates of these compounds. The license does not impose any specific restrictions on the "activity," "specific activity," or "activity concentration" of natural uranium ore concentrates received by Honeywell.

Honeywell receives uranium ore concentrates in 55-gallon drums via common carrier from uranium mills throughout the world.<sup>3</sup> Each shipment is unloaded at the Sampling Plant. Each lot of concentrates is weighed and stored on storage pads until accountability procedures and uranium and impurity analyses are completed.

The uranium ore concentrates are sampled in the Sampling Plant (except for hard or wet ore) to obtain statistically-significant analytical samples in accordance with ASTM standards. The sampling results confirm that the material is natural uranium ore concentrates, as defined in ASTM standards. In addition, MTW sampling procedures ensure that any material that deviates from the range of acceptable ore concentrates is identified and appropriate steps taken to address any safety concerns.

According to Mr. Cybulski, MTW does not currently receive ore from Russia. MTW does, however, receive ore from former Soviet republics, including Kazakhstan and Uzbekistan. Shipments from these countries are often referred to colloquially as "Russian" ore. For the purpose of this report, the investigator assumes that the concern relates to ore concentrates from the former Soviet republics, rather than ore concentrates from Russia itself.

According to Mr. Cybulski, uranium ore shipments are typically designed to maximize the amount of ore in a single shipment in order to minimize transportation costs. Because uranium concentrates sent from former Soviet republics may have a higher percentage of uranium relative to other elements or impurities, shipments of ores from these locations often consist of fewer drums (with more weight per drum) in order to remain within acceptable transport limits. According to Mr. Cybulski, material from the former

<sup>3</sup> According to 10 CFR 71.4, the natural uranium ore concentrates at MTW are low specific activity materials. The International Atomic Energy Agency (IAEA) also defines natural uranium as a low specific activity material.



Soviet republics is sometimes referred to internally as "the good stuff" in reference to the fact that the concentrates typically have a higher percentage of uranium on a per drum basis. The relatively higher percentage of uranium in the ore concentrates is also taken into account when blending various drums of material at the start of the UF<sub>6</sub> production process.

A review of shipment manifests addressing uranium from multiple locations indicates that the total activity of a shipment of ore concentrates from former Soviet republic is comparable to that of ore concentrates sent from other locations.<sup>4</sup> However, ore concentrates from former Soviet republics may have a higher "activity concentration" than material from other locations if there is more uranium per drum.<sup>5</sup>

Country of Origin	Total Activity	# Drums	Activity/drum <sup>6</sup>
Namibia	299 GBq	54	5.5 GBq/drum
Australia	356 GBq	48	7.4 GBq/drum
USA	~344 GBq	43	8.0 GBq/drum
Namibia	388 GBq	46	8.4 GBq/drum
Australia	440 GBq	48	9.2 GBq/drum
Uzbekistan	322 GBq	35	9.2 GBq/drum
Kazakhstan	360 GBq	36	10.0 GBq/drum

<sup>4</sup> According to Mr. Cybulski, the samples listed are broadly representative of the range of material received by MTW.

<sup>5</sup> For natural ore concentrates, activity is proportional to the quantity of uranium. The term "activity concentration" is used to indicate the activity per unit mass (or volume) of material and is similar to "specific activity." Specific activity, however, is typically reserved for use in reference to a pure sample of a radionuclide, while activity concentration is used when referring to a material that contains radionuclides.

<sup>6</sup> This represents the average activity concentration for drums of ore concentrates.

Country of Origin	U (%)	U-234	SO <sub>4</sub> (%) <sup>(a)</sup>	Na (%) <sup>(a)</sup>
Namibia	73.22	54.10 ppm	2.27	1.83
USA	76.21	46.12 ppm	0.99	0.44
USA	78.92	51.47 ppm	0.44	0.52
USA	81.02	54.28 ppm	3.04	0.48
USA	81.29	53.81 ppm	1.89	0.54
Kazakhstan	83.30	54.08 ppm	0.79	0.24
Australia	84.05	53.96 ppm	0.59	0.06
Uzbekistan	85.89	50.36 ppm	0.01	<0.01

<sup>(a)</sup> Sulfur and sodium are just two of many elements that may be found in uranium ore concentrates. They are listed here to help illuminate the reasons for differences in uranium concentrations among material from different regions.

Although the ore concentrates from former Soviet republics typically have a higher activity concentration than material from other locations, the material still meets the definition of natural uranium ore concentrates per ASTM standards (e.g., ASTM C967, *Standard Specification for Uranium Ore Concentrate*). The difference in activity concentration levels between a drum of material from a former Soviet republic and from another location is not significant from a safety perspective. According to Sean Patterson, the Regulatory Affairs Manager (formerly Health Physics Supervisor) at MTW, no special precautions are necessary to account for the relatively small differences in activity concentration levels between ore concentrates from former Soviet republics and ore concentrates from other locations. No additional training or safety measures beyond those already in place at MTW are necessary because MTW's Radiation Protection and ALARA programs are designed to provide protection for a wide range of radiological materials, including natural uranium ore concentrates with relatively higher activity concentrations.

#### Response to NRC questions regarding Concern No. 2:

1. Did the material from Russia have higher activity?

As discussed above, *shipments* of ore concentrates from the former Soviet republics typically have activity levels that are comparable to shipments from other locations. However, *ore concentrates* from the former Soviet republics often have a higher activity concentrations due to the relatively higher percentage of uranium in the concentrates. The ore concentrates are still, however, classified as natural uranium ore concentrates.

2. And if so, did it require additional training to ensure proper handling?

Ore concentrates from former Soviet republics do not require additional training or safety measures to ensure proper handling. As natural uranium, the activity concentrations of ore concentrates from former Soviet republics remain below levels that would warrant additional training or safety measures beyond those already in place at MTW. In addition, MTW sampling procedures ensure that material that could pose additional safety concerns is identified and addressed.

### **Actions Planned**

No additional actions are considered necessary at this time.

### **Actions Taken**

This investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013.

### **Concern 3 – Unsubstantiated**

At MTW, anhydrous hydrofluoric acid (AHF) is brought onto the site via railcar. After the railcar containing the AHF is brought into the Restricted Area of the site, the railcar is stored on site until it is connected to the process line at the Feed Materials Building. The allegation relates specifically to the safety of the AHF railcars stored at the site prior to being connected to the process line.<sup>7</sup> To investigate the allegation, the investigator reviewed the specifications and safety features of railcars that contain AHF when stored onsite and conducted interviews with personnel regarding AHF storage.

AHF is shipped in railcars that meet or exceed DOT specifications, including specifications requiring relief valves.<sup>8</sup> Railcars approved for the transport of AHF have relief valves set at a pressure that ensures a substantial margin between the pressure relief valve and the vapor pressure of the AHF in the railcar.<sup>9</sup> While being stored at MTW, the railcar is not connected to a scrubber system. However, a scrubber system is not necessary because the railcar is designed to withstand pressures significantly in excess of the vapor pressure of the AHF in the railcar.

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<sup>7</sup> The investigation did not specifically address the safety of railcars once they are connected to the process lines at MTW because this issue is outside the scope of the concern.

<sup>8</sup> According to 49 CFR 173.244, AHF must be transported in tank cars having a test pressure of 300 psig or greater and conform to DOT Classes 105, 112, 114, or 120. The railcar ID data plate for one AHF railcar at MTW identifies the railcar as type DOT 112A500W. This railcar type satisfies DOT requirements for shipment of AHF (see 49 CFR 173.244). The stenciling on the railcar identifies it as type DOT 112S500W. According to the GATX manual, railcar type DOT 112S500W is the same railcar as DOT 112A500W, but equipped with head shields. According to the railcar stenciling, the railcar is fitted with a safety valve set at 375 psig. Railcars of this type have a bursting pressure of at least 1250 psig. See 49 CFR 179.101-1.

<sup>9</sup> According to Jon Price, Technical Manager at MTW, the vapor pressure of AHF at the maximum reasonable ambient temperature at MTW, which is 100 degrees F, is approximately 13 psig.

**Response to NRC questions regarding Concern No. 3:**

1. What features are required and/or available for rail cars stored onsite which may be subjected to an over pressurization event?

Railcars containing AHF are required to meet DOT specifications, including specifications regarding relief valve pressure set points. The vapor pressure of AHF at the maximum reasonable ambient temperature at MTW is approximately 13 psig. Railcars designed to DOT specifications have relief valves set at pressures significantly beyond those expected to occur at MTW. A scrubber system is not necessary in light of the significant differential between the vapor pressure of AHF and the relief valve set point.

**Actions Planned**

No additional actions are considered necessary at this time.

**Actions Taken**

This investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013.

**Concern 4 – Unsubstantiated**

According to the concern, in the mid-1990s individuals were not required to monitor out of the facility and could have been spreading contamination offsite. The concern states that one individual went home contaminated. To respond to this concern, the investigator reviewed records related to historical plant practices and any incidents of offsite contamination during the period discussed in the concern. The investigator also conducted an interview with Sean Patterson, Regulatory Affairs Manager (formerly Health Physics Supervisor) at MTW. Mr. Patterson was in the Health Physics department at MTW for 20 years.

During the interview with Mr. Patterson, he explained that, at least as far back as 1986, the license requirements for MTW required that persons working in "controlled" (i.e., UF<sub>6</sub> process) areas perform exit monitoring. Persons who did not work in process areas were not required to perform exit monitoring. This is reflected in health physics procedures in use at the time, as well as the NRC license for MTW, issued on November 10, 1993, which states (at License Condition 17) that exit monitoring is required for persons exiting contamination controlled areas.

In the mid-1990s, MTW changed practices to require that all persons exiting the Restricted Area (i.e., the area within the inner security fence) perform exit monitoring. The MTW license renewal application, dated July 11, 1994, states in Section 3.2.1 that visitors and employees who have worked in, or visited, the Restricted Area at the site must perform personal exit monitoring upon leaving the Restricted Area. That requirement, which was incorporated by reference into the renewed MTW license, was also reflected in the Health Physics Procedure for Contamination Control no later than 1996.

The investigation did not reveal any specific incident that led to the change in procedure. And, the precise date of the change in practice at MTW could not be ascertained because of the manner in which MTW license documentation was maintained. At the time, changes to the license were incorporated by removing a page and replacing it with a new page. Based on the interview with Mr. Patterson, the change in practice was likely made sometime in the mid-1990s, which would be consistent with the license renewal application filed in 1994. The current MTW license renewal application (Section 3.2.1), which is also incorporated into the current MTW license, continues to require exit monitoring for all persons leaving the Restricted Area.<sup>10</sup> The license application also states that Honeywell shall not permit an individual to exit the Restricted Area with skin or clothing contamination at levels exceeding the guidance provided in Section 2.6 of Regulatory Guide 8.30 without specific Health Physics approval.

With respect to offsite contamination events, MTW reported that records reviewed to respond to the request for information did not reveal any instances of offsite contamination during the period of time discussed in the concern. Based on a review of personnel exit survey reports from January 1991 through April 1992, all personnel were documented as performing exit monitoring correctly. These reports, however, appear to be a random sampling of employee exit monitoring practices, not formal daily documentation of employee exit records. Health Physics technician log books for the period between February 1995 and October 1999 identified 45 contamination events at the exit monitor. However, in all cases the employee was decontaminated prior to leaving the facility. Based on a review of Incident & Spill Reports from 1996 through 1999, there was one report regarding an instance of PPE being worn outside the Restricted Area. Upon investigation, it was determined that the employee's street clothes, which were being worn under his plant overalls, had been contaminated while at the plant. Before leaving the site, the employee dressed in a new pair of coveralls, was monitored and found clean, and then left the plant wearing the coveralls. There was no offsite contamination.

Mr. Patterson also recalled one instance in 2000 in which an employee's home and personal vehicle were surveyed following a urine sample result that showed relatively high amounts of uranium. According to contemporaneous documentation, follow-up urine samples did not show the same high levels of uranium. Nevertheless, MTW personnel performed surveys of the employee's home, including steps and sidewalk, as well as the employee's personal vehicle. No survey readings were above background levels.

#### **Response to NRC questions regarding Concern No. 4:**

1. Provide information regarding offsite contamination event(s) and corrective actions resulting from any event(s) which occurred in the mid 90s.

The investigation did not reveal any records or reports of offsite contamination in the 1990s. There was a change in MTW practices related to exit monitoring that occurred in the mid-1990s. Specifically, MTW transitioned from requiring exit monitoring only for persons working in process areas to requiring exit monitoring

<sup>10</sup> MTW-SOP-HP-0112, "Release of Personnel, Materials, Equipment, and Transport Vehicles from the Restricted Area."



for all persons exiting the Restricted Area of the site. A review of available documentation did not indicate whether the change was made as a corrective action following a particular incident, in conjunction with license renewal, or as part of site continuous improvement or ALARA efforts.

### **Actions Planned**

No additional actions are considered necessary at this time.

### **Actions Taken**

This Investigation was conducted and a response was prepared as directed in the NRC's letter dated August 1, 2013.

### **CONCLUSION**

After reviewing the evidence, the Independent Investigator concludes that:

- **Concern 1:** *"In the mid 90s, workers were unknowingly exposed to Plutonium and Neptunium while processing green salt from the Fernald Department of Energy (DOE) facility"* is **unsubstantiated**. Green salt from Fernald did not contain plutonium or neptunium in analytically significant quantities.
- **Concern 2:** *"Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into uranium hexafluoride (UF<sub>6</sub>)"* is **unsubstantiated**. While material from former Soviet republics typically has a higher activity concentration than material from other locations, additional training and protections are not warranted.
- **Concern 3:** *"The railcars stored on-site for transfer of anhydrous hydrofluoric acid (AHF) to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and are not connected to a scrubber system"* is **unsubstantiated**. Railcars used to store AHF are required to have pressure relief valves with appropriate set points. Although the railcars are not connected to a scrubber system while being stored at the site, no scrubber system is necessary given the substantial margin between the vapor pressure of AHF and the relief valve set point.
- **Concern 4:** *"In the mid 90s, individuals were not required to monitor out of the facility and could have been spreading contamination offsite. One individual was noted to have gone home contaminated"* is **unsubstantiated**. While MTW at one time required exit monitoring only for personnel working in process areas, by the mid-1990s all persons leaving the Restricted Area of the site were required to perform exit monitoring. In addition, no records or reports were found of offsite contamination during the period of interest.



**ATTACHMENTS***List of Attachments*

1. Letter from P.G. Gasperini, Allied Signal, to NRC, "Retraction of Request for License Amendment," dated July 17, 1998.
2. Letter from M. Lamastra, NRC, to P.G. Gasperini, Allied Signal, "Amendment Request to Process Pu-239 Contaminated Material," dated August 5, 1998.
3. Representative railcar stenciling
4. Representative railcar ID plate

*List of Persons Interviewed*

- J. Cybulski
- J. Price
- S. Patterson

**Performance Materials and Technologies**

Honeywell  
P.O. Box 430  
2768 North US 45 Road  
Metropolis, IL 62960

August 23, 2013

CERTIFIED

(b)(7)(C)

James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection  
U.S. Nuclear Regulatory Commission, Region II  
245 Peachtree Center Avenue NE, Suite 1200  
Atlanta, GA 30303-1257

Docket No. 40-3392  
License No. SUB-526

RE: HONEYWELL METROPOLIS WORKS' REQUEST TO EXTEND RESPONSE  
PERIOD TO ALLEGATION RII-2013-A-0100

This communication is with regard to Honeywell Metropolis Works' response to the Allegation RII-2013-A-0100 requested in the NRC letter dated August 1, 2013. The NRC asked that Honeywell evaluate the information described in the enclosure to the letter and submit the results of that evaluation to Region II within 30 days of the date of the letter. Evaluating the concerns identified in the subject NRC letter, Honeywell determined that it needs additional time to finalize the findings related to the validity of the Allegation RII-2013-A-0100. Consequently, Honeywell requests to extend the response period to sixty (60) days of the date of the NRC letter transmitting the Allegation RII-2013-A-0100.

If you have questions, or wish to discuss this matter, please contact

(b)(7)(C)

(b)(7)(C)

Sincerely,

(b)(7)(C)

Mr. Oscar de Miranda, Senior Allegation Coordinator  
Enforcement and Investigations Coordination Staff  
Office of the Regional Administrator, Region II  
U.S. Nuclear Regulatory Commission  
245 Peachtree Center Avenue NE, Suite 1200  
Atlanta, GA 30303-1257

SENDER: COMPLETE THIS SECTION

COMPLETE THIS SECTION ON DELIVERY

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece or on the front if space permits.

(b)(7)(C)

- ☐ Agent  
☐ Addressee

C. Date of Delivery

1. Article Addressed to:

(b)(7)(C)

Honeywell Metropolis Works  
P.O. Box 430  
Metropolis, IL 62960

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type *RM-2013-A-C100*  
☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. / Number  
(transfer from service label)

(b)(7)(C)

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-1540





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

August 1, 2013

(b)(7)(C)

Honeywell International Inc.  
P.O. BOX 430  
Metropolis, IL 62960

SUBJECT: ALLEGATION NO. RII-2013-A-0100

Dear (b)(7)(C):

The U.S. Nuclear Regulatory Commission (NRC) recently received information concerning activities at the Honeywell Metropolis Works facility in Metropolis, Illinois. We request that Honeywell evaluate the information described in the Enclosure to this letter and submit the results of that evaluation to Region II. Within 30 days of the date of this letter, we ask that you inform Mr. Oscar DeMiranda, in writing, the details of your evaluation and your findings related to the validity of the information provided. If Honeywell determines a concern to be substantiated, please discuss Honeywell's consideration of appropriate root or apparent causes and generic implications of the substantiated concern, and the appropriateness of corrective actions taken or planned commensurate with the significance of the issue. Additionally, if your evaluation identifies any compliance issue with regard to NRC regulatory requirements or NRC commitments, please inform us regarding the requirement or commitment that was violated, the corrective actions taken or planned, and the corrective action documentation that addressed the issue. We ask that you reference our tracking number (RII-2013-A-0100) in your written response and, also, make any records of your evaluation available for possible NRC inspection.

The NRC will review your response to determine whether: (a) the individual conducting the investigation was independent of the organization with responsibility for the related functional area; (b) the evaluator has sufficient knowledge and experience to conduct a review in the related functional area; and (c) the evaluation was of sufficient depth and scope. Your response should describe how each of these attributes was satisfied. If individuals were interviewed as part of your review, your response should include the basis for determining that the number and cross section of individuals interviewed was appropriate to obtain the information necessary to fully evaluate the concern(s), and the interview questions used. If your evaluation included a sample review of related documentation and/or potentially affected structures, systems, and components, your response should include the basis for determining that the selected sample size was appropriately representative and adequate to obtain the information necessary to fully evaluate the concern(s). The NRC will consider these factors in reviewing the adequacy of your evaluation of this/these issue(s) and in developing our conclusions with regard to the concerns provided in the Enclosure.

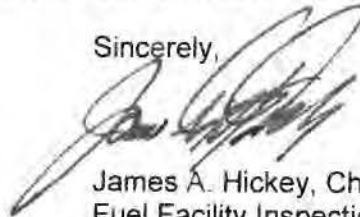
CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUIRED

We request that your response only be sent to Mr. Oscar DeMiranda, Senior Allegation Coordinator, EICS, Office of the Regional Administrator, Region II, at the following address: P. O. Box 56274, Atlanta, GA 30343, and fax him a copy at 404-997-4903. No other copies should be sent to the NRC, i.e., your response should not be docketed or otherwise submitted to the NRC Document Control Desk. We also request that your response contain no personal privacy, proprietary, or safeguards information. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

This letter and its Enclosure should be controlled and distribution limited to personnel with a "need to know." The response requested by this letter and the accompanying Enclosure are not subject to the clearance procedures of the Office of Management and Budget, as required by the Paperwork Reduction Act of 1980, Pub. L. 96-511.

Lastly, we ask that you contact the NRC as your review effort begins, to assure a common understanding of the issues discussed in the Enclosure, and the NRC's expectations for follow-up and response, and to discuss your plan to evaluate the issues. Please contact James Hickey at 404-997-4628 with this information. Any requests for additional information or change in response date should be directed to Mr. Oscar DeMiranda at 404-997-4424.

Sincerely,



James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated



~~NOT FOR PUBLIC DISCLOSURE~~

**HONEYWELL METROPOLIS WORKS**  
**WORKERS UNKNOWINGLY EXPOSED TO LICENSED MATERIALS**  
**ALLEGATION NUMBER RII-2013-A-0100**

The NRC has received information that:

Non Responsive Record

Concern No. 2:

Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into uranium hexafluoride (UF<sub>6</sub>).

Did the material from Russia have (b)(4) ? And if so, did it require additional training to ensure proper handling?

Non Responsive Record

~~NOT FOR PUBLIC DISCLOSURE~~

Enclosure



We request that your response only be sent to Mr. Oscar DeMiranda, Senior Allegation Coordinator, EICS, Office of the Regional Administrator, Region II, at the following address: P. O. Box 56274, Atlanta, GA 30343, and fax him a copy at 404-997-4903. No other copies should be sent to the NRC, i.e., your response should not be docketed or otherwise submitted to the NRC Document Control Desk. We also request that your response contain no personal privacy, proprietary, or safeguards information. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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Lastly, we ask that you contact the NRC as your review effort begins, to assure a common understanding of the issues discussed in the Enclosure, and the NRC's expectations for follow-up and response, and to discuss your plan to evaluate the issues. Please contact James Hickey at 404-997-4628 with this information. Any requests for additional information or change in response date should be directed to Mr. Oscar DeMiranda at 404-997-4424.

Sincerely,

*RA*  
James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

OFFICE	RII:DFFI	RII:EICS	RII:OFFI			
SIGNATURE	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>			
NAME	RGibson	ODeMiranda	J Hickey			
DATE	7/31/2013	8/1/2013	8/1/2013			
E-MAIL COPY	YES <input checked="" type="radio"/> NO	YES NO	NO			

OFFICIAL RECORD COPY DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DFFI\BRANCH 2\HONEYWELL RFI LETTER RII-2013-A-0100.DOCX

**RFI LICENSEE CALLBACK**  
**RECORD OF CONVERSATION**

**Allegation Number:** RII-2013-A- -0100

**Responsible Branch:** DFFI/FFB2

**Background:**

AGM 2008-001 requires that the licensee contact the responsible branch chief, or other appropriate staff, to ensure common understanding of the scope of the allegation and the staff's expectations for follow-up and response. During this discussion, the staff should be mindful not to dictate specific requirements that may restrict or limit the licensee's response. Rather, this discussion is intended to ensure that the actions proposed by the licensee to evaluate the allegation concern(s) appear likely to result in a product that meets the NRC's stated expectations and thoroughly addresses the concern(s) raised. If upon completion of this or subsequent discussions, it is determined that the licensee's plan of action is unlikely to be successful, the responsible Branch Chief will reconvene the ARB to consider a follow-up telephone call with senior licensee management, or NRC inspection activity. A record of the conversation with the licensee shall be included in the allegation file.

**Date of Phone Call:** 08/02/2013

**Name of Licensee Contact:** (b)(7)(C)

**Summary of Conversation:** Confirmed understanding of RFI concerns

**Licensee's plan of action sounded reasonable:** ☒ Y ☐ N  
If no, please state why:

**Describe any additional actions needed:** N/A

**Re-ARB required:** ☐ Y ☒ N

**Prepared by:** Jim Hickey  
**Title:** Branch Chief

**Date Prepared:** 8/2/2013

Please return this to EICS ([R2EICSAleg@nrc.gov](mailto:R2EICSAleg@nrc.gov)) along with any supporting documentation available (e.g. e-mail from licensee, etc.), if any.



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

August 1, 2013

Mr. Larry Smith  
Plant Manager  
Honeywell International Inc.  
P.O. BOX 430  
Metropolis, IL 62960

SUBJECT: ALLEGATION NO. RII-2013-A-0100

Dear Mr. Smith:

The U.S. Nuclear Regulatory Commission (NRC) recently received information concerning activities at the Honeywell Metropolis Works facility in Metropolis, Illinois. We request that Honeywell evaluate the information described in the Enclosure to this letter and submit the results of that evaluation to Region II. Within 30 days of the date of this letter, we ask that you inform Mr. Oscar DeMiranda, in writing, the details of your evaluation and your findings related to the validity of the information provided. If Honeywell determines a concern to be substantiated, please discuss Honeywell's consideration of appropriate root or apparent causes and generic implications of the substantiated concern, and the appropriateness of corrective actions taken or planned commensurate with the significance of the issue. Additionally, if your evaluation identifies any compliance issue with regard to NRC regulatory requirements or NRC commitments, please inform us regarding the requirement or commitment that was violated, the corrective actions taken or planned, and the corrective action documentation that addressed the issue. We ask that you reference our tracking number (RII-2013-A-0100) in your written response and, also, make any records of your evaluation available for possible NRC inspection.

The NRC will review your response to determine whether: (a) the individual conducting the investigation was independent of the organization with responsibility for the related functional area; (b) the evaluator has sufficient knowledge and experience to conduct a review in the related functional area; and (c) the evaluation was of sufficient depth and scope. Your response should describe how each of these attributes was satisfied. If individuals were interviewed as part of your review, your response should include the basis for determining that the number and cross section of individuals interviewed was appropriate to obtain the information necessary to fully evaluate the concern(s), and the interview questions used. If your evaluation included a sample review of related documentation and/or potentially affected structures, systems, and components, your response should include the basis for determining that the selected sample size was appropriately representative and adequate to obtain the information necessary to fully evaluate the concern(s). The NRC will consider these factors in reviewing the adequacy of your evaluation of this/these issue(s) and in developing our conclusions with regard to the concerns provided in the Enclosure.

**CERTIFIED MAIL NUMBER 7011 2000 0001 0083 4597  
RETURN RECEIPT REQUIRED**



We request that your response only be sent to Mr. Oscar DeMiranda, Senior Allegation Coordinator, EICS, Office of the Regional Administrator, Region II, at the following address: P. O. Box 56274, Atlanta, GA 30343, and fax him a copy at 404-997-4903. No other copies should be sent to the NRC, i.e., your response should not be docketed or otherwise submitted to the NRC Document Control Desk. We also request that your response contain no personal privacy, proprietary, or safeguards information. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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Lastly, we ask that you contact the NRC as your review effort begins, to assure a common understanding of the issues discussed in the Enclosure, and the NRC's expectations for follow-up and response, and to discuss your plan to evaluate the issues. Please contact James Hickey at 404-997-4628 with this information. Any requests for additional information or change in response date should be directed to Mr. Oscar DeMiranda at 404-997-4424.

Sincerely,

/RA/

James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

We request that your response only be sent to Mr. Oscar DeMiranda, Senior Allegation Coordinator, EICS, Office of the Regional Administrator, Region II, at the following address: P. O. Box 56274, Atlanta, GA 30343, and fax him a copy at 404-997-4903. No other copies should be sent to the NRC, i.e., your response should not be docketed or otherwise submitted to the NRC Document Control Desk. We also request that your response contain no personal privacy, proprietary, or safeguards information. If personal privacy or proprietary information is necessary to provide an acceptable response, please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld, and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

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Lastly, we ask that you contact the NRC as your review effort begins, to assure a common understanding of the issues discussed in the Enclosure, and the NRC's expectations for follow-up and response, and to discuss your plan to evaluate the issues. Please contact James Hickey at 404-997-4628 with this information. Any requests for additional information or change in response date should be directed to Mr. Oscar DeMiranda at 404-997-4424.

Sincerely,

/RA/

James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

OFFICE	RII:DFFI	RII:EICS				
SIGNATURE	/RA/	CEvans for				
NAME	RGibson	ODeMiranda				
DATE	7/ 31 /2013	8/1/2013				
E-MAIL COPY	YES NO	YES NO				

OFFICIAL RECORD COPY DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DFFI\BRANCH  
2\HONEYWELL RFI LETTER RII-2013-A-0100.DOCX

**HONEYWELL METROPOLIS WORKS**

**WORKERS UNKNOWNLY EXPOSED TO LICENSED MATERIALS**

**ALLEGATION NUMBER RII-2013-A-0100**

The NRC has received information that:

Concern No. 1:

In the mid 90's workers were unknowingly exposed to Plutonium and Neptunium while processing green salt from the Fernald Department of Energy (DOE) facility.

Determine if a Plutonium and Neptunium hazard resulted from processing green salt from the Fernald DOE facility. If so, were workers properly trained for those hazards? Were there any exposure events involving Plutonium and Neptunium? If so, what were the levels and results?

Concern No. 2:

Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into uranium hexafluoride (UF<sub>6</sub>).

Did the material from Russia have higher activity? And if so, did it require additional training to ensure proper handling?

Concern No. 3:

The railcars stored on-site for transfer of anhydrous hydrofluoric acid (AHF) to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and are not connected to a scrubber system.

What features are required and/or available for rail cars stored onsite which may be subjected to an over pressurization event?

Concern No. 4:

In the mid 90's individuals were not required to monitor out of the facility and could have been spreading contamination offsite. One individual was noted to have gone home contaminated.

Provide information regarding offsite contamination event(s) and corrective actions resulting from any event(s) which occurred in the mid 90's.



**Checkle, Melanie**

(b)(5)

**Checkle, Melanie**

(b)(5)



James Hickey  
Chief, Fuel Facility Inspection Branch 2  
Region II

404-997-4628

(b)(7)(C)

[James.Hickey@nrc.gov](mailto:James.Hickey@nrc.gov)

**Checkle, Melanie**

---

**From:** Hickey, James  
**Sent:** Wednesday, December 04, 2013 6:52 AM  
**To:** R2Allegations Resource; Checkle, Melanie  
**Subject:** Update: Voicemail from CI regarding closure letter. RII-2013-A-2013 100

(b)(7)(C)

I received two voicemails from the CI while I was out of the office on 12/4. I will give the CI my cell phone # to call me when he gets off work.

Regards,  
Jim

---

**From:** Hickey, James  
**Sent:** Monday, December 02, 2013 2:59 PM  
**To:** R2ALLEGATIONS@NRC.GOV; Checkle, Melanie  
**Subject:** Voicemail from CI regarding closure letter. RII-2013-A-2013

I received a voicemail on 11/29/2013 from the CI. It appears he has questions regarding our closure letter. I attempted a callback this morning and left a voice message.

Regards,  
Jim



James Hickey  
Chief, Fuel Facility Inspection Branch 2  
Region II  
404-997-4628  
(b)(7)(C)  
[James.Hickey@nrc.gov](mailto:James.Hickey@nrc.gov)

13-100  
**Checkle, Melanie**

---

**From:** Gibson, Richard  
**Sent:** Thursday, August 22, 2013 2:01 PM  
**To:** Checkle, Melanie  
**Subject:** RE: RII-2013-A-0100 (Sensitive Allegation Material)

I've just called him, and he was appreciative.

Richard

---

**From:** Checkle, Melanie  
**Sent:** Thursday, August 22, 2013 1:57 PM  
**To:** Gibson, Richard  
**Subject:** Re: RII-2013-A-0100 (Sensitive Allegation Material)

If you know the status, you can give him a call. All you have to tell him is that the concerns are still under review and that we are awaiting the response to our request for information from the licensee. That's pretty much all we can tell him at this point. Thanks.

Melanie, (b)(7)(C) called me and left a message. He wanted to know the status of his concerns. He can be contacted at: (b)(7)(C). Do you wish to contact him? Or, do you want me to contact him? We have an RFI to the licensee that is due by August 30, 2013.

Non Responsive Record

Concern 2: Workers did not receive proper training or protection while handling (b)(4) ...

Non Responsive Record

Richard

**Checkle, Melanie**

13-160

**From:** Checkle, Melanie  
**Sent:** Thursday, August 01, 2013 1:26 PM  
**To:** Hickey, James; Peterka, Nicholas; Gibson, Richard; DeMiranda, Oscar  
**Cc:** Evans, Carolyn  
**Subject:** RE: 13-100 Concern 4 - Phone Call from CI #1 \*SENSITIVE INFORMATION\*

Thanks Jim. When closing Concern 4 with CI #1, please make reference to my conversation with him yesterday and what I explained to him (that we would review the information but would make a determination of whether or not we needed to followup). I just don't want him to feel like we just ignored his request.

*Melanie M. Checkle*

Allegation Coordinator  
Enforcement and Investigation Coordination Staff  
U.S. Nuclear Regulatory Commission  
404.997.4426

\*If this email contains sensitive allegation information, please delete when no longer needed.\*

---

**From:** Hickey, James  
**Sent:** Thursday, August 01, 2013 7:16 AM  
**To:** Peterka, Nicholas; Checkle, Melanie; Gibson, Richard; DeMiranda, Oscar  
**Cc:** Evans, Carolyn  
**Subject:** RE: 13-100 Concern 4 - Phone Call from CI #1 \*SENSITIVE INFORMATION\*

We will include concern #4 in our RFI.

---

**From:** Peterka, Nicholas  
**Sent:** Wednesday, July 31, 2013 11:07 AM  
**To:** Checkle, Melanie; Hickey, James; Gibson, Richard; DeMiranda, Oscar  
**Cc:** Evans, Carolyn  
**Subject:** RE: 13-100 Concern 4 - Phone Call from CI #1 \*SENSITIVE INFORMATION\*

Melanie,

(b)(7)(C)

Nick

---

**From:** Checkle, Melanie  
**Sent:** Wednesday, July 31, 2013 10:48 AM  
**To:** Hickey, James; Gibson, Richard; DeMiranda, Oscar  
**Cc:** Evans, Carolyn; Peterka, Nicholas  
**Subject:** 13-100 Concern 4 - Phone Call from CI #1 \*SENSITIVE INFORMATION\*

FFB2 and Oscar,



Non Responsive Record

**Checkle, Melanie**

13-100 Incoming

**From:** Gibson, Richard  
**Sent:** Friday, July 12, 2013 10:09 AM  
**To:** Checkle, Melanie  
**Subject:** RE: !!!!!WARNING - ~~SENSITIVE ALLEGATION MATERIAL!!!!~~

Yes, (b)(7)(C)

Richard

**From:** Checkle, Melanie  
**Sent:** Friday, July 12, 2013 9:54 AM  
**To:** Gibson, Richard  
**Subject:** RE: !!!!!WARNING - ~~SENSITIVE ALLEGATION MATERIAL!!!!~~

Richard, (b)(7)(C)

(b)(7)(C)

(b)(7)(C) Let me know, thanks.

*Melanie M. Checkle*  
*Allegation Coordinator*  
*Enforcement and Investigation Coordination Staff*  
*U.S. Nuclear Regulatory Commission*  
*404.997.4426*

\*If this email contains sensitive allegation information, please delete when no longer needed.\*

**From:** Gibson, Richard  
**Sent:** Thursday, July 11, 2013 3:30 PM  
**To:** R2EICS  
**Cc:** Checkle, Melanie  
**Subject:** FW: !!!!!WARNING - ~~SENSITIVE ALLEGATION MATERIAL!!!!~~

Let me know if you need additional info.

**From:** Peterka, Nicholas  
**Sent:** Thursday, July 11, 2013 3:05 PM  
**To:** Gibson, Richard  
**Subject:** !!!!!WARNING - ~~SENSITIVE ALLEGATION MATERIAL!!!!~~

Richard,

As discussed, please see the attached documents. The Part 1 and 2 documents capture the concerns and the last document (b)(7)(C) contact information. Thanks for submitting it and reviewing the concerns.

Nick Peterka

Nicholas Peterka  
USNRC Region II  
Division of Fuel Facility Inspection  
Fuel Facility Inspector, Branch 3

404-997-4556

**SENDER: COMPLETE THIS SECTION**

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A. Signature

- ☐ Agent  
☐ Addressee

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C. Date of Delivery

10-24-13

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☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

October 21, 2013

(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C) regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record

Non Responsive Record 2) workers did not receive proper training or protection while handling (b)(4)

(b)(4) from Russia to be converted into UF<sub>6</sub>. Non Responsive Record

Non Responsive Record

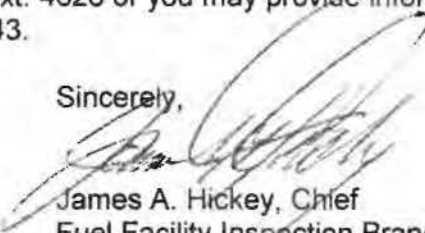
Non Responsive Record

The enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

Thank you for informing us of your concerns. We believe that our actions in this matter have been responsive. Closure of an allegation does not prevent us from revisiting a concern, especially if we obtain new information. Allegations are an important source of information in support of the NRC's safety mission. We take our safety responsibility to the public seriously and will continue to do so within the bounds of our lawful authority. Unless the NRC receives additional information that suggests that our conclusions should be altered, we plan no further action on this matter.

Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

  
James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

**RESPONSE TO CONCERN  
HONEYWELL METROPOLIS WORKS  
ALLEGATION NO. RII-2013-A-0100**

Non Responsive Record

Enclosure



Non Responsive Record

Concern 2:

Workers did not receive proper training or protection while handling (b)(4) from Russia to be converted into UF<sub>6</sub>.

Background Information:

You stated that workers were exposed to (b)(4) when they began processing drums of material from Russia. You also stated that the workers did not receive additional training or personal protection equipment to handle the (b)(4)

Response to Concern:

The NRC requested that MTW evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator which performed interviews with the MTW (b)(7)(C) (b)(7)(C) (b)(7)(C). According to the (b)(7)(C) shipments of ore concentrates from the former Soviet republics (b)(4) (b)(4). However, ore concentrates from the former Soviet republics can have (b)(4) (b)(4). The ore concentrates are still, however, classified as natural uranium.

The investigator reviewed records and interviewed personnel and determined that the ore concentrates from the former Soviet republics do not require additional worker training or safety measures to ensure proper handling. As natural uranium, the activity concentrations of ore concentrates from the former Soviet republics remain below levels that would warrant additional training or safety measures beyond those already in place at MTW.

Conclusion:

The NRC has not observed any problems with Honeywell's workers receiving proper training or protection while handling (b)(7)(C) from the former Soviet republics to be converted into UF<sub>6</sub>. The NRC inspector was unable to substantiate the concern.

Non Responsive Record

Enclosure

Non Responsive Record



Enclosure

Non Responsive Record



Enclosure

October 21, 2013

(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C) regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record 2) workers did not receive proper training or protection while handling (b)(4)

(b)(4) from Russia to be converted into UF<sub>6</sub>, 3) Non Responsive Record

Non Responsive Record

Non Responsive Record The enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

Thank you for informing us of your concerns. We believe that our actions in this matter have been responsive. Closure of an allegation does not prevent us from revisiting a concern, especially if we obtain new information. Allegations are an important source of information in support of the NRC's safety mission. We take our safety responsibility to the public seriously and will continue to do so within the bounds of our lawful authority. Unless the NRC receives additional information that suggests that our conclusions should be altered, we plan no further action on this matter.

Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

*JAH*  
James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

OFFICE	RII: DFFI	RII: EICS	Rii: DFFI				
SIGNATURE			<i>JAH</i>				
NAME	RGibson	ODeMiranda	S. Hickey				
DATE	10/ /2012	10/ /2012	10/ 21/2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY  
2 RII-2013-A-0100.DOCX

DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DFFI\BRANCH 2\LETTER TO ALLEGER



(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C) regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record 2) workers did not receive proper training or protection while handling (b)(4)

(b)(4) from Russia to be converted into UF<sub>6</sub>. Non Responsive Record

Non Responsive Record

Non Responsive Record The enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

Thank you for informing us of your concerns. We believe that our actions in this matter have been responsive. Closure of an allegation does not prevent us from revisiting a concern, especially if we obtain new information. Allegations are an important source of information in support of the NRC's safety mission. We take our safety responsibility to the public seriously and will continue to do so within the bounds of our lawful authority. Unless the NRC receives additional information that suggests that our conclusions should be altered, we plan no further action on this matter.



Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

OFFICE	RII: DFFI	RII: EICS					
SIGNATURE							
NAME	RGibson	ODeMiranda					
DATE	10/21/2012	10/21/2012	10/ /2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013
E-MAIL COPY?	YES <input checked="" type="checkbox"/> NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY  
2 RII-2013-A-0100.DOCX

DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DFFI\BRANCH 2\LETTER TO ALLEGER



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1. Article Addressed to:

2. <sup>1</sup>

Number

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A. Signature

X

- ☐ Agent  
☐ Addressee

B. Received by (Printed Name)

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*RD-20, 3-1010-02*

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☐ Yes



13-000-07

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

July 25, 2013

(b)(7)(C)

SUBJECT: Concerns You Raised to the NRC Regarding Honeywell –  
Allegation Report RII-2013-A-0100

Dear (b)(7)(C):

This letter refers to your conversation with U.S. Nuclear Regulatory Commission (NRC) staff members (b)(7)(C). During (b)(7)(C)

(b)(7)(C) you expressed concerns related to several issues at Honeywell. (b)(7)(C)

(b)(7)(C)

(b)(7)(C)

Enclosure 1 to this letter documents your concerns as we understand them. We have initiated actions to evaluate your concerns and will inform you of our findings. The NRC normally conducts an evaluation of a concern within six months, although complex issues may take longer. If the description of any of your concerns, identified as Concerns 1, 2, 3 and 4, as noted in Enclosure 1 is not accurate, please contact me so that we can assure that your concerns are appropriately described and adequately addressed prior to the completion of our review.

As part of our response to Concern 1, 2, 3, and 4, we intend to request Honeywell to perform an evaluation and provide a written response to the NRC. Your name and any other identifying information will be excluded from the information that is provided to Honeywell in the request for information. We will request that Honeywell's evaluation be thorough, objective, and that the evaluator be independent of Honeywell management responsible for oversight of the functional area related to your concerns. We will evaluate Honeywell's response, and consider it in developing our conclusions regarding your concerns. We will inform you of our disposition once we have evaluated Honeywell's response and taken any additional actions, if necessary, to address your concerns. In your conversation with Mr. Nicholas Peterka, NRC staff member, on (b)(7)(C), you indicated that you would not object to the NRC requesting information from the licensee with regard to your concerns.

Enclosed with this letter is a brochure entitled "Reporting Safety Concerns to the NRC," which includes an important discussion of the identity protection provided by the NRC regarding these matters as well as those circumstances that limit the NRC's ability to protect an allegor's identity, such as this case. Please read that section of the brochure.

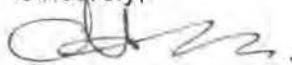
If a request is filed under the Freedom of Information Act (FOIA) related to your areas of concern, the information provided will, to the extent consistent with that act, be purged of names

CERTIFIED MAIL: (b)(7)(C)  
RETURN RECEIPT REQUESTED

[redacted] and other potential identifiers. Further, you should be aware you are not considered a confidential source unless confidentiality has been formally granted in writing.

Thank you for notifying us of your concerns. We will advise you when we have completed our review of Concerns 1, 2, 3 and 4. Should you have any additional questions, or if the NRC can be of further assistance, please call me at the regional office toll-free number 1-800-577-8510 extension 4426 or you may provide information to me in writing at P. O. Box 56274, Atlanta, GA 30343. You may also communicate with me by electronic mail, if you so choose. However, when doing so, please call me in advance or provide your phone number in your e-mail message so that she can confirm that you are the source of the information. Also, please be advised that the NRC cannot protect the information during transmission on the Internet and there is a possibility that someone could read your response while it is in transit. My e-mail address is [Melanie.Checkle@nrc.gov](mailto:Melanie.Checkle@nrc.gov).

Sincerely,



Melanie M. Checkle  
Allegations Coordinator  
Enforcement and Investigations Coordination Staff

Enclosures: As stated

HONEYWELL

RII-2013-A-0100

STATEMENT OF CONCERNS

Non Responsive Record

Concern 2:

Workers did not receive proper training or protection while handling (b)(4) from Russia to be converted into UF6.

Non Responsive Record



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1. Article Addressed to:

(b)(7)(C)

2. ~~Article~~ Number  
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(b)(7)(C)

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A. Signature

(b)(7)(C)

- ☐ Agent  
☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

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3. Service Type

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☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes





UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

October 21, 2013

(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C)

regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record

2) workers did not receive proper training or protection while handling (b)(4)

(b)(4)

from Russia to be converted into UF<sub>6</sub>. Non Responsive Record

Non Responsive Record

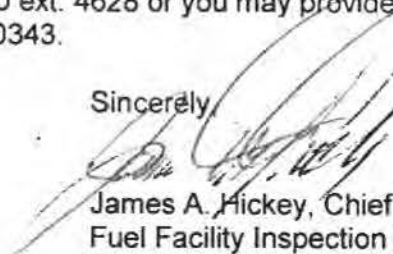
Non Responsive Record

The Enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

Thank you for informing us of your concerns. We believe that our actions in this matter have been responsive. Closure of an allegation does not prevent us from revisiting a concern, especially if we obtain new information. Allegations are an important source of information in support of the NRC's safety mission. We take our safety responsibility to the public seriously and will continue to do so within the bounds of our lawful authority. Unless the NRC receives additional information that suggests that our conclusions should be altered, we plan no further action on this matter.

Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

  
James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

RESPONSE TO CONCERN  
ALLEGATION NO. RII-2013-A-0100

Concern 1:

Workers were unknowingly exposed to Plutonium and Neptunium in the mid-90's while processing green salt from the Fernald Department of Energy (DOE) facility.

Background Information:

You stated that during the mid-90s, Honeywell or at the time AlliedSignal, processed green salt from the Fernald DOE site which was contaminated with plutonium and neptunium. The workers were not informed they were processing anything other than normal green salt and were told by the analytical lab they were handling green salt contaminated with traces of plutonium and neptunium. You also stated that you confronted management and demanded to be tested, but was told you would have to go to Oak Ridge National Lab (ORNL) for the testing, and you were never sent for testing.

Response to Concern:

The NRC requested that the Honeywell Metropolis Works (MTW) evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator who, through reviews of historical documents, including correspondence with the NRC, compiled a regulatory history relating to shipments of green salt from the Fernald DOE facility. The investigator determined that according to AlliedSignal's July 17, 1998 letter, analyses of nine lots of green salt by two separate laboratories showed results consistent with natural (un-irradiated) green salt. Seven lots had less than the minimum detectable concentrations (MDC) of plutonium based on results from both laboratories. Therefore, AlliedSignal concluded that UF<sub>4</sub> (green salt) from FERMCO (Fernald, Ohio), was not contaminated with plutonium and that any indication of contamination was likely the result of laboratory error or other analytical issues. AlliedSignal also affirmatively stated that there was no contamination of the facility.

In an NRC August 5, 1998 letter, the NRC agreed that based on the information in AlliedSignal's July 17, 1998 letter, the plutonium was at minimum detectable concentrations in the FERMCO green salt. The NRC concluded that the green salt material analyses were consistent with natural material and that the FERMCO green salt could be processed under the MTW license without amendment.

Based on a review of the MTW correspondence, the NRC concludes that there were no plutonium or neptunium hazards resulting from green salt received from the Fernald facility. Extensive laboratory testing indicated that green salt from Fernald did not contain plutonium or neptunium in analytically significant quantities. The NRC agreed with AlliedSignal in the August 5<sup>th</sup> letter that there were no special hazards associated with the FERMCO green salt, no additional training was needed, and nor were there any exposure events.

Conclusion:

The NRC has not observed any problems with Honeywell processing green salt from the Fernald DOE facility in the mid-90s. The NRC inspector was unable to substantiate the concern that workers were unknowingly exposed to plutonium and neptunium in the mid-90s while processing green salt from the Fernald Department of Energy facility.

Enclosure

Concern 2:

Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into UF<sub>6</sub>.

Background Information:

You stated that workers were exposed to higher activity material when they began processing drums of material from Russia. You also stated that the workers did not received additional training or personal protection equipment to handle the higher activity material.

Response to Concern:

The NRC requested that MTW evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator which performed interviews with the MTW Site Services Manager responsible for the process for receiving and sampling of incoming material. According to the Site Services Manager, shipments of ore concentrates from the former Soviet republics typically have activity levels that are comparable to shipments from other locations. However, ore concentrates from the former Soviet republics can have higher activity concentrations due to the relatively higher percentage of uranium in the concentrates. The ore concentrates are still, however, classified as natural uranium.

The investigator reviewed records and interviewed personnel and determined that the ore concentrates from the former Soviet republics do not require additional worker training or safety measures to ensure proper handling. As natural uranium, the activity concentrations of ore concentrates from the former Soviet republics remain below levels that would warrant additional training or safety measures beyond those already in place at MTW.

Conclusion:

The NRC has not observed any problems with Honeywell's workers receiving proper training or protection while handling higher activity material from the former Soviet republics to be converted into UF<sub>6</sub>. The NRC inspector was unable to substantiate the concern.

Concern 3:

The railcars stored onsite for transfer of Hydrogen Fluoride to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and are not connected to a scrubber system.

Background Information:

You stated that you were concerned that the railcars containing Hydrogen Fluoride stored onsite are not properly configured with an over-pressurization relief system. You further stated that your concern is that during a fire or other event which could result in the pressurization of the tank car, the pressure within the car would build to the point of rupturing resulting in an uncontrolled release of material.

Response to Concern:

The NRC requested that MTW evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator which reviewed the specifications and safety features of railcars that contain Anhydrous Hydrogen Fluoride (AHF) when stored onsite and conducted interviews with personnel regarding AHF storage.

The investigator determined from interviews and reviews that AHF is shipped in railcars that meet or exceed the Department of Transportation specifications, including specifications requiring relief valves. Railcars approved for the transport of AHF have relief valves set at a pressure that ensures a substantial margin between the pressure relief valve and the vapor pressure of the AHF in the railcar. While being stored at MTW, the railcar is not connected to a scrubber system. However, a scrubber system is not necessary because the railcar is designed to withstand pressure significantly in excess of the vapor pressure of the AHF in the railcar.

Conclusion:

The NRC has not observed any problems with AHF railcars onsite for storage and transfer of AHF to the Feed Materials Building. The NRC inspector was unable to substantiate the concern that railcars stored onsite for transfer of AHF to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and need to be connected to a scrubber system.

Concern 4:

In the mid-90's, individuals were not required to monitor out of the facility and could have been spreading contamination offsite. CI knows of one individual who went home contaminated.

Response to Concern:

The NRC requested that MTW evaluate and respond to the concern, and the NRC inspector reviewed the response. Honeywell selected an Independent Investigator who reviewed records related to historical plant practices and any incidents of offsite contamination during the mid-90s. The investigator also conducted an interview with the Regulatory Affairs Manager, formerly the Health Physics Supervisor at MTW.

The investigator determined from interviews and reviews that as far back as 1986, MTW license required that persons working in controlled UF<sub>6</sub> process areas perform exit monitoring. Persons who did not work in process areas were not required to perform exit monitoring. However, in the mid-90s, MTW changed practices to require that all persons exiting the Restricted Area (i.e., the area within the inner security fence) perform exit monitoring. This was required in Section 3.2.1 of the license application, dated July 11, 1994. The investigator also determined from the Health Physics technician log books for the period between February 1995 and October 1999 identified 45 contamination events at the exit monitor. In all cases, the employee was decontaminated prior to leaving the facility.

While MTW at one time required exit monitoring only for personnel working in process areas, by the mid-90s all persons leaving the Restricted Area of the site were required to perform exit monitoring. Also, no records or reports were found by the investigator of offsite contamination during the mid-90s.



Conclusion:

The NRC has not observed any problems with the personnel monitoring requirements at MTW. The NRC inspector was unable to substantiate the concern that, in the mid-90's, individuals were not required to monitor out of the facility and could have been spreading contamination offsite.



October 21, 2013

(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C) regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record 2) workers did not receive proper training or protection while handling (b)(4)

(b)(4) from Russia to be converted into UF<sub>6</sub>. Non Responsive Record

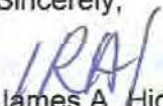
Non Responsive Record

Non Responsive Record The Enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

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Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

  
James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

OFFICE	RII:DDFI	RII:EICS	RII:DDFI				
SIGNATURE							
NAME	RGibson	ODeMiranda	JHickey				
DATE	10/ /2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY  
RII-2013-A-0100.DOCX

DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DDFI\BRANCH 2\LETTER TO ALLEGER

(b)(7)(C)

SUBJECT: CONCERNS YOU RAISED TO THE NRC REGARDING HONEYWELL  
METROPOLIS WORKS – ALLEGATION RII-2013-A-0100

Dear (b)(7)(C):

The Nuclear Regulatory Commission (NRC) has completed its follow up review in response to Concerns 1- 4 you initially brought to our attention (b)(7)(C)

(b)(7)(C) regarding: Non Responsive Record

Non Responsive Record

Non Responsive Record 2) workers did not receive proper training or protection while handling (b)(4)

(b)(4) from Russia to be converted into UF<sub>6</sub>. Non Responsive Record

Non Responsive Record

Non Responsive Record The Enclosure to this letter restates your concerns and describes the NRC's review and conclusions with regard to those concerns.

Thank you for informing us of your concerns. We believe that our actions in this matter have been responsive. Closure of an allegation does not prevent us from revisiting a concern, especially if we obtain new information. Allegations are an important source of information in support of the NRC's safety mission. We take our safety responsibility to the public seriously and will continue to do so within the bounds of our lawful authority. Unless the NRC receives additional information that suggests that our conclusions should be altered, we plan no further action on this matter.




Should you have any additional questions or if I can be of further assistance in this matter, please call me toll-free at 1-800-577-8510 ext. 4628 or you may provide information to me in writing at P.O. Box 56274, Atlanta, GA 30343.

Sincerely,

James A. Hickey, Chief  
Fuel Facility Inspection Branch 2  
Division of Fuel Facility Inspection

Enclosure: As stated

CERTIFIED MAIL NUMBER (b)(7)(C)  
RETURN RECEIPT REQUESTED

OFFICE	RII:DFFI	RII:EICS	RII:DFFI				
SIGNATURE							
NAME	RGibson	ODeMiranda	JHickey				
DATE	10/1/2013	10/9/2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013	10/ /2013
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

OFFICIAL RECORD COPY  
RII-2013-A-0100.DOCX

DOCUMENT NAME: G:\PROTECTED\ALLEGATIONS\DFFI\BRANCH 2\LETTER TO ALLEGER



**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

(b)(7)(C)

2

Address

(b)(7)(C)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X (b)(7)(C)

☐ Agent

☐ Addressee

B. Received by (Printed Name)

C. Date of Delivery

7-27-13

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

RT-2013-A-0100-01

3. Service Type

☒ Certified Mail ☐ Express Mail

☐ Registered ☐ Return Receipt for Merchandise

☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

July 25, 2013

Mr. Howard Cook  
4628 Orchard Road  
Metropolis, IL 62960

SUBJECT: Concerns You Raised to the NRC Regarding Honeywell –  
Allegation Report RII-2013-A-0100

Dear Mr. Cook:

This letter refers to your conversation with U.S. Nuclear Regulatory Commission (NRC) staff members while at a public meeting conducted at Honeywell on July 9, 2013. During the meeting, you expressed concerns related to several issues at Honeywell. In that you provided your concerns during a public meeting, in front of members of the licensee, the NRC will be unable to protect your identity with regard to these concerns.

Enclosure 1 to this letter documents your concerns as we understand them. We have initiated actions to evaluate your concerns and will inform you of our findings. The NRC normally conducts an evaluation of a concern within six months, although complex issues may take longer. If the description of any of your concerns, identified as Concerns 1, 2, 3 and 4, as noted in Enclosure 1 is not accurate, please contact me so that we can assure that your concerns are appropriately described and adequately addressed prior to the completion of our review.

As part of our response to Concerns 1, 2, 3, and 4, we intend to request Honeywell to perform an evaluation and provide a written response to the NRC. Your name and any other identifying information will be excluded from the information that is provided to Honeywell in the request for information. We will request that Honeywell's evaluation be thorough, objective, and that the evaluator be independent of Honeywell management responsible for oversight of the functional area related to your concerns. We will evaluate Honeywell's response, and consider it in developing our conclusions regarding your concerns. We will inform you of our disposition once we have evaluated Honeywell's response and taken any additional actions, if necessary, to address your concerns. In your conversation with (b)(7)(C), NRC staff member, on July 9, 2013, you indicated that you would not object to the NRC requesting information from the licensee with regard to your concerns.

Enclosed with this letter is a brochure entitled "Reporting Safety Concerns to the NRC," which includes an important discussion of the identity protection provided by the NRC regarding these matters as well as those circumstances that limit the NRC's ability to protect an alleged's identity, such as this case. Please read that section of the brochure.

If a request is filed under the Freedom of Information Act (FOIA) related to your areas of concern, the information provided will, to the extent consistent with that act, be purged of names

CERTIFIED MAIL: 7012 1010 0002 6821 4438  
RETURN RECEIPT REQUESTED

and other potential identifiers. Further, you should be aware you are not considered a confidential source unless confidentiality has been formally granted in writing.

Thank you for notifying us of your concerns. We will advise you when we have completed our review of Concerns 1, 2, 3 and 4. Should you have any additional questions, or if the NRC can be of further assistance, please call me at the regional office toll-free number 1-800-577-8510 extension 4426 or you may provide information to me in writing at P. O. Box 56274, Atlanta, GA 30343. You may also communicate with me by electronic mail, if you so choose. However, when doing so, please call me in advance or provide your phone number in your e-mail message so that she can confirm that you are the source of the information. Also, please be advised that the NRC cannot protect the information during transmission on the Internet and there is a possibility that someone could read your response while it is in transit. My e-mail address is [Melanie.Checkle@nrc.gov](mailto:Melanie.Checkle@nrc.gov).

Sincerely,



Melanie M. Checkle  
Allegations Coordinator  
Enforcement and Investigations Coordination Staff

Enclosures: As stated



HONEYWELL

RII-2013-A-0100

STATEMENT OF CONCERNS

Concern 1:

Workers were unknowingly exposed to Plutonium and Neptunium in the mid-90s while processing green salt from the Fernald Department of Energy (DOE) Facility.

Concern 2:

Workers did not receive proper training or protection while handling higher activity material from Russia to be converted into UF6.

Concern 3:

The railcars stored on-site for transfer of Hydrogen Fluoride to the Feed Materials Building are not properly configured with a relief system in the event of an over-pressurization and are not connected to a scrubber system.

Concern 4:

In the Mid-90s, individuals were not required to monitor out of the facility and could have been spreading contamination offsite. You know of one individual who went home contaminated.