

Shaw Environmental &amp; Infrastructure, Inc.

**Shaw** Shaw Environmental, Inc.

29-30564-01

Q-5

03035350

TDL - TAG Department  
304 Directors Drive  
Knoxville, TN 37923  
Phone: 865.690.3211  
Fax: 865.694.9573

**Fax**

To: Stephen Courtemanche

From: Rick Greene

Fax: 610-337-5269

Senders Phone: 865 694-7313

Receivers Phone: 610-337-5075

Date: 10-3-05

Pages: 9 (Including Cover Sheet)

RE: mail control # 137612

CC:

☐ Urgent☒ For Review☐ Please Comment☐ Please Reply☐ Please Recycle

Mr. Courtemanche,

Please find attached several pages from TN Radioactive Materials license

# R-01060.

Page 1 - 1<sup>st</sup> page of license

2 - Item 6B authorizes Am-241

3 - Item 10-Authorized use includes calibration

4 - Change in license limit

5 - Change in license # &amp; expiration date

6 - Change in ownership to Shaw Environmental, Inc

7 &amp; 8 - last amendment

Confidentiality Notice

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Revised 09/14/04

137612

NMSS/RGNI MATERIALS-002

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH



## RADIOACTIVE MATERIAL LICENSE

### Amendment 21

Pursuant to Tennessee Department of Environment and Conservation Regulations, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules and regulations of the Tennessee Department of Environment and Conservation and orders of the Division of Radiological Health, now or hereafter in effect and to any conditions specified below.

<p style="text-align: center;"><b>LICENSEE</b></p> <p>1. Name <b>IT Corporation</b> <b>Environmental Technology Development Center</b></p> <p>2. Address <b>1570 Bear Creek Road</b> <b>Kingston, TN 37763</b></p>		<p>3. License number <b>R-01060-J01</b> <b>AMENDED IN ITS ENTIRETY</b></p>	
<p>6. Radioactive Material (Element and Mass Number)</p> <p style="text-align: center;"><b>See Supplementary Sheets</b></p>		<p>4. Expiration date <b>October 31, 2001</b></p>	
		<p>5. File no. <b>R-01060</b></p>	
		<p>8. Chemical and/or physical form</p> <p style="text-align: center;"><b>See Supplementary Sheets</b></p>	
		<p>9. Maximum Radioactivity and/or quantity of material which licensee may possess at any one time.</p>	
<p>10. Authorized Use</p> <p style="text-align: center;"><b>See Supplementary Sheets</b></p>			

### CONDITIONS

11. Unless otherwise specified, the authorized place of use is the licensee's address stated in item 2, above.

**See Supplementary Sheets**

For the Commissioner  
Tennessee Department of Environment and Conservation

Date of Issuance October 8, 1996

Page 1 of 11 Pages

CN-0719 (Rev. 9-92)  
Form RMS 8-7

By: Chestine "Dell" Montgomery  
DIVISION OF RADIOLOGICAL HEALTH

Chestine "Dell" Montgomery  
Health Physicist

Form RSH 8.7A  
(9-92)TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

## RADIOACTIVE MATERIAL LICENSE

## Amendment 21

## SUPPLEMENTARY SHEET

Page 2 of 11 PagesNumber R-01060-J016. Radioactive  
Material (Element  
and Mass Number)A. Radionuclides with  
atomic number between  
3 and 83, inclusive.B. Radionuclides with  
atomic number between  
84 and 98, inclusive,  
except for Special  
Nuclear Material.

C. Hydrogen 3

D. changed with  
Amendment (33)  
To: Plutonium  
(Pu-238, 239, 240,  
241, 242, and 244)8. Chemical and/or  
Physical FormA. Any form suitable  
for transport under  
DOT regulations.B. Any form suitable  
for transport under  
DOT regulations.C. Any form suitable  
for transport under  
DOT regulations.D. Any form suitable  
for transport under  
DOT regulations.9. Maximum Radioactive  
Material Which  
Licensee May Possess  
at Any One TimeA. Changed with  
Amendment (24)  
To  $\frac{200 \text{ mCi/sample}}{1 \text{ Ci/Total}}$ B. Changed with  
Amendment (26)  
To  $\frac{1 \text{ mCi/sample}}{200 \text{ mCi/Total}}$ C. No single source  
and/or sample to  
exceed 1 curie.  
Total not to exceed  
10 curies.D. changed with  
Amendment (33)  
To: Total NOT  
To Exceed  
10 milligrams

Form RHS 9-7A  
(9-92)TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

## RADIOACTIVE MATERIAL LICENSE

## Amendment 21

## SUPPLEMENTARY SHEET

Page 4 of 11 PagesNumber R-01060-J01

J. Cesium 137	J. Sealed Source (Isotope Products Laboratories Model 193 or 193T)	J. One (1) source not to exceed 2.2 millicuries.
K. Cobalt 60	K. Sealed Source (Isotope Products Laboratories Model 060R)	K. One (1) source not to exceed 120 microcuries.
L. Plutonium 239	L. Plated Calibration Source (Eberline Model S94-1, DNS-10, or DNS-21S)	L. Six (6) sources not to exceed 1.3 microcuries each.
M. Americium 241	M. Plated Calibration Source (Eberline Model DNS-5 or DNS-10)	M. Two (2) sources not to exceed 0.1 microcuries each.
N. Barium 133	N. Sealed Source (Isotope Products Model 3809/Drawing Number 377)	N. No single source to exceed 30 microcuries.

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10 Authorized use

- A. through H. Treatability studies, thermal pilot plant demonstrations, analytical procedures, calibration, and archive sample storage.
- I. To be used in a J. L. Shepherd Model 28-6B calibrator for instrument calibration.

Form RHS 8-7A  
(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

**Amendment 26**

Page 1 of 2 Pages

License Number R-01060-J01

IT Corporation  
Environmental Technology Development Center  
1570 Bear Creek Road  
Kingston, TN 37763

Attention: Joel Isham, Radiation Safety Officer


Gentlemen:

As requested by Rick Greene and in accordance with his letters dated February 11, 1999, and March 15, 1999, with attachments, your Tennessee Radioactive Material License number R-01060-J01 is amended as follows:

To add Condition 30. This Condition will read as follows:

30. Notwithstanding the maximum radioactive material which the licensee may possess at any one time specified in Item 9.A., and 9.B., the licensee is authorized to possess and process samples in quantities not exceeding 200 millicurie per sample for 9.A., and 10 millicuries for 9.B. This authorization remains valid during the Puducah Waste treatability studies project. At the conclusion of this project the limits in Item 9.A., and 9.B. shall be reinstated. With the exception of the requested change to the site limit for category Z=84-98 (9.B.), the total site limits for Z=3 to 83 (9.A.) would remain as is. Work under this condition with larger sample quantities shall be under the direction of Rick Greene.

To change Item 9.B. and Condition 29. This item and this condition will now read as follows:

- 9.B. No single source and/or sample to exceed 1 millicuries. Total not to exceed 200 millicuries. 
29. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 8, and 9 of this license in accordance with statements, representatives, and procedures contained in application dated November 29, 1995, with attachments, and letters dated September 18, 1990, with attachments, November 9, 1990, with attachments, January 14, 1991, with attachment, August 4, 1992, with attached "TREATMENT OF MIXED WASTE CONTAMINATED SOILS FOR THE ENVIRONMENTAL PROTECTION AGENCY'S EMERGING TECHNOLOGY PROGRAM-04", May 14, 1993, .

Form RHS 8-7A  
(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

Amendment 28

Page 1 of 1 Page

License Number R-01060-J06

IT Corporation  
Environmental Technology Development Center  
1570 Bear Creek Road  
Kingston, Tennessee 37763

Attention: Joel Isham, Radiation Safety Officer

Gentlemen:

Your Tennessee Radioactive Material License number R-01060-J01 is amended as follows:

To change Items 3 and 4. These items will now read as follows:

3. R-01060-J06
4. October 31, 2006

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This amendment extends the expiration date of the license to that in Item 4.

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All other parts of this license remain unchanged.

Date: June 29, 2001

For the Commissioner  
Tennessee Department of  
Environment and Conservation

By   
Gerald W. Bacon  
Health Physicist  
Division of Radiological Health

Form RHS 8-7A  
(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

**Amendment 31**

Page 1 of 1 Page

License Number R-01060-J06

Shaw Environmental, Inc.  
Environmental Technology Development Center  
1570 Bear Creek Road  
Kingston, Tennessee 37763

Attention: Joel Isham, Radiation Safety Officer

Gentlemen:

As requested by Thomas Horst and James Redwine and in accordance with their letter dated April 29, 2002, with attachments, Tennessee Radioactive Material License number R-01060-J06 is amended as follows:

To change Item 1 and Condition 29. This item and this condition will now read as follows:

1. Shaw Environmental, Inc.
29. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 8, and 9 of this license in accordance with statements, representatives, and procedures contained in application dated November 29, 1995, with attachments, and letters dated September 18, 1990, with attachments, November 9, 1990, with attachments, January 14, 1991, with attachment, August 4, 1992, with attached "TREATMENT OF MIXED WASTE CONTAMINATED SOILS FOR THE ENVIRONMENTAL PROTECTION AGENCY'S EMERGING TECHNOLOGY PROGRAM-04", May 14, 1993, with attachment, December 2, 1994, with attachment, July 18, 1996, with attachments, September 30, 1996, with attachment January 2, 1997, with attachments, March 12, 1997, with attachment, September 11, 1997, November 3, 1997, April 14, 1998, with attachment, February 11, 1999, March 15, 1999, with attachments, January 22, 2001, with attachment, December 20, 2001, and April 29, 2002, with attachments.

This amendment authorizes the transfer of this license from IT Corporation to Shaw Environmental, Inc.

All other parts of this license remain unchanged.

Date: May 6, 2002

For the Commissioner  
Tennessee Department of  
Environment and Conservation

By Charles Arnott  
Charles Arnott  
Health Physicist  
Division of Radiological Health

Form RHS 8-7A  
(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

**Amendment 33**

Page 1 of 2 Pages

License Number R-01060-J06

Shaw Environmental, Inc.  
Environmental Technology Development Center  
1570 Bear Creek Road  
Kingston, Tennessee 37763

Attention: Joel Isham, Radiation Safety Officer

Gentlemen:

As requested by Rick Greene and in accordance with his letter dated December 9, 2003, with attachments, Tennessee Radioactive Material License number R-01060-J06 is amended as follows:

To change Items 6.D. and 9.D., and Conditions 13 and 29. These items and these conditions will now read as follows:

6.D. Plutonium (Pu-238, 239, 240, 241, 242, and 244)

9.D. Total not to exceed 10 milligrams.

13. A. Radioactive material authorized by this license shall be used by, or under the supervision of, Ed Alperin, Greg Bennett, Steve Crouch, Ralph Cole, Ken Ferguson, Rick Greene, Arend Groen, Don Huskey, Joel Isham, Linda Lawhorn, Ellen Lay, Paul Lear, Ed Morren, Ernie Stine, Shirley Scarborough, or Josh Young.

B. The Radiation Safety Officer for this license is Joel Isham.

29. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 8, and 9 of this license in accordance with statements, representatives, and procedures contained in application dated November 29, 1995, with attachments, and letters dated September 18, 1990, with attachments, November 9, 1990, with attachments, January 14, 1991, with attachment, August 4, 1992, with attached "TREATMENT OF MIXED WASTE CONTAMINATED SOILS FOR THE ENVIRONMENTAL PROTECTION AGENCY'S EMERGING TECHNOLOGY PROGRAM-04", May 14, 1993, with attachment, December 2, 1994, with attachment, July 18, 1996, with attachments, September 30, 1996, with attachment January 2, 1997, with attachments, March 12, 1997, with attachment, September 11, 1997, November 3, 1997, April 14, 1998, with attachment, February 11, 1999, March 15, 1999, with attachments, January 22, 2001, with attachment, December 20, 2001, April 29, 2002, with attachments, April 1, 2003, with attachments, and December 9, 2003, with attachments.



Form RHS 8-7A  
(9-92)

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF RADIOLOGICAL HEALTH

**RADIOACTIVE MATERIAL LICENSE**

Amendment 33

Page 2 of 2 Pages

License Number R-01060-J06

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All other parts of this license remain unchanged.

Date: December 12, 2003

For the Commissioner  
Tennessee Department of  
Environment and Conservation

By

Charles Arnott

Charles Arnott  
Health Physicist  
Division of Radiological Health

8