



## Lighting Solutions

3010 Spartanburg Hwy.  
Hendersonville, NC 28726  
USA

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F +1 828 693 2126  
[www.gelightsolutions.com](http://www.gelightsolutions.com)

**December 2, 2010**

*North Carolina Department of Environment and Natural Resources*  
Branch Manager  
Radioactive Materials Branch  
Radiation Protection Section

1645 Mail Service Center

Raleigh, NC 27699-1645

Re: *Application for Radioactive Materials License*

Dear Sir or Madam:

GE Lighting Solutions LLC requests that the North Carolina Department of Environment and Natural Resources issue a Radioactive Materials License.

Included please find the following:

- Application for Radioactive Materials License (Appendix A)
- Items 4 - 15 (Appendix B)
- Training Certification for Kim Clawson (Appendix C)
- Drawing of facility (Appendix D)

If you have any questions please contact me at (216) 266-2554

Best regards,

A handwritten signature in black ink that reads 'Robert Petersen'.

Robert Petersen  
Director of Operations

## APPENDIX A



RADIOACTIVE MATERIALS BRANCH
RADIATION PROTECTION SECTION

(RMB USE ONLY)

APPLICATION FOR RADIOACTIVE MATERIALS LICENSE

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INSTRUCTIONS: Complete Items 1 through 16, using additional sheets as necessary. Refer to the accompanying licensing guide for instruction concerning completing this form. Item 16 MUST be completed on all applications. Mail ONE copy to: Branch Manager, Radioactive Materials Branch, Radiation Protection Section, 1645 Mail Service Center, Raleigh, NC 27699-1645. Upon approval of this application, the applicant will receive a Radioactive Materials License issued in accordance with the requirements contained in Chapter 104E of the General Statutes and Chapter 11, Title 15A of the North Carolina Administrative Code.

1. (a) NAME AND MAILING ADDRESS OF APPLICANT
GE Lighting Solutions LLC
3010 Spartanburg Highway
East Flat Rock, NC 28726
(b) TELEPHONE NUMBER (828)693-2000
(c) FACSIMILE NUMBER (828)693-2377
(d) E-MAIL ADDRESS\* kim.clawson@gac.com
1.(d) PHYSICAL ADDRESS(ES) AT WHICH THE RADIOACTIVE MATERIAL WILL BE USED
3010 Spartanburg Highway
East Flat Rock, NC 28726
2. DEPARTMENT(S) TO USE RADIOACTIVE MATERIALS
Warehouse, Assembly, Engineering Labs, QC Labs, Facility Use lamp storage, Hazardous Materials Storage
3. THIS APPLICATION IS FOR (check one):
[X] NEW LICENSE
[ ] RENEWAL OF LICENSE NO.
4. INDIVIDUAL USER(S)
See Attached List
5. RADIATION PROTECTION(SAFETY) OFFICER
Kim Clawson

CHECK THE TYPE AND CATEGORY OF LICENSE YOU ARE APPLYING FOR:

TYPE (check one only)
[ ] MEDICAL\* [X] INDUSTRIAL/NON-MEDICAL [ ] ACADEMIC
CATEGORIES (check one only)
[ ] BROAD SCOPE [ ] PORTABLE NUCLEAR GAUGE [ ] SERVICE/CONSULTANT
[ ] HOSPITAL-BASED [ ] FIXED NUCLEAR GAUGE [X] MANF. and/or DISTRIBUTION
[ ] NON HOSPITAL BASED [ ] INDUSTRIAL RADIOGRAPHY [ ] IRRADIATOR (including panoramic)
[ ] OTHER (describe)

\* Medical means that the radioactive materials will be used by physicians in the treatment or diagnosis of humans

IN ORDER TO COMPLETE THIS LICENSE APPLICATION YOU WILL NEED TO OBTAIN THE APPROPRIATE LICENSING GUIDE. CLICK HERE TO BE DIRECTED TO THE LICENSING GUIDANCE PAGE SEE ATTACHED.

6.(a) RADIOACTIVE MATERIAL (Element and mass number of each)
(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH FORM THAT YOU WILL POSSESS AT ANY ONE TIME
7. DESCRIBE THE PURPOSE FOR WHICH RADIOACTIVE MATERIAL WILL BE USED.
8. TRAINING OF EACH INDIVIDUAL NAMED IN ITEM 4.
9. EXPERIENCE WITH RADIATION
10. RADIATION DETECTION INSTRUMENTS AVAILABLE FOR USE.
11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED IN ITEM 10.
12. FILM BADGES, TLD's, DOSIMETERS, AND BIOASSAY PROCEDURES USED
13. FACILITIES AND EQUIPMENT
14. RADIATION PROTECTION PROGRAM
15. WASTE DISPOSAL.

CERTIFICATION (MUST be completed by the applicant. See licensing guide for detailed instructions)

16. The applicant and any official executing this certificate on behalf of the applicant named in Item 1, certify that all information contained herein, including any supplements attached hereto, has been prepared in conformity with all applicable North Carolina Laws and Regulations and is true and correct to the best of our knowledge and belief.

BY: [Signature] 12/2/10
Signature of Certifying Official Date Signed

Robert Petersen, Director of Operations
Printed Name and Title of Certifying Official

## APPENDIX B

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#### **4. Individual Users**

A list of Individual Users is included as an attachment. GE Lighting Solutions, LLC requests that the department include authorization for additional individuals that have successfully completed the radiation safety training.

#### **5. Radiation Safety Officer**

GE Lighting Solutions, LLC proposes that Kim Clawson be named as Radiation Safety Officer. A copy of Ms. Clawson's training certificate is included as an attachment.

#### **6. (a) Radioactive Material Element and Mass Number**

Krypton 85

#### **6. (b) Radioactive Material Chemical and/or physical form and maximum number of millicuries**

- Kr-85 gas contained in arc tube sealed lamps; not to exceed 1  $\mu$ Ci for each lamp
- Total activity onsite at any one time would not exceed 50 mCi

#### **7. Purpose**

*Specific Use or Purpose of each Radioisotope:*

Kr-85 is used in arc tubes to aid in lighting the lamp. Lamps will be received, repackaged and shipped to customers. The GE Lighting Solutions LLC USNRC exempt distribution license is being amended to add this site.

#### **8. Training of each individual listed in item #4**

##### ***Training Topics Covered***

- Radiation Fundamentals
- ALARA
- Safe Handling Procedures
- Biological Effects
- Emergency Procedures
- Security Controls
- Authorized activities versus unauthorized activities
- Kr-85 disposal

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##### ***Assessment of Training***

A competency quiz should be given after the completion of the training.

##### ***Qualifications of Instructors***

Instructors shall be qualified through training and previous experience in radiation safety.

#### 4. Individual Users

Assembly
Wagoner, Will
Acosta, Jose
Alexander, Ethel
Allen, Tommy
Allison, Charles
Ashley, Patricia
Bagwell, Leasa
Bailey, Mark
Baldwin, Sheila
Barnett, Mary
Belue, Timothy
Belue, Victoria
Biddix, Tina
Bishop, Joann
Bishop, Joyce
Bishop, Myrna
Blackburn, Donna
Blackwell, Jackie
Bondar, Svetlana
Boyer, Kenneth
Bradley, Arthur
Brooks, Paula
Brown, Kathy
Buckner, Franklin
Buckner, Kimberly
Burghoff, Amy
Cairnes, Pegi
Capps, Dawn
Carbajal, Ramiro
Case, Edward
Case, Joseph
Caughron, Randall
Chapman, Brenda
Chapman, Charles
Chavez, Martin
Clay, Lonnie
Cobb, Rebecca
Collins, Angela
Coots, Jerry
Corn, Kathy
Corn, Stephanie
Corral, Orlando
Counts, Janice
Cox, Linda
Dailey, Gerald
Darby, Penny
Davis, Cynthia
Davis, Karen
Edney, Rebecca
Edwards, Allen
Edwards, Anthony

Assembly
Edwards, Beverly
Edwards, Julie
Edwards, Samuel
Fisher, Charles
Fisher, Fred
Fletcher, David
Ford, Merlinda
Frady, Jennifer
Frady, Jeremy
Fuentes, Carlos
Fullbright, Jerry
Gambrell, Steven
Gamez, Ana
Gary, John
Gary, John
Gibbs, Larry
Gilliam, Chad
Gordon, Brandie
Gragg, Troy
Gravley, Tonita
Hall, Brian
Harnage, Cheryl
Harper, Sonya
Hawkins, Paula
Heatherly, Patricia
Henderson, Donieca
Hepler, Donald
Hill, Bobby
Hill, Michele
Hopper, Rodney
Hopper, Sonya
Horne, Martin
Hunt, Vivian
Huntley, Elizabeth
Johnson, Pamela
Johnson, Patricia
Jones, Kati
Jones, Leslie
Jones, Richard
Justice, Joey
Keener, Mckinley
Kindlev, David
Lagasse, Nancy
Lance, Eric
Layburn, Donald
Lowry, Teresa
MacLellan, Ute
Mazalk, Victoria
Mccall, Vickie
Mccallister, Ricky
Mcclure, R

Assembly
Mccraw, Corey
Mccraw, Patricia
McDaniel, Douglas
McDowell, Becky
Mcminn, Linda
McMurray, Gregory
Melendez, Francisco
Melvin, Karen
Morgan, Prentha
Morrow, Jackie
Moser, Christopher
Moss, Joseph
Mullen, Donald
Mullinax, Carol
Murphy, Virginia
Nanney, Gale
Newman, Cynthia
Nicholson, Genny
Nix, Lydia
Orr, Laura
Orr, Lloyd
Osteen, Daniel
Osteen, Melissa
Osteen, Mendy
Osteen, Warren
Pace, Gregory
Pace, Rupie
Palacios, Wilber
Paris, Frederick
Parker, Gerald
Parris, Deborah
Pearson, Sherry
Petty, Vera
Phillips, Dale
Powell, Wanda
Powers, Kenneth
Powers, Tracy
Pressley, Kelly
Pridmore, Bobbie
Prince, Nellie
Radu, Virgil
Rapp, Sheila
Reid, Kimberly
Reyes, Irineo
Riley, Cathy
Riley, Todd
Robertson, Janice
Rodriguez, Monica
Rus, Maria
Russell, James
Russell, Revonda

Assembly
Sanchez, Arturo
Short, Rhonda
Simpson, Rebecca
Skipper, Pamela
Smith, Stephen
Stephens, Annette
Stephens, Jeffrey
Stepp, Kyle
Thompson, Michelle
Thompson, Myra
Thursby, Ronnie
Trejo, Pompilio
Turner, Jody
VanHook, Amanda
Velasquez, Salvadora
Vera, Jose
Waldrop, Cynthia
Warren, Terri
Waters, Brian
Whitta, Vicki
Williams, Beverly
Wilson, Diann
Witt, Lena
Wood, Ronald
Yang, Seok

EHS
Franklin, John
Case, Mary
Floyd, Steven
Elizarragas, Rogelio
Manuel, Jose
Ramos, Nahun

QC Lab
Hawkins, David
Shelton, Stephanie
Garren, Robert
Taylor, Jhan
Sumner, Ann
McCall, Betty

Engineering Lab
Martinez, Mike
Bastin, Gerald
Garren, Robert
Harrington, Gerald
Washburn, Mark
Wilson, Samuel

<b>Warehouse</b>
Keltner, Ryan
Allison, David
Anderson, Michael
Austin, Angela
Austin, Jamie
Barajas, Monica
Bradley, Betty
Caudle, Robert
Connor, Charles
Guice, Jerry
Hefner, John
Johnson, Brad
Kidd, Gary
Levi, Jonathan
Lusk, Justin
Lynch, Don
Marshall, Randolph
Miller, Robert
Moore, Mark
Mullinax, William
Nabers, Ann
Osteen, Dennis
Phillips, Jeffrey
Pittman, John
Poteat, Reginald
Powell, Joseph
Schultz, James
Scott, Steven
Staton, Phillip
Thompson, Jeffrey
Waldrop, Horace
Whitmire, John
Wolfe, James
Yarborough, Terry

<b>Maintenance</b>
Black, Brian
Ashe, Roger
Bucker, John
Burns, Carl
Byrd, Dwane
Case, Dawn
Cooper, Darrin
Crisp, Mike
Fisher, Travis
Gregory, Steve
Hudson, Steve
Krause, Rick
Lundsford, James
Norton, Frank
Privette, David
Stepp, Glenn
Tolzman, Gilbert
Walker, Dusty
Ward, Steve

***Method and Frequency Of Training***

Training will be a combination of handouts, classroom, and Internet based materials will be conducted initially and a refresher discussion not to exceed triennially.

**9. Experience**

The Radiation Safety Officer has over 5 years of experience in managing a Radiation Safety Program. Individual user experience will be gained through initial and *on-the job* training.

**10. Instrumentation:**

The facility shall obtain or have access to survey instrumentation for completing licensed material receipt surveys and emergency response.

**11. Calibration of instrumentation:**

Survey instrumentation used at the East Flat Rock, NC facility shall be calibrated by a properly licensed vendor at a frequency *not to exceed* annually.

**12. Personnel Badges:**

Due to the minimal activity of lamps and packages, personal monitoring is not necessary.

**13. Facility information:**

A facility diagram is included as an attachment

**14. Radiation Safety Program**

***Audit Program and Standard Operating Procedures***

The Radiation Safety Officer or designee shall ensure that the Radiation Safety Program will be reviewed on an annual basis. The results of the review shall be documented and available for review.

***Material Receipt and Accountability***

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Physical inventories will be conducted at intervals not to exceed 6 months, to account for all lamps received and possessed under the license.

**Occupational Dose**

Due to the low activity of the authorized devices, occupational exposures shall be minimal.

### **Safe Use of Radionuclides and Emergency Procedures**

Authorized Users shall be instructed in the proper handling of lamping devices containing Kr-85 during training.

#### **15. WASTE MANAGEMENT**

Any waste from broken lamps shall be handled as hazardous waste and profiled through an approved and authorized vendor.

## APPENDIX C

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**DHMART VEGA**

# Kim Clawson

GE Louisville, KY

has successfully completed the

## Radiation Safety Officer Review

Presented

August 20, 2008 - August 21, 2008

Subject matter covered:

- Basic atomic theory
- Measurement and monitoring techniques
- Biological effects of radiation
- Radiation Safety Program
- Proper disposal practices
- Emergency procedures



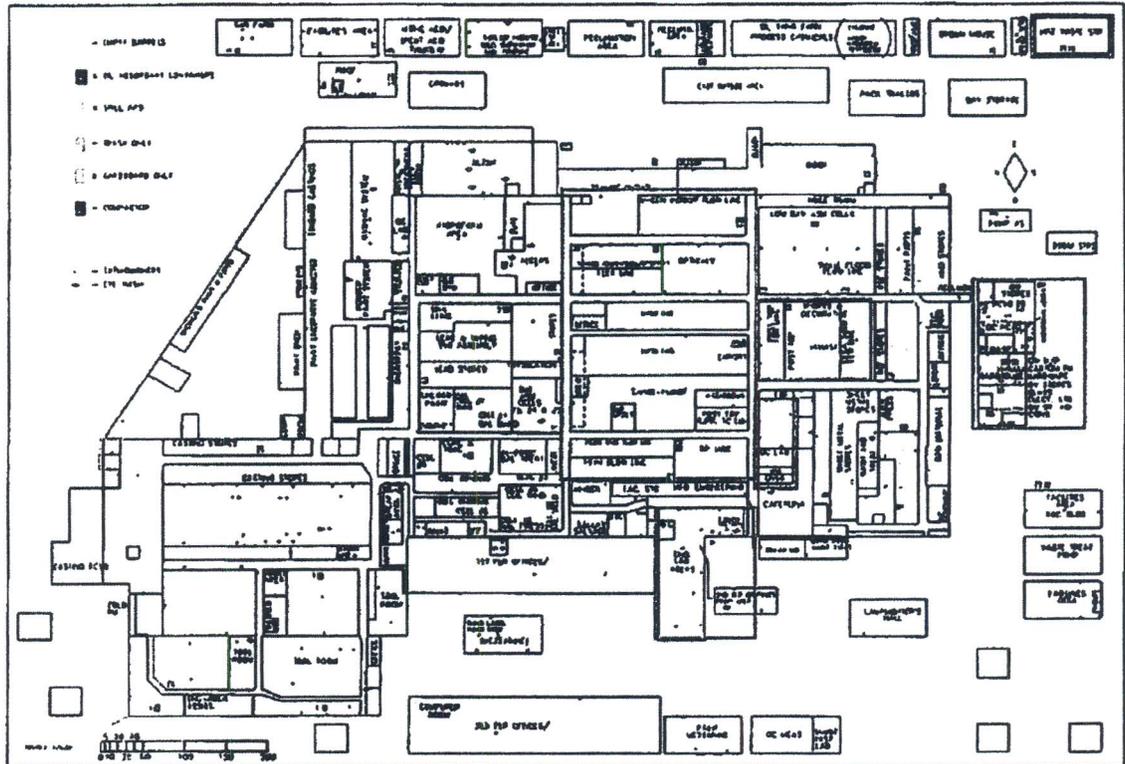
Lee Dallman, PE  
Radiation Safety Officer

**DHMART VEGA**

Technical Training Schools  
Cincinnati, Ohio 45209

## APPENDIX D

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Radioactive Material Handling: Warehouse, Assembly, Engineering Labs, QC Labs, Facility Use Lamp Storage, Hazardous Waste Storage

From: (828) 693-2000  
Sonya Capps  
3010 Spartanburg Hwy  
East Flat Rock, NC 28726

Origin ID: SPAA



Ship Date: 01FEB11  
ActWgt: 1.0 LB  
CAD: 102256766/NET3130

Delivery Address Bar Code



SHIP TO: (502) 452-7186

BILL SENDER

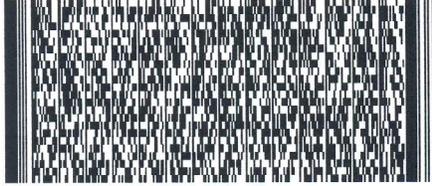
**Kim Claws**  
Division of Ind.and Medical Nuclear  
OFF OF NUCLEAR MATERIAL SAFETY AND  
U.S NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555

Ref #  
Invoice #  
PO #  
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WED - 02 FEB A1  
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