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

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#### **RE: Control 576231**

Dear Sir or Madam:

Floyd Memorial Hospital would like to amend its NRC license, Number 13-12371-01 to add Sarah Zakel, M.D. as an Authorized User of materials licensed under 10 C.F.R. 35.100, 200, 392, and 394. Dr. Zakel is certified by the American Board of Radiology and has the "AU Eligible" designation. Enclosed is a copy of Dr. Zakel's ABR certificate as well as NRC Form 313A(AUD) and NRC Form 313A(AUT). Also enclosed is NRC Form 313A(AUT) documenting Dr. Zakels clinical case experience for 35.394 as well as the license where her clinical case experience took place.

If there are any questions concerning this license amendment, please contact our nuclear medicine physicist, Mr. Patrick J. Byrne, DABR, CHP, DABSNM, at 877-317-5811 or you may reach Scott Adams, Nuclear Medicine Supervisor at 812-949-5516

Sincerely,

Scott Adams, CNMT

Nuclear Medicine Supervisor

he American Busto of Radial

Organized through the cooperation of the American Boentzen Borg Society, American Gollege of Radiology, the American Boentzen Borg Society, the Radiological Society of Nowth America, the Section on Radiology of the American Medical Association, the American Society, for Therapeutic Radiology and Oncology, the Association of University Badiologists, and American Association of Physicists in Medicine Hereby certifies that

Sara Kruer Zakel, MD

Has pursued an accepted course of graduate study and clinical work, has met certain standards and qualifications and has passed the examinations conducted under the authority of The American Board of Badiology On this sixth day of June, 2007

Thereby demonstrating to the satisfaction of the Board that she is qualified to practice the specialty of

Diagnostic Radiology

AN Fligible



Certificate No. 54003

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Lith Elichen

R.P. Hooten &



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### NRC FORM 313A (AUT) (3-2009)

U.S. NUCLEAR REGULATORY COMMISSION

# AUTHORIZED LISER TRAINING AND EXPERIENCE

	AND PRECEPTOR ATTE (for uses defined under [10 CFR 35.390, 35.392, 35.394	35.300)	APPROVED BY OMB: NO. 3150-0120 EXPIRES: 3/31/2012
Name of Prop	osed Authorized User	State or Territory Where Li	censed
Sarah Zakel, l	M.D.	Indiana	
Requested A	Authorization(s) (check all that apply):	,	
<u> </u>	0 Use of unsealed byproduct material for	r which a written directive is re	quired
OR			
<b>√</b> 35.30	Oral administration of sodium iodide I-1.22 gigabecquerels (33 millicuries)	131 requiring a written directive	e in quantities less than or equal to
<u> </u>	<ul> <li>Oral administration of sodium iodide I-1 gigabecquerels (33 millicuries)</li> </ul>	131 requiring a written directive	e in quantities greater than 1.22
35.30	Parenteral administration of any beta-e than 150 keV for which a written directi		onuclide with a photon energy less
35.30	O Parenteral administration of any other r	radionuclide for which a writter	n directive is required
		INING AND EXPERIENCE the three methods below)	
of application of application of application of applications o	and Experience, including board certification or the individual must have related concerns completed. Provide dates, duration es checked above.	ontinuing education and experi	ence since the required training and
✓ 1. Board	d Certification		
a. Provi	de a copy of the board certification.		
	5.390, provide documentation on supervised to document this experience.	ed clinical case experience. T	he table in section 3.c. may
and s	5.396, provide documentation on classrook supervised clinical case experience. The ta ment this experience.		
d. Skip	to and complete Part II Preceptor Attestation	on.	
	nt 35.300, 35.400, or 35.600 Authorized	User Seeking Additional Au	tho <u>rization</u>
	rized User on Materials License		under the requirements below or
equiv	alent Agreement State requirements (chec	ck all that apply):	
3	5.390 35.392 35.394	35.490 35	5.690
requi	rently authorized for a subset of clinical use red supervised case experience. The table rience. Also provide completed Part II Pred	e in section 3.c. may be used t	
docur clinica	rently authorized under 35.490 or 35.690 a mentation on classroom and laboratory trai al case experience. The tables in sections rience. Also provide completed Part II Pred	ining, supervised work experie 3.a., 3.b., and 3.c. may be us	nce, and supervised

3. Training and Experience for I	Proposed Authorized User		
Classroom and Laboratory Tra	parameter parame	5.394	35.396
Description of Training	Location of Training	Clock Hours	Dates of Training*
Radiation physics and instrumentation			
Radiation protection			
Mathematics pertaining to the use and measurement of radioactivity			
Chemistry of byproduct material for medical use			
Radiation biology			
	Total Hours of Training:		1
o. Supervised Work Experience	35.390 35.392 35	5.394	35.396
If more than one supervising in	ndividual is necessary to document supervised tra		
of this page.	[		
Supervised Work Experience	Total Hours of Experience:		
Description of Experience Must Include:	Location of Experience/License or Permit Number of Facility	Confirm	Dates of Experience
Ordering, receiving, and unpacking radioactive naterials safely and performing he related radiation surveys		Yes No	
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of		☐ Yes	
urvey meters		Yes	
Calculating, measuring, and safely preparing patient or human research subject dosages		☐ No	
Calculating, measuring, and safely preparing patient or numan research subject		No No No No	

	roposed Authorized	l User (continued)	
b. Supervised Work Experience	e (continued)		
Supervising Individual		License/Permit Number listing supervising ind authorized user	lividual as an
apply)**:	•	, or equivalent Agreement State requirements	(check all that
35.392	requiring a written dir ls (33 millicuries)	ective in quantities less than or equal to 1.22 han 1.22 gigabecquerels (33 millicuries)	
energy less th	nan 150 keV requiring	mitter, or photon-emitting radionuclide with a partiten directive is required ther radionuclide requiring a written directive	ohoton
** Supervising Authorized User must he requesting authorized user status.	ave experience in administ	ering dosages in the same dosage category or categories	s as the individual
Description of Experience	Number of Cases Involving Personal Participation	Location of Experience/License or Permit Number of Facility	Dates of Experience
Oral administration of sodium odide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels	Involving Personal		
Description of Experience  Oral administration of sodium odide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels 33 millicuries)  Oral administration of sodium odide I-131 requiring a written directive in quantities greater han 1.22 gigabecquerels (33 millicuries)	Involving Personal		Dates of Experience
Oral administration of sodium odide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels 33 millicuries)  Oral administration of sodium odide I-131 requiring a written directive in quantities greater than 1.22 gigabecquerels (33)	Involving Personal		

NRC FORM 313A (AUT) (3-2009)	U.S. NUCLEAR REGULATORY COMMISSION
	CE AND PRECEPTOR ATTESTATION (continued)
3. Training and Experience for Proposed Authorized U	ser (continued)
c. Supervised Clinical Case Experience (continued)	
Supervising Individual	License/Permit Number listing supervising individual as an authorized user
Supervising individual meets the requirements below, o apply)**:	r equivalent Agreement State requirements (check all that
35.390 With experience administering dosages	of:
35.392 Oral Nal-131 requiring a written direct gigabecquerels (33 millicuries)	tive in quantities less than or equal to 1.22
15	n 1.22 gigabecquerels (33 millicuries)
Parenteral administration of beta-emi energy less than 150 keV requiring a	tter, or photon-emitting radionuclide with a photon written directive is required
Parenteral administration of any othe	r radionuclide requiring a written directive
Supervising Authorized User must have experience in administering requesting authorized user status.	ng dosages in the same dosage category or categories as the individual
d. Provide completed Part II Preceptor Attestation.	
PART II – PRECEPT	OR ATTESTATION
	eptor. The preceptor does not have to be the supervising or verifies training and experience required. If more than obtain a separate preceptor statement from each.
By checking the boxes below, the preceptor is attestic position sought and not attesting to the individual's "g	ng that the individual has knowledge to fulfill the duties of the eneral clinical competency."
First Section Check one of the following for each requested authorizat	ion:
For 35.390:	
Board Certification	
I attest that	has satisfactorily completed the training and experience
Name of Proposed Authorized User	_
requirements in 35.390(a)(1).	
O	R
Training and Experience	
I attest that	has satisfactorily completed the 700 hours of training
Name of Proposed Authorized User	— and considering completed the 100 floats of duffling
and experience, including a minimum of 200 hour 10 CFR 35.390 (b)(1).	s of classroom and laboratory training, as required by

NRC FORM 313A (AUT) (3-2009)		U.S. NUCLEAR REGULATORY COMMISSION
	ED USER TRAINING AND EXPERIEN	NCE AND PRECEPTOR ATTESTATION (continued)
Preceptor Attestation	n (continued)	
First Section (con	ntinued)	
For 35.392 (Ident	ical Attestation Statement Regardle	ess of Training and Experience Pathway):
✓ I attest that		has satisfactorily completed the 80 hours of classroom
	Name of Proposed Authorized User	
	ory training, as required by 10 CFR 35. required in 35.392(c)(2).	5.392(c)(1), and the supervised work and clinical case
For 35.394 (Identi	ical Attestation Statement Regardle	ess of Training and Experience Pathway):
I attest that		has satisfactorily completed the 80 hours of classroom
• •••••	Name of Proposed Authorized User	
	ory training, as required by 10 CFR 35. required in 35.394(c)(2).	5.394 (c)(1), and the supervised work and clinical case
Second Section		
✓ I attest that	Sarah Zakel	has satisfactorily completed the required clinical case
	Name of Proposed Authorized User	— ·
experience re	required in 35.390(b)(1)(ii)G listed belo	JW:
	-131 requiring a written directive in qua querels (33 millicuries)	antities less than or equal to 1.22
Oral Nal-	-131 in quantities greater than 1.22 gig	gabecquerels (33 millicuries)
	ral administration of beta-emitter, or phoess than 150 keV requiring a written dir	noton-emitting radionuclide with a photon irective is required
Parenter	al administration of any other radionuc	clide requiring a written directive
Third Section		
4		
✓ I attest that	Sarah Zakel  Name of Proposed Authorized User	has satisfactorily achieved a level of competency to
function inde	ependently as an authorized user for:	
·	•	
	-131 requiring a written directive in qua juerels (33 millicuries)	intities less than or equal to 1.22
Oral Nal-	-131 in quantities greater than 1.22 gig	jabecquerels (33 millicuries)
	al administration of beta-emitter, or pho ess than 150 keV requiring a written din	noton-emitting radionuclide with a photon irective is required
Parentera	al administration of any other radionucl	lide requiring a written directive
		,

NRC FORM 313A (AUT) (3-2009)		U.S. NUCLEAR REGULA	TORY COMMISSION
AUTHORIZED USER TRAINING A	AND EXPERIENCE AND PF	RECEPTOR ATTESTATION (co	intinued)
Fourth Section		•	
For 35.396:			
Current 35.490 or 35.690 authorized	<u>1 user:</u>	e e	11 C ( )
I attest that		orized user under 10 CFR 35.49	30 or 35.690
Name of Proposed or equivalent Agreement State req laboratory training, as required by experience required by 35.396(d)( independently as an authorized us	quirements, has satisfactorily 10 CFR 35.396 (d)(1), and to (2), and has achieved a level	the supervised work and clinical	case
Parenteral administration of an than 150 keV for which a writte		nitting radionuclide with a photon	ı energy less
Parenteral administration of an	y other radionuclide for whic	h a written directive is required	
_	OR		
Board Certification:			
I attest that		actorily completed the board cert	iification
requirements of 35.396(c), has sat required by 10 CFR 35.396 (d)(1) a 35.396(d)(2), and has achieved a leasthorized user for:  Parenteral administration of any than 150 keV for which a written	and the supervised work and level of competency sufficien y beta-emitter, or photon-em	d clinical case experience require	ed by n
Parenteral adminstration of any	other radionuclide for which	a written directive is required	
Fifth Section			
Complete the following for preceptor attes	station and signature:		
I meet the requirements below, or equ	ivalent Agreement State req	uirements, as an authorized use	ər for:
35.390 35.392	35.394 35.396		
I have experience administering dosage requesting authorization.	ges in the following categorie	s for which the proposed Author	rized User is
Oral Nal-131 requiring a written dir millicuries)	ective in quantities less than	or equal to 1.22 gigabecquerels	s (33
✓ Oral Nal-131 in quantities greater t	han 1.22 gigabecquerels (33	3 millicuries)	
Parenteral administration of beta-ended 150 keV requiring a written directive		dionuclide with a photon energy	less than
Parenteral administration of any ott	ner radionuclide requiring a	written directive	
1 ,	ature PLD	Telephone Number	Date
William Fortner, M.D.	NULKITE	812 949. 5904	9/13/11
License/Permit Number/Facility Name Floyd Memorial Hospital/13-12371-01			

NRC FORM 313A (AUT) (3-2009)

U.S. NUCLEAR REGULATORY COMMISSION

# **AUTHORIZED USER TRAINING AND EXPERIENCE**

	AND PRECEPTOR ATTESTA (for uses defined under 35. [10 CFR 35.390, 35.392, 35.394, ar	300)	EXPIRES: 3/31/2012	
Name of Prop	osed Authorized User	State or Territory Where Licens	ed	
Sarah Zakel, N	M.D.	Indiana		
Requested A	outhorization(s) (check all that apply):			
35.30	0 Use of unsealed byproduct material for which	ch a written directive is require	ed	
OR				
35.30	Oral administration of sodium iodide I-131 r 1.22 gigabecquerels (33 millicuries)	equiring a written directive in	quantities less than or equal to	
<b>✓</b> 35.300	√ 35.300 Oral administration of sodium iodide I-131 requiring a written directive in quantities greater than 1.22 gigabecquerels (33 millicuries)			
35.300	Parenteral administration of any beta-emitte than 150 keV for which a written directive is		clide with a photon energy less	
35.300	Parenteral administration of any other radio	nuclide for which a written dire	ective is required	
		G AND EXPERIENCE hree methods below)		
of applica experience	and Experience, including board certification, mation or the individual must have related continuce was completed. Provide dates, duration, an es checked above.	ing education and experience	since the required training and	
✓ 1. <u>Board</u>	d Certification			
a. Provi	de a copy of the board certification.			
	5.390, provide documentation on supervised clued to document this experience.	inical case experience. The ta	able in section 3.c. may	
and s	<ol> <li>5.396, provide documentation on classroom an supervised clinical case experience. The tables ment this experience.</li> </ol>			
d. Skip t	to and complete Part II Preceptor Attestation.			
2. Curre	nt 35.300, 35.400, or 35.600 Authorized User	Seeking Additional Author	zation	
a. Author	rized User on Materials License	`unde	r the requirements below or	
equiv	alent Agreement State requirements (check all	that apply):		
35	5.390 35.392 35.394	35.490 35.690	)	
requir	rently authorized for a subset of clinical uses un red supervised case experience. The table in s ience. Also provide completed Part II Precepto	ection 3.c. may be used to do		
docur clinica	rently authorized under 35.490 or 35.690 and rementation on classroom and laboratory training, at case experience. The tables in sections 3.a., ience. Also provide completed Part II Preceptor	supervised work experience, 3.b., and 3.c. may be used to	and supervised	

	roposed Authorized				
a. Classroom and Laboratory Train	ning 35.390	35.392	35.394	3	5.396
Description of Training	Location	n of Training	1	Clock lours	Dates of Training*
Radiation physics and instrumentation					
Radiation protection				H	
Mathematics pertaining to the use and measurement of radioactivity					
Chemistry of byproduct material for medical use					
Radiation biology					
Тс	otal Hours of Trainin	ng:	L		
If more than one supervising Indi- of this page. Supervised Work Experience	vidual is necessary to	Total Hou	ırs of	ovide mui	ltiple copies
Description of Experience Must Include:		erience/License or nber of Facility	r	nfirm	Dates of Experience
Ordering, receiving, and unpacking radioactive materials safely and performing				Yes No	
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of	,			Yes No	
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters  Calculating, measuring, and safely preparing patient or numan research subject	,				
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters  Calculating, measuring, and safely preparing patient or numan research subject dosages  Using administrative controls to prevent a medical event everyproduct material				No Yes	

(List radionuclides)

Training and Experience for F	Proposed Authorize	<u>d User</u> (continued)	
b. Supervised Work Experience	e (continued)		
Supervising Individual		License/Permit Number listing supervising incathorized user	dividual as an
Supervising individual meets the apply)**:	e requirements below	, or equivalent Agreement State requirements	check all tha
35.390 With experience	administering dosage		
digabecquere	requiring a written di els (33 millicuries)	rective in quantities less than or equal to 1.22	
35.394	in quantities greater	than 1.22 gigabecquerels (33 millicuries)	
Parenteral ad	ministration of beta-enan 150 keV requiring	emitter, or photon-emitting radionuclide with a gawritten directive is required	photon
Parenteral ad	ministration of any of	her radionuclide requiring a written directive	
<ul> <li>Supervising Authorized User must hereguesting authorized user status.</li> </ul>	ave experience in adminis	tering dosages in the same dosage category or categorie	s as the individual
<ul> <li>Supervised Clinical Case Exp If more than one supervising</li> </ul>			
		ini to document cupeniiced work eveerence :	nrovido
multiple copies of this page.	mavidual is necessa	ry to document supervised work experience, p	provide
	Number of Cases Involving Personal Participation	Location of Experience/License or Permit Number of Facility	Dates of Experience
multiple copies of this page.	Number of Cases Involving Personal	Location of Experience/License or Permit	Dates of
Description of Experience  Oral administration of sodium odide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels 33 millicuries)	Number of Cases Involving Personal	Location of Experience/License or Permit	Dates of
Description of Experience  Dral administration of sodium odide I-131 requiring a written lirective in quantities less than or equal to 1.22 gigabecquerels 33 millicuries)  Dral administration of sodium odide I-131 requiring a written lirective in quantities greater than 1.22 gigabecquerels (33)	Number of Cases Involving Personal Participation	Location of Experience/License or Permit Number of Facility	Dates of Experience

NRC (3-2009	C FORM 313A (AUT)	U.S. NUCLEAR REGULATORY COMMISSION
	•	ERIENCE AND PRECEPTOR ATTESTATION (continued)
3.	. Training and Experience for Proposed Author	
	c. Supervised Clinical Case Experience (continu	(bet
	Supervising Individual	License/Permit Number listing supervising individual as an authorized user
	Adrienne Sage-el, M.D.	University of Colorado/828-01
	Supervising individual meets the requirements be apply)**:	elow, or equivalent Agreement State requirements (check all that
	✓ 35.390 With experience administering dos	sages of:
	35.394 gigabecquerels (33 millicuries)	,
	☐ 35.396	ater than 1.22 gigabecquerels (33 millicuries) eta-emitter, or photon-emitting radionuclide with a photon siring a written directive is required
	Parenteral administration of an	ny other radionuclide requiring a written directive
	** Supervising Authorized User must have experience in admrequesting authorized user status.	ministering dosages in the same dosage category or categories as the individual
	d. Provide completed Part II Preceptor Attestation	n.
	PART II – PR	ECEPTOR ATTESTATION
Note:	individual as long as the preceptor provides, di	s preceptor. The preceptor does not have to be the supervising lirects, or verifies training and experience required. If more than rience, obtain a separate preceptor statement from each.
	By checking the boxes below, the preceptor is position sought and not attesting to the individu	attesting that the individual has knowledge to fulfill the duties of the ual's "general clinical competency."
	t Section ck one of the following for each requested auth	norization:
į	For 35.390:	
	Board Certification	
	I attest that   Name of Proposed Authorized U	has satisfactorily completed the training and experience
	requirements in 35,390(a)(1).	
		OR
	Training and Experience	
	I attest that	has satisfactorily completed the 700 hours of training
	Name of Proposed Authorized U	ser
	and experience, including a minimum of 200 10 CFR 35.390 (b)(1).	00 hours of classroom and laboratory training, as required by

NRC FORM 313A (AUT) (3-2009)		U.S. NUCLEAR REGULATORY COMMISSION
,	USER TRAINING AND EXPE	RIENCE AND PRECEPTOR ATTESTATION (continued)
Preceptor Attestation	(continued)	
First Section (conti	inued)	
For 35.392 (Identic	al Attestation Statement Reg	ardless of Training and Experience Pathway):
l attest that	Name of Proposed Authorized User	has satisfactorily completed the 80 hours of classroom
	y training, as required by 10 CFI equired in 35.392(c)(2).	R 35.392(c)(1), and the supervised work and clinical case
For 35.394 (Identica	al Attestation Statement Rega	ardless of Training and Experience Pathway):
✓ I attest that	Sarah Zakel, M.D.  Name of Proposed Authorized User	has satisfactorily completed the 80 hours of classroom
	y training, as required by 10 CFF quired in 35.394(c)(2).	R 35.394 (c)(1), and the supervised work and clinical case
Second Section		
✓ I attest that	Sarah Zakel, M.D  Name of Proposed Authorized User	has satisfactorily completed the required clinical case
☐ Oral Nal-13 gigabecque ✓ Oral Nal-13 ☐ Parenteral energy less	erels (33 millicuries) 31 in quantities greater than 1:2 administration of beta-emitter, of s than 150 keV requiring a writte	n quantities less than or equal to 1.22 22 gigabecquerels (33 millicuries) or photon-emitting radionuclide with a photon
Third Section		
	Sarah Zakel, M.D.  Name of Proposed Authorized User endently as an authorized user f	
	31 requiring a written directive in erels (33 millicuries)	n quantities less than or equal to 1.22
	_	2 gigabecquerels (33 millicuries)
energy less	s than 150 keV requiring a writte	·
Parenteral a	administration of any other radio	onuclide requiring a written directive

NRC FORM 313A (AUT)				U.S. NUCLEAR REGULAT	TORY COMMISSION
(3-2009)	ED USER TRAIN	ING AND EXPER	HENCE AND PRECEPT	TOR ATTESTATION (coi	
Fourth Section					
For 35.396:					
	<u>0 or 35.690 autho</u>	orized user:			
l attest that		· · · · · · · · · · · · · · · · · · ·	is an authorized u	user under 10 CFR 35.490	0 or 35.690
laboratory tr experience r	nt Agreement Stat raining, as require	ed by 10 CFR 35.3 96(d)(2), and has a	396 (d)(1), and the supe	eted the 80 hours of class ervised work and clinical o petency sufficient to func	case
Parenter than 150	al administration (	of any beta-emitte written directive is	er, or photon-emitting ra s required	adionuclide with a photon	energy less
Parenter	al administration	of any other radio	onuclide for which a writt	ten directive is required	
Deed Contified	4.6	•	OR		
Board Certifica	tion:				
I attest that		***************************************	has satisfactorily c	completed the board certi	ification
required by 1	s of 35.396(c), ha 10 CFR 35.396 (d ), and has achieve	d)(1) and the supe	ervised work and clinical	of classroom and laborato I case experience require ction independently as an	ed by
		of any beta-emitte written directive is		dionuclide with a photon	energy less
Parentera	al adminstration o	of any other radior	nuclide for which a writte	en directive is required	
Fifth Section Complete the followin	ng for preceptor	attestation and	signature:	# # # # # # # # = = = = = = = = = = = =	<b>**********</b>
✓ I meet the requi	rements below, o	r equivalent Agree	ement State requiremer	nts, as an authorized use	r for:
<b>√</b> 35.390	35.392	35.394	35.396		١
I have experience requesting author		dosages in the fol	lowing categories for wh	hich the proposed Author	rized User is
✓ Oral Nal-131 millicuries)	requiring a writte	∍n directive in qua	intities less than or equa	al to 1.22 gigabecquerels	(33
turina di	-		gabecquerels (33 millicur		
	dministration of be uiring a written din			de with a photon energy I	less than
Parenteral ac	dministration of ar	ny other radionucl	clide requiring a written d	lirective	
Name of Preceptor		Signature A		Telephone Number	Date
William Fortner, M.D.	I	11/1/100	<del>-</del> /	(812) 949-5904	09/13/2011

License/Permit Number/Facility Name

### NRC FORM 313A (AUT) (3-2009)

U.S. NUCLEAR REGULATORY COMMISSION

### **AUTHORIZED USER TRAINING AND EXPERIENCE** AND PRECEPTOR ATTESTATION

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 3/31/2012

	(for uses defined under 3 [10 CFR 35.390, 35.392, 35.394]		EAPIRES. 3/3 1/2012
Name of Propos	sed Authorized User	State or Territory Where Licens	ed
Sarah Zakel, M.	D	Indiana	
Requested Au	thorization(s) (check all that apply):		
35.300	Use of unsealed byproduct material for	which a written directive is require	ed .
OR			
35.300	Oral administration of sodium iodide I-13 1.22 gigabecquerels (33 millicuries)	31 requiring a written directive in o	quantities less than or equal to
<b>√</b> 35.300	Oral administration of sodium iodide I-13 gigabecquerels (33 millicuries)	31 requiring a written directive in o	quantities greater than 1.22
35.300	Parenteral administration of any beta-enthan 150 keV for which a written directive	nitter, or photon-emitting radionuc e is required	lide with a photon energy less
35.300	Parenteral administration of any other ra	adionuclide for which a written dire	ective is required
		NING AND EXPERIENCE three methods below)	
of applicati experience	nd Experience, including board certification or the individual must have related core was completed. Provide dates, duration, schecked above.	ntinuing education and experience	since the required training and
✓ 1. <u>Board</u> (	<u>Certification</u>		
a. Provide	e a copy of the board certification.		
	390, provide documentation on supervise d to document this experience.	d clinical case experience. The to	able in section 3.c. may
and su	396, provide documentation on classroom pervised clinical case experience. The tabent this experience.		
d. Skip to	and complete Part II Preceptor Attestation	n.	
2. Current	t 35.300, 35.400, or 35.600 Authorized U	Iser Seeking Additional Author	<u>ization</u>
a. Authoriz	zed User on Materials License	unde	r the requirements below or
equival	ent Agreement State requirements (check	c all that apply):	
35.3	390 35.392 35.394	35.490 35.690	)
require	ntly authorized for a subset of clinical uses d supervised case experience. The table ence. Also provide completed Part II Prece	in section 3.c. may be used to do	
docume clinical	ntly authorized under 35.490 or 35.690 an entation on classroom and laboratory train case experience. The tables in sections 3 ence. Also provide completed Part II Precent	ning, supervised work experience, 3.a., 3.b., and 3.c. may be used to	and supervised

	ING AND EXPERIENCE AND PRECEPTOR A		Jiluliueu <sub>)</sub>
3. Training and Experience for I		10-004	07.000
a. Classroom and Laboratory Tra	aining 35.390 35.392	35.394	35.396
Description of Training	Location of Training	Clock Hours	Dates of Training*
Radiation physics and instrumentation			
Radiation protection			
Mathematics pertaining to the use and measurement of radioactivity			
Chemistry of byproduct material for medical use			
Radiation biology			
	Total Hours of Training:	1	
b. Supervised Work Experience If more than one supervising in of this page.  Supervised Work Experience	ndividual is necessary to document supervised to	l-man-and	35.396 nultiple copies
	Experience:		
Description of Experience Must Include:	Location of Experience/License or Permit Number of Facility	Confirm	Dates of Experience
Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys		Yes No	
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters		☐ Yes	
Calculating, measuring, and safely preparing patient or numan research subject		Yes No	
nosages		Yes	
Using administrative controls to prevent a medical event nvolving the use of unsealed pyproduct material		☐ No	-

C FORM 313A (AUT)		U.S. NUCLEAR REGUL	ATORY COMMISS			
	NING AND EXPERI	ENCE AND PRECEPTOR ATTESTATION (c	ontinued)			
Training and Experience for Proposed Authorized User (continued)						
b. Supervised Work Experience	(continued)					
Supervising Individual  License/Permit Number listing supervising individual as an authorized user						
Supervising individual meets the apply)**:	requirements below	r, or equivalent Agreement State requirements	s (check all that			
35.390 With experience a	administering dosage	es of:				
35.392 Oral Nal-131 r gigabecquerel	requiring a written di ls (33 millicuries)	rective in quantities less than or equal to 1.22				
35 396 Oral Nai-131 i	-	than 1.22 gigabecquerels (33 millicuries)				
Parenteral adr energy less th	ministration of beta-e an 150 keV requiring	emitter, or photon-emitting radionuclide with a gawritten directive is required	photon			
Parenteral adr	ministration of any ot	ther radionuclide requiring a written directive				
** Supervising Authorized User must ha requesting authorized user status.	ve experience in adminis	tering dosages in the same dosage category or categorie	s as the individual			
multiple copies of this page.  Description of Experience	Number of Cases Involving Personal Participation	Location of Experience/License or Permit Number of Facility	Dates of Experience			
Oral administration of sodium iodide I-131 requiring a written directive in quantities less than or equal to 1.22 gigabecquerels (33 millicuries)						
Oral administration of sodium iodide I-131 requiring a written directive in quantities greater than 1.22 gigabecquerels (33 millicuries)		University of Colorado/828-01	05/23/05			
Parenteral administration of any beta-emitter, or photon-emitting radionuclide with a photon energy less than 150 keV for which a written directive is required						
Parenteral administration of any other radionuclide for which a written directive is required						

(List radionuclides)

NRC FORM 313A (AUT) (3-2009)	U.S. NUCLEAR REGULATORY COMMISSION
· ·	ERIENCE AND PRECEPTOR ATTESTATION (continued)
3. Training and Experience for Proposed Authori	ized User (continued)
c. Supervised Clinical Case Experience (continu	ied)
Supervising Individual	License/Permit Number listing supervising individual as an authorized user
Robert Quaife, M.D.	University of Colorado/828-01
Supervising individual meets the requirements be apply)**:	elow, or equivalent Agreement State requirements (check all that
√ 35.390 With experience administering dosa	ages of:
☐ 35.392	n directive in quantities less than or equal to 1.22
☐ 35.396 ✓ Oral Nal-131 in quantities great  ✓ Parenteral administration of bet	ter than 1.22 gigabecquerels (33 millicuries) ta-emitter, or photon-emitting radionuclide with a photon
	iring a written directive is required
	y other radionuclide requiring a written directive
** Supervising Authorized User must have experience in adm requesting authorized user status.	ninistering dosages in the same dosage category or categories as the individual
d. Provide completed Part II Preceptor Attestation  PART II PRE	n. ECEPTOR ATTESTATION
	s preceptor. The preceptor does not have to be the supervising
individual as long as the preceptor provides, dir	receptor. The preceptor does not have to be the supervising irects, or verifies training and experience required. If more than itence, obtain a separate preceptor statement from each.
By checking the boxes below, the preceptor is a position sought and not attesting to the individual	attesting that the individual has knowledge to fulfill the duties of the ual's "general clinical competency."
First Section Check one of the following for each requested auth	orization:
For 35.390:	
Board Certification	
Name of Proposed Authorized Us	has satisfactorily completed the training and experience
requirements in 35.390(a)(1).	
	OR
Training and Experience	OK
I attest that	has satisfactorily completed the 700 hours of training
Name of Proposed Authorized Us	
	0 hours of classroom and laboratory training, as required by

NRC FORM 313	A (AUT)		U.S. NUCLEAR REGULATORY COMMISSION
(3-2009) AUT	HORIZE	D USER TRAINING AND F	EXPERIENCE AND PRECEPTOR ATTESTATION (continued)
Preceptor At	testation	1 (continued)	
First Secti	ion (con	itinued)	
For 35.397	2 (ldenti	cal Attestation Statement	t Regardless of Training and Experience Pathway):
	test that		has satisfactorily completed the 80 hours of classroom
	.Cot mar	Name of Proposed Authoriz	
		ory training, as required by 1 required in 35.392(c)(2).	10 CFR 35.392(c)(1), and the supervised work and clinical case
For 35.394	1 (Identic	cal Attestation Statement	Regardless of Training and Experience Pathway):
✓ I att	test that	Sarah Zakel, M.D.  Name of Proposed Authorize	has satisfactorily completed the 80 hours of classroom
		ry training, as required by 1 equired in 35.394(c)(2).	10 CFR 35.394 (c)(1), and the supervised work and clinical case
Second Se	ection		
✓ I atte	est that	Sarah Zakel, M.D	has satisfactorily completed the required clinical case
		Name of Proposed Authorize	ed User
ехрє	erience re	equired in 35.390(b)(1)(ii)G	listed below:
		131 requiring a written directurels (33 millicuries)	ctive in quantities less than or equal to 1.22
<b>✓</b> c	Oral Nal-1	131 in quantities greater the	an 1.22 gigabecquerels (33 millicuries)
			aitter, or photon-emitting radionuclide with a photon a written directive is required
P	'arentera	l administration of any othe	er radionuclide requiring a written directive
Third Sec	ction		
✓ I atte	est that	Sarah Zakel, M.D.	has satisfactorily achieved a level of competency to
	iot um.	Name of Proposed Authorize	
funct	tion inder	pendently as an authorized	user for:
		131 requiring a written direc uerels (33 millicuries)	ctive in quantities less than or equal to 1.22
<b>√</b> o	Oral Nal-1	131 in quantities greater tha	an 1.22 gigabecquerels (33 millicuries)
P	Parenteral	l administration of beta-emi	itter, or photon-emitting radionuclide with a photon written directive is required
P	arenteral	l administration of any other	er radionuclide requiring a written directive
			,

NRC FORM 313A (AUT) (3-2009)		U.S. NUCLEAR REGULA	ATORY COMMISSION
ļ	AINING AND EXPERIENCE AND	PRECEPTOR ATTESTATION (co	ontinued)
Fourth Section			
For 35.396:			
Current 35.490 or 35.690 au	uthorized user:		
i attest that	is an a	authorized user under 10 CFR 35.4	90 or 35.690
Name o	of Proposed Authorized User		
laboratory training, as req	quired by 10 CFR 35.396 (d)(1), a 5.396(d)(2), and has achieved a le	orily completed the 80 hours of clas nd the supervised work and clinical evel of competency sufficient to fun	l case
	tion of any beta-emitter, or photon h a written directive is required	n-emitting radionuclide with a photo	n energy less
Parenteral administrat	ion of any other radionuclide for v	which a written directive is required	
	OR		
<b>Board Certification:</b>			
l attest that	has sa	tisfactorily completed the board cer	rtification
required by 10 CFR 35.39 35.396(d)(2), and has ach authorized user for:	96 (d)(1) and the supervised work nieved a level of competency suffice ion of any beta-emitter, or photon-	80 hours of classroom and laborat and clinical case experience requir cient to function independently as a -emitting radionuclide with a photor	red by an
than 150 keV for which	h a written directive is required	hich a written directive is required	
Fifth Section Complete the following for precep		requirements, as an authorized us	ser for:
		•	
✓ 35.390 35.392	35.394 35.39	16	
I have experience administeri requesting authorization.	ing dosages in the following cateç	gories for which the proposed Autho	orized User is
Oral Nal-131 requiring a w millicuries)	ritten directive in quantities less t	than or equal to 1.22 gigabecquerel	is (33
✓ Oral Nal-131 in quantities	greater than 1.22 gigabecquerels	(33 millicuries)	
Parenteral administration of 150 keV requiring a writter	of beta-emitter, or photon-emitting n directive is required	g radionuclide with a photon energy	/ less than
Parenteral administration of	of any other radionuclide requiring	a written directive	
lame of Preceptor	Signature 296	Telephone Number	Date
Villiam Fortner, M.D.	Wille X for	(812) 949-5904	09/13/2011
icense/Permit Number/Facility Name			

# NRC FORM 313A (AUD) (3-2009)

#### U.S. NUCLEAR REGULATORY COMMISSION

# AUTHORIZED USER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION

APPROVED BY OMB: NO. 3150-0120

(for uses defined under	r 35.100, 35.200, and 35.500) , 35.290, and 35.590]	EXPIRES: 3/3	
lame of Proposed Authorized User	State or Territory Where L	icensed	
arah Zakel	Indiana		
Requested Authorization(s) (check all that	t apply)		
35.100 Uptake, dilution, and excretion	studies		
35,200 Imaging and localization studie	es		
35.500 Sealed sources for diagnosis (	specify device	)	
	ART I TRAINING AND EXPERIENCE elect one of the three methods below)		
the date of application or the individual	ard certification, must have been obtained we must have obtained related continuing edutes as completed. Provide dates, duration, and the uses checked above.	cation and experie	ence since
1. Board Certification			
a. Provide a copy of the board certific	cation.		
<ul> <li>b. If using only 35.500 materials, stop Preceptor Attestation.</li> </ul>	p here. If using 35.100 and 35.200 materia	als, skip to and cor	nplete Part II
2. Current 35.390 Authorized User	Seeking Additional 35.290 Authorization	1	
a. Authorized user on Materials Licer	nse meeting 10 CFF	R 35.390 or equiva	lent Agreement
State requirements seeking author	rization for 35.290.		
<ul> <li>Supervised Work Experience. (If more than one supervising indivious copies of this section.)</li> </ul>	vidual is necessary to document supervised	d work experience,	, provide multiple
Description of Experience	Location of Experience/License or Permit Number of Facility	Clock Hours	Dates of Experience*
Eluting generator systems appropriate for the preparation of radioactive drugs for imaging and localization studies, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs			
	Total Hours of Experience:		
Supervising Individual	License/Permit Number li authorized user	sting supervising inc	lividual as an
	elow, or equivalent Agreement State requirence in 32.290(c)(1)(ii)(G)	ements (check all	that apply).

C FORM 313A (AUD)  U.S. NUCLEAR REGULATORY COMMISSION  AUTHORIZED USER TRAINING AND EXPERIENCE AND PRECEPTOR ATTESTATION (continued)						
3. Training and Experience for Pro						
a. Classroom and Laboratory Traini	ng.					
Description of Training	Location of Training	Clock Hours	Dates of Training*			
Radiation physics and instrumentation						
Radiation protection						
Mathematics pertaining to the use and measurement of radioactivity	·					
Chemistry of byproduct material for medical use (not required for 35.590)						
Radiation biology						
	Total Hours of Training:					
(If more than one supervising indi- provide multiple copies of this sec	npletion of this table is not required for 35.590 vidual is necessary to document supervised w		·			
Supervised Work Experience	Total Hours of Experience:					
Description of Experience Must Include:	Location of Experience/License or Permit Number of Facility	Confirm	Dates of Experience*			
Ordering, receiving, and unpacking radioactive materials safely and performing the related radiation surveys		☐ Yes				
Performing quality control procedures on instruments used to determine the activity of dosages and performing checks for proper operation of survey meters		Yes No				

Training and Experience for Propos	sed Authorized Use	<u>er</u> (continued)		
b. Supervised Work Experience. (cor	ntinued)			
Description of Experience Must Include:	Location of I	Experience/License or Number of Facility	Confirm	Dates of Experience
Calculating, measuring, and safely preparing patient or human research subject dosages			Yes No	
Using administrative controls to prevent a medical event involving the use of unsealed byproduct material			Yes No	
Using procedures to contain spilled byproduct material safely and using proper decontamination procedures			Yes No	
Administering dosages of radioactive drugs to patients or human research subjects			☐ Yes ☐ No	
for the preparation of radioactive drugs for imaging and localization studies, measuring and testing the eluate for radionuclidic purity, and processing the eluate with reagent kits to prepare labeled radioactive drugs			Yes	
Supervising Individual		License/Permit Number listir authorized user	ng supervising indiv	vidual as an
Supervisor meets the requirements bel 35.190 35.290	35.390 35	5.390 + generator experie	,	•
Device	Type of Training		ocation and Dat	tes

NRC FC (3-2009)	ORM 313A (AUD) AUTHORIZED	USER TRAININ	G AND EXPERI	U.S. NUCLEAR REGULA ENCE AND PRECEPTOR ATTESTATION (co		
Note:	PART II – PRECEPTOR ATTESTATION  This part must be completed by the individual's preceptor. The preceptor does not have to be the supervising individual as long as the preceptor provides, directs, or verifies training and experience required. If more than one preceptor is necessary to document experience, obtain a separate preceptor statement from each. (Not required to meet training requirements in 35.590)					
				testing that the individual has knowledge to fulfil's "general clinical competency."	ill the duties of the	
Check	ection one of the follow	wing for each u	se requested:			
For	<u>35.190</u>					
	Board Certification	<u>on</u>				
	✓ I attest that	Sarah Zakel		has satisfactorily completed the requiremen	ıts in	
		•	sed Authorized User	_		
				el of competency sufficient to function independ ed under 10 CFR 35.100.	ently as an	
				OR		
	Training and Exp	<u>oerience</u>				
	I attest that	Name of Propos	ed Authorized User	has satisfactorily completed the 60 hours of	training and	
	35.190(c)(1),	and has achieve	ed a level of com	f classroom and laboratory training, required by petency sufficient to function independently as ed under 10 CFR 35.100.		
For	<u>35.290</u>					
	<b>Board Certification</b>	<u>on</u>				
	✓ I attest that	Sarah Zakel	ed Authorized User	has satisfactorily completed the requiremen	ts in	
		90(a)(1) and has	achieved a leve	l of competency sufficient to function independed under 10 CFR 35.100 and 35.200.	ently as an	
				OR		
	Training and Exp	erience				
	I attest that	Novo of Comme	ed Authorized User	has satisfactorily completed the 700 hours of	of training	
	CFR 35.290(d	ce, including a m c)(1), and has ac	ninimum of 80 ho chieved a level of	urs of classroom and laboratory training, required competency sufficient to function independented under 10 CFR 35.100 and 35.200.		
Second	Section	######################################		5 1, 15 14 14 16 16 16 16 16 16 16 16 16 16 16 16 16		
Comple	ete the following	for preceptor a	ttestation and s	ignature:		
	***************************************	quirements below	v, or equivalent A	Agreement State requirements, as an authorize	d user for:	
	<b>√</b> 35.190	<b>√</b> 35.290	<b>√</b> 35.390	35.390 + generator experience		
Name of	Preceptor	5	Signature 0 /	Telephone Number	Date	

William Fortner, M.D.

License/Permit Number/Facility Name Floyd Memorial Hospital/13-12371-01

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812 949 - 5904

FLOYD MEMORIAL HOSPITAL
1850 STATE STREET
NEW ALBANY IN 47150
NUCLEAR MEDICINE



U.S. NUCLEAR REQUIRTORY COMMISSION
MATERIALS LICENSE SECTION

2443 WARRENVILLE ROAD, SUITE 210 LISLE, IL 60532 - 4352