Approved by OMB[1]
Control No. 3150-0183
Expires 01/31/2020

INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM QUESTIONNAIRE

Reporting Period: February 15, 2014 – February 9, 2018 [Texas DSHS]

Note: If there has been no change in the response to a specific question since the last IMPEP questionnaire, the State or Region may copy the previous answer, if appropriate.

A. GENERAL

1. Please prepare a summary of the status of the State's or Region's actions taken in response to each of the open recommendations from previous IMPEP reviews.

B. COMMON PERFORMANCE INDICATORS

I. Technical Staffing and Training

2. Please provide the following organization charts, including names and positions:

   (a) A chart showing positions from the Governor down to the Radiation Control Program Director;

   See Appendix B-1
   See Appendix B-2

   (b) A chart showing positions of the radiation control program, including management; and

   See Appendix B-3

   (c) Equivalent charts for sealed source and device evaluation, low-level radioactive waste and uranium recovery programs, if applicable.

   See Appendix B-4

3. Please provide a staffing plan, or complete a listing using the suggested format below, of the professional (technical) full-time equivalents (FTE) applied to the radioactive materials program by individual. Include the name, position, and, for Agreement States, the fraction of time spent in the following areas: administration, materials licensing & compliance, emergency response, low-level radioactive waste, uranium recovery, other. If these regulatory responsibilities are divided

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between offices, the table should be consolidated to include all personnel contributing to the radioactive materials program. If consultants were used to carry out the program's radioactive materials responsibilities, include their efforts. The table heading should be:

Name	Position	Area of Effort	FTE%

See Appendix B-5

4. Please provide a listing of all new professional personnel hired into your radioactive materials program since the last review, indicate the date of hire; the degree(s) they received, if applicable; additional training; and years of experience in health physics or other disciplines, as appropriate.

See Appendix B-6

5. Please list all professional staff who have not yet met the qualification requirements for a radioactive materials license reviewer or inspector. For each, list the courses or equivalent training/experience they need and a tentative schedule for completion of these requirements.

See Appendix B-7

6. Identify any changes to your qualification and training procedure that occurred during the review period.

Formalized policy *RadPSQA-017 Qualified Inspector Refresher Training* effective 10/14/2015 requiring the completion of 24 hours of approved refresher training per 2-year interval in accordance with NRC IMC 1248. The first 2-year interval included calendar years 2014 and 2015.

Revised qualification and training items in the Inspection Manual:

- **Appendix G: New Inspector Training Policy**
- **Appendix H: New Inspector Evaluation Forms**

Updated licensing training and qualification procedures to match current NRC Manual Chapter 1248 via Administrative and Policy Memorandum (APM):

- **APM 110 – License Reviewer Refresher Training (10/2015)**
- **APM 65 – License Reviewer Qualification Journal (10/2015)**

7. Please identify the technical staff that left your radioactive materials program during the review period and indicate the date they left.

See Appendix B-8

8. List any vacant positions in your radioactive materials program, the length of time each position has been vacant, and a brief summary of efforts to fill the vacancy.

See Appendix B-9

9. For Agreement States, does your program have an oversight board or committee which provides direction to the program and is composed of licensees and/or members of the public? If so, please describe the procedures used to avoid any potential conflict of interest.

The Texas Radiation Advisory Board (TRAB) is an 18 member, governor-appointed advisory board mandated by statute (Health and Safety Code, Chapter 401). Representation on the board is specified in statute and includes:

- a representative of nuclear physics, science, or nuclear engineering;
- a representative of labor;
- a representative of agriculture;
- a representative of the insurance industry;
- a hospital administrator;
- a representative who is engaged in the use and application of nuclear physics in medicine and is certified by the American Board of Radiology or licensed by the Texas Board of Licensure for Professional Medical Physicists);
- an individual licensed by the Texas Medical Board who specializes in nuclear medicine;
- an individual licensed by the Texas Medical Board who specializes in pathology;
- an individual licensed by the Texas Medical Board who specializes in radiology;
- a representative of the nuclear utility industry;
- a representative of the radioactive waste industry;
- a representative of the petroleum industry;
- a health physicist certified by the American Board of Health Physics;
- an individual licensed by the Texas Dental Board;
- a representative of the uranium mining industry; and
- three representatives of the public.

TRAB provides recommendations and technical advice on matters relating to development, use, and regulation of sources of radiation to the three agencies with regulatory responsibility for radiation, DSHS, TCEQ and the Railroad Commission of Texas. Chapter 401 specifies the circumstances under which a person would not be eligible to serve on TRAB in order to avoid conflict of interest. The statute further requires that each TRAB member receive training in the appropriate statutes and rules, including conflict of interest laws. Chapter 289.130 contains rules governing the TRAB and its actions.

See Appendix B-10 for a list of current TRAB members.

II. Status of Materials Inspection Program

10. Please identify individual licensees or categories of licensees the State is inspecting less frequently than called for in NRC's Inspection Manual Chapter (IMC) 2800 and explain the reason for the difference. The list only needs to include the following

information: license category or licensee name and license number, your inspection interval, and rationale for the difference.

All inspection intervals are equal or more frequent than those listed in IMC 2800.

11. Please provide the number of routine inspections of Priority 1, 2, and 3 licensees, as defined in IMC 2800 and the number of initial inspections that were completed during each year of the review period.

Through mid-September of 2017:

	2014	2015	2016	2017	Total
Priority 1	63	80	91	76	1040
Priority 2	101	103	120	109	
Priority 3	42	98	75	82	
Initial	31	60	41	68	200

12. Please submit a table, or a computer printout, that identifies inspections of Priority 1, 2, and 3 licensees and initial inspections that were conducted overdue.

At a minimum, the list should include the following information for each inspection that was conducted overdue during the review period:

(1) Licensee Name
(2) License Number
(3) Priority (IMC 2800)
(4) Last inspection date or license issuance date, if initial inspection
(5) Date Due
(6) Date Performed
(7) Amount of Time Overdue
(8) Date inspection findings issued

Through mid-September of 2017:

See Appendix B-11 for Priority 1-3 inspections conducted overdue
See Appendix B-12 for initial inspections conducted overdue

13. Please submit a table or computer printout that identifies any Priority 1, 2, and 3 licensees-and initial inspections that are currently overdue, per IMC 2800. At a minimum, the list should include the same information for each overdue inspection provided for Question 12 plus your action plan for completing the inspection. Also include your plan for completing the overdue inspections.

Through mid-September of 2017:

License Site	Licensee	Main	ISRM	Priority	Last Routine	Next Routine	Next IRC	Status	Use
L05956-000	QC LABORATORIES INC	Y	Y	1	05/16/2016	05/16/2017	08/16/2017	Current	028
L06631-000	EAGLE INSPECTION LLC	Y	Y	1	01/26/2016	01/25/2017	04/27/2017	Current	028

The inspection of L05956-000 was performed on November 29, 2017. Eagle Inspection LLC (L06631-000) currently does not possess any radioactive material. The licensee failed to terminate the license after disposing of its material and is now in the revocation process.

14. Please provide the number of reciprocity licensees that were candidates for inspection per year as described in IMC 1220 and indicate the number of reciprocity inspections of candidate licensees that were completed each year during the review period.

Through mid-September of 2017:

	# of Companies	# of Inspections	% Inspected
2014	26	12	46%
2015	40	12	30%
2016	42	12	28%
2017	36	12	33%

III. Technical Quality of Inspections

15. What, if any, changes were made to your written inspection procedures during the reporting period?

16. Prepare a table showing the number and types of supervisory accompaniments made during the review period. Include:

Inspector Supervisor License Category Date

See Appendix B-13

17. Describe or provide an update on your instrumentation, methods of calibration, and laboratory capabilities. Are all instruments properly calibrated at the present time? Were there sufficient calibrated instruments available throughout the review period?

The radioactive materials inspectors are provided with the following instruments at a minimum:

- **Ludlum 2241 with a 1x1 scintillation probe, an energy compensated G/M probe, and a G/M pancake probe**
- **Thermo Scientific RadEye SPRD-GN spectroscopic Personal Radiation Detector**
- **BNC model 940 radiation isotope identifier**

See Appendix B-14 for Instrument Calibration Status
See Appendix B-15 for Calibration Procedures

IV. Technical Quality of Licensing Actions

18. How many specific radioactive material licenses does your program regulate at this time?

1576 Specific Licenses

19. Please identify any major, unusual, or complex licenses which were issued, received a major amendment, were terminated, decommissioned, submitted a bankruptcy notification or renewed in this period.

See Appendix B-16

20. Discuss any variances in licensing policies and procedures or exemptions from the regulations granted during the review period.

The Agency uses an exemption authorization form that identifies whether the exemption is a generic one used as a policy statement, or a specific one determined on a case by case basis.

A specific exemption was granted to license L02113 regarding the equivalent substitution of the two years experience as a well logging supervisor to be a well logging RSO.

Generic exemptions issued:

- **L017 – relieved entities/institutions of the State of Texas from the requirement to provide a decommissioning funding plan (DFP) cost estimate for those using the "statement of intent" for decommissioning financial assurance. (Issued 8/11/15, suspended June 2017)**
- **L018 – exempted users under a general license to use in vitro test kits from having to register with the Agency. The exemption applied to physicians, veterinarians, clinical laboratories and hospitals. (Issued 11/4/15)**
- **L019 – relieved license applicants using the Ge-68/Ga-68 generators from the requirement to provide financial assurance if the licensee and generator supplier agreed to certain terms about returning the generator back to the supplier in lieu of disposal. (Issued 11/20/15)**

21. What, if any, changes were made in your written licensing procedures (new procedures, updates, policy memoranda, etc.) during the reporting period?

Administrative and Policy Memorandum (APM):
APM 112 – Verification of Legal Licensed or Registered Entity (new)
APM 113 – Guidance for Implementing the NRC Security Checklists (new, October 2015)
APM 114 – Issuing Licenses when the applicant is ready to Receive and Use Radioactive Material (new)
APM 116 – License Reviewers and Pre-Licensing Site Visits (new)
APM 63 – Licensing/SSD Timeliness and Review Priority (revised)

Generated streamlined medical license renewal checklist (new)
Generated medical use RSO, AU, ANP, AMP application forms (new)
Generated Certificate of Disposition Form (new)

Revised the Diagnostic Medical License Guide
Revised the Licensing Procedure Guide
Revised the Standard License Conditions
Revised License Format (effective January 2018)
Revised Texas RSRM Checklist (effective December 2017)

22. Identify by licensee name and license number any renewal applications that have been pending for one year or more. Please indicate why these reviews have been delayed and describe your action plan to reduce the backlog.

See Appendix B-17

The license renewal backlog is due to several factors.

One medical license reviewer position has gone unfilled for years. During the review period, two trainees had started in the position and subsequently left. The position has been posted as of December 2017.

The existing licensing procedures, renewal procedures, and standardized license conditions were out of date and did not adequately reflect the current rule requirements. These inefficiencies created delays in the review process from both the licensee and license reviewer. We have created and posted to our web page application forms for the medical RSO, AMP, ANP, and AU that outlines to both the applicant and reviewer what the criteria are that needs to be met for licensing. Additionally, we have recently made major revisions to the medical license application guide, standard medical license conditions, and the in-house license reviewer guidance document. These document revisions are also designed to bring consistency with the applicable NRC guidance documents.

The Agency has historically given license renewals a low priority. The rationale was that the license amendments were separate from the license renewals. Therefore, although a license was still in an extended timely renewal status, license amendments are being processed addressing the time sensitive and health and safety sensitive components of the licensing actions. Current management has been emphasizing the need for timely action on renewals and has been realigning licensing priorities and policies to reduce the backlog.

V. Technical Quality of Incident and Allegation Activities

23. For Agreement States, please provide a list of any reportable incidents not previously submitted to NRC (See Procedure SA-300, *Reporting Material Events*, for additional guidance, OMB clearance number 3150-0178). The list should be in the following format:

Licensee Name	License #	Date of Incident/Report	Type of Incident

None

24. Identify any changes to your procedures for responding to incidents and allegations that occurred during the period of this review.

Added a section on Notification to Other Federal, State, and Local Agencies.

C. NON-COMMON PERFORMANCE INDICATORS

I. Compatibility Requirements

25. Please list all currently effective legislation that affects the radiation control program.

Denote any legislation that was enacted or amended during the review period.

- Health and Safety Code, Chapter 401 (Texas Radiation Control Act)
- Government Code, Chapter 2001
- Government Code, Chapter 418

The 83rd Legislature (2013) passed SB 347, which delineated areas of respective jurisdiction by amending the Memorandum of Understanding (MOU) between the Texas Department of State Health Services (DSHS) and the Texas Commission on Environmental Quality (TCEQ). The rule coordinated the respective responsibilities and duties of the regulation of sources of radiation in accordance with Health and Safety Code (HSC), §401.011 and §401.069, in order to provide a consistent approach and to avoid duplication of radiation control functions. The MOU rule §289.101 became effective on September 7, 2014.

In addition, SB 347, amended §289.204, concerning fees for certificates of registration, radioactive material licenses, emergency planning and implementation, and other regulatory services. In order to comply with SB 347, a portion of which is codified at HSC §401.307, which increases both the maximum and the minimum amounts to be held in the state's total perpetual care account (PCA) for radiation.

House Bill 1678, 78th Legislature, Regular Session, 2003, amended HSC, §401.301(d), directing the DSHS to collect an additional 5% fee from radioactive material licensees to be deposited to the department's radiation PCA. The funds in the PCA are to be used to pay for measures to prevent or mitigate adverse effects of abandonment of radioactive materials, default on a lawful obligation, insolvency, or other inability of licensees to meet radiation control requirements. The DSHS commenced collection of these fees effective September 1, 2004. In November 2008, the DSHS suspended collection of this 5% fee when the total amount in the PCA reached $500,000, the legislative cap previously imposed.

Under SB 347, the cap of the state's PCA was raised from $500,000 to $100 million, effective September 1, 2013. More specifically, when the balance of the state's PCA, to which both the DSHS and the TCEQ now contribute, totals $100 million, further collection of these fees is to be suspended. The DSHS collects this 5% fee from its radioactive material licensees, excluding licensees that are authorized only for diagnostic nuclear medicine. If and when the balance of the state's PCA falls to $50 million or less, the 5% fee is to be reinstated. Rule §289.204 became effective on September 7, 2014.

In addition, SB 347 required changes to §289.257 concerning packaging and transportation of radioactive material; specifically, §289.257(dd) regarding fees assessed for low level radioactive waste (LLRW) shippers. Among the fees the DSHS collects is a fee of $10 per cubic foot for LLRW originating in Texas or being shipped into a licensed Texas LLRW disposal facility. These fees are deposited to the radiation PCA and are collected or suspended as stated above.

Senate Bill 347 also added a provision for utilizing PCA funds for first responder training in counties through which transportation of LLRW occurs as specified in §289.257(dd)(1)(C), and as specified in §289.257(dd)(1)(D), SB 347 restricts fees from being charged for LLRW shipments disposed of at a federal waste disposal facility in compliance with Health and Safety Code, §401.052(d)(5). All rule changes to §289.257 regarding SB 347 became effective on March 22, 2015.

26. Are your regulations subject to a "Sunset" or equivalent law? If so, explain and include the next expiration date for your regulations.

Government Code, Chapter 2001.039 requires Texas state agencies to assess whether the reasons for adopting each rule continue to exist and to review each rule to determine whether it is obsolete, whether it reflects current legal and policy considerations, and whether it reflects current procedures of the agency. As a part of this review, each agency is required to submit notice of intent to the Texas for publication. Each rule is required to be reviewed four years from the last effective date of the rule. Therefore, each section of 25 Texas Administrative Code, Chapter 289 (radiation control rules) has a different four-year review interval.

27. Please review and verify that the information in the enclosed State Regulation Status (SRS) sheet is correct. For those regulations that have not been adopted by the State, explain why they were not adopted, and discuss actions being taken to adopt them. If legally binding requirements were used in lieu of regulations and they have not been reviewed by NRC for compatibility, please describe their use.

RATS ID identified as incomplete on the SRS include the following:
1993-1
2007-2
2007-3
2011-2
2012-4
2013-2
2015-3
2015-4
2015-5

All of these outstanding items have been addressed in a package that is currently in the rulemaking process. These rules should become effective in 2018.

28. If you have not adopted all amendments within three years from the date of NRC rule promulgation, briefly describe your State's procedures for amending regulations in order to maintain compatibility with the NRC, showing the normal length of time anticipated to complete each step.

DSHS is now subject to the requirements of the Health and Human Services Commission (HHSC) rulemaking process. This current process is still undergoing revisions at this time.

The first document shows HHSC's Step-by-Step Rulemaking Process Flowchart (Appendix C-1). The normal amount of time as determined by HHSC allows for each step is shown in the Rules Process Timeline (Appendix C-2). The procedure for rule development by the program prior to entering the rules process, including obtaining stakeholder input, is shown in the overall HHS Rulemaking Process Flow Chart (Appendix C-3). Based on our limited experience of the new process, a typical rule will take 2-3 years from the time drafting and stakeholder input begins to the effective date of an adopted rule.

II. Sealed Source and Device (SS&D) Evaluation Program

29. Prepare a table listing new and amended (including transfers to inactive status) SS&D registrations of sources and devices issued during the review period. The table heading should be:

SS&D Registry Number	Manufacturer, Distributor or Custom User	Product Type or Use	Date Issued	Type of Action

See Appendix C-4

30. Please include information on the following questions in Section A, as they apply to the SS&D Program:

Technical Staffing and Training - Questions 2-9
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

III. Low-level Radioactive Waste Disposal Program

31. Please include information on the following questions in Section A, as they apply to the Low-Level Radioactive Waste Disposal Program:

Technical Staffing and Training - Questions 2-9
Status of Materials Inspection Program - Questions 10-14
Technical Quality of Inspections - Questions 15-17
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

IV. Uranium Recovery Program

32. Please include information on the following questions in Section A, as they apply to the Uranium Recovery Program:

Technical Staffing and Training - Questions 2-9
Status of Materials Inspection Program - Questions 10-14
Technical Quality of Inspections - Questions 15-17
Technical Quality of Licensing Actions - Questions 18-22
Technical Quality of Incident and Allegation Activities - Questions 23-24

MATERIALS REQUESTED TO BE AVAILABLE FOR

THE ON-SITE PORTION OF AN IMPEP REVIEW

Please have the following information available for use by the IMPEP review team when they arrive at your office:

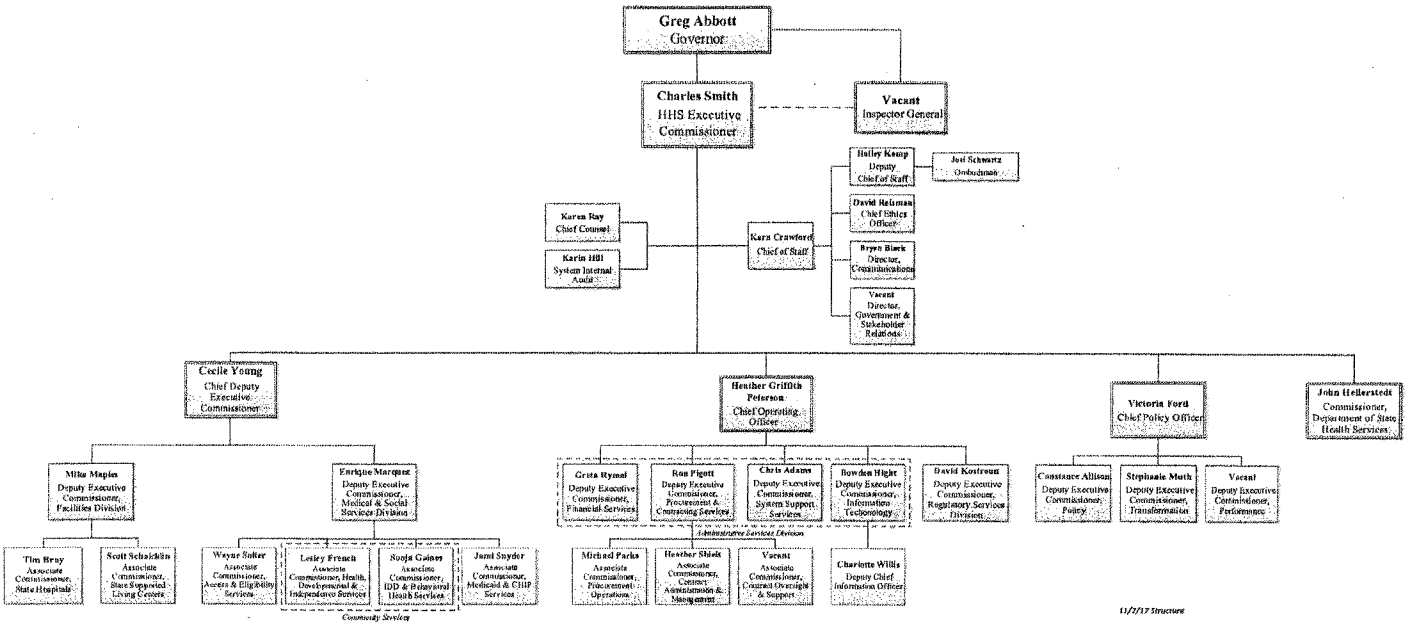
- List of open license cases, with date of original request, and dates of follow-up actions.
- List of licenses terminated during review period.
- Copy of current log or other document used to track licensing actions.
- List of all licensing actions completed during the review period (sorted by license reviewer, if possible).
- Copy of current log or other document used to track inspections.
- List of all inspections completed during the review period (sorted by inspector, if possible).
- List of inspection frequencies by license type.
- List of all allegations occurring during the review period. Show whether the allegation is open or closed and whether it was referred by NRC.
- List of all licenses that your agency has imposed additional security requirements upon.

ALSO, PLEASE HAVE THE FOLLOWING DOCUMENTS AVAILABLE:

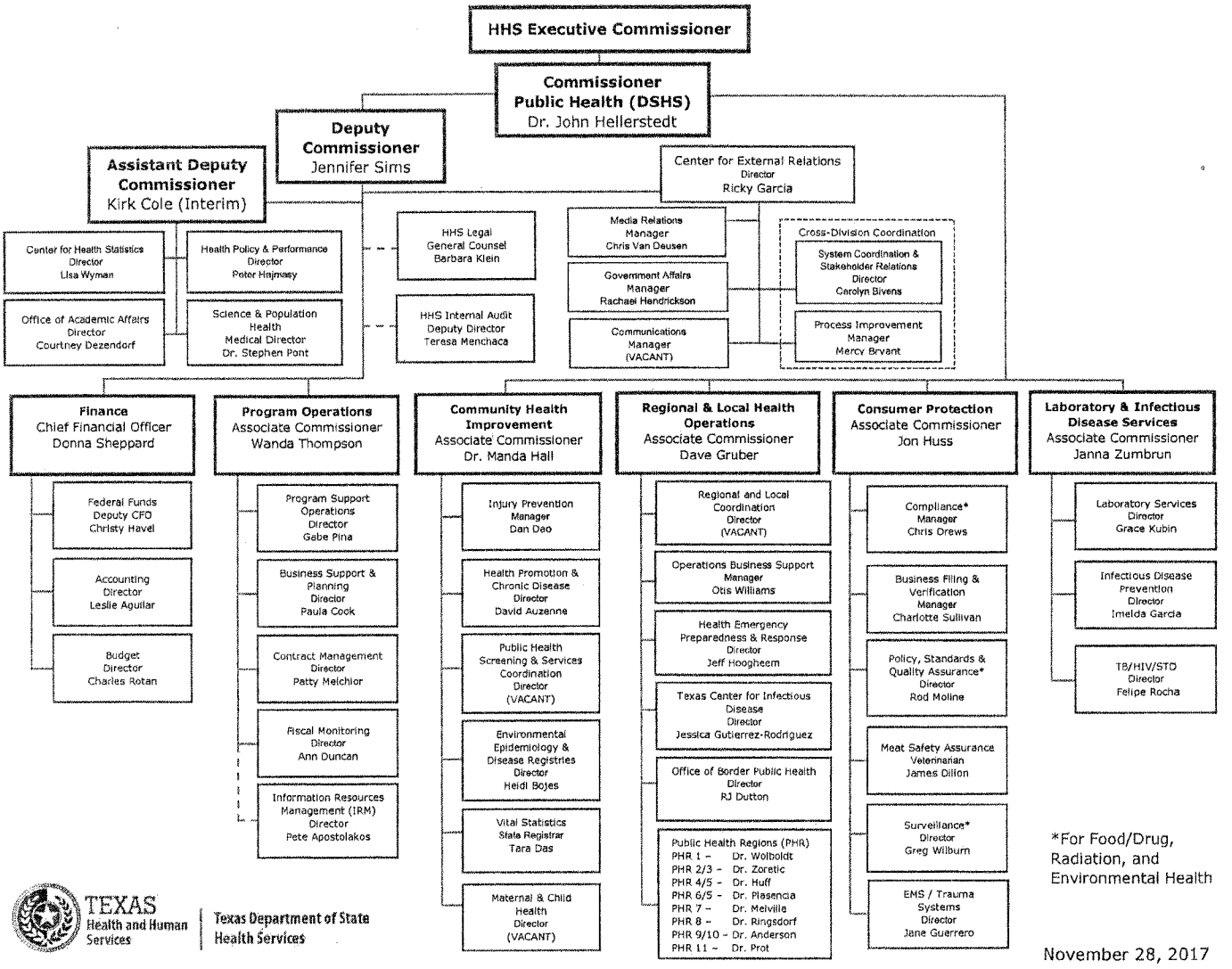
- All State regulations
- Statutes affecting the regulatory authority of the State program
- Standard license conditions
- Technical procedures for licensing, model licenses, review guides
- SS&D review procedures, guides, and standards
- Instrument calibration records
- Inspection procedures and guides
- Inspection report forms
- Documented training plan, if applicable

- Records of results of supervisory accompaniments of inspectors
- Emergency plan and communications list
- Procedures for investigating allegations
- Procedures for investigating incidents
- Enforcement procedures, including procedures for escalated enforcement, severity levels, civil penalties (as applicable)
- Job descriptions

Appendix B-1 Question 2 (a)



Appendix B-2 Question 2 (a)



*For Food/Drug, Radiation, and Environmental Health

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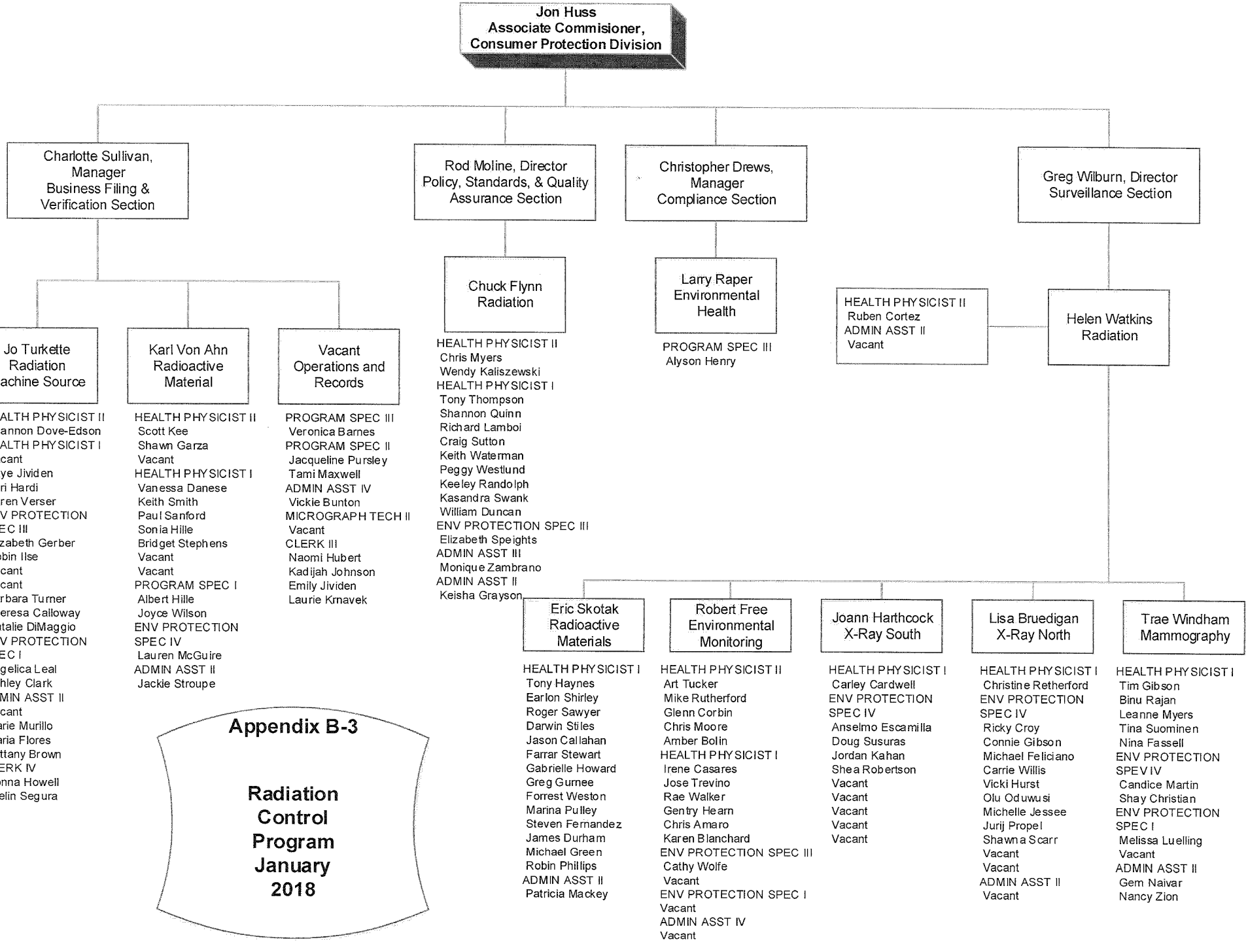
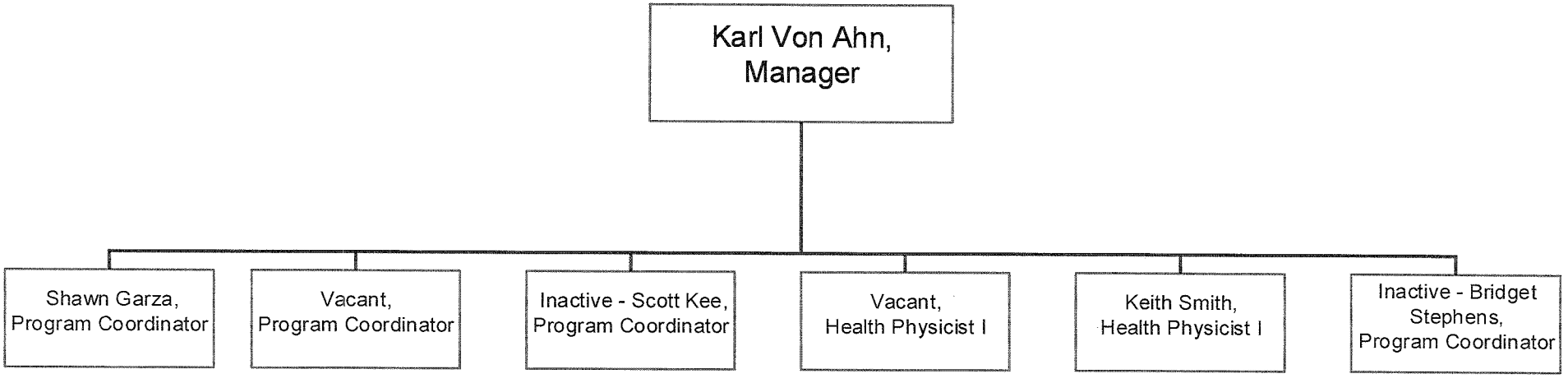
November 28, 2017


Jon Huss
Associate Commisioner,
Consumer Protection Division
Charlotte Sullivan,
Manager
Business Filing &
Verification Section
Rod Moline, Director
Policy, Standards, & Quality
Assurance Section
Christopher Drews,
Manager
Compliance Section
Greg Wilburn, Director
Surveillance Section
Jo Turkette
Radiation
Machine Source
HEALTH PHYSICIST II
Shannon Dove-Edson
HEALTH PHYSICIST I
Vacant
Kaye Jividen
Teri Hardi
Karen Verser
ENV PROTECTION
SPEC III
Elizabeth Gerber
Robin Ilse
Vacant
Vacant
Barbara Turner
Theresa Calloway
Natalie DiMaggio
ENV PROTECTION
SPEC I
Angelica Leal
Ashley Clark
ADMIN ASST II
Vacant
Marie Murillo
Maria Flores
Brittany Brown
CLERK IV
Donna Howell
Joelin Segura
Karl Von Ahn
Radioactive
Material
HEALTH PHYSICIST II
Scott Kee
Shawn Garza
Vacant
HEALTH PHYSICIST I
Vanessa Danese
Keith Smith
Paul Sanford
Sonia Hille
Bridget Stephens
Vacant
Vacant
PROGRAM SPEC I
Albert Hille
Joyce Wilson
ENV PROTECTION
SPEC IV
Lauren McGuire
ADMIN ASST II
Jackie Stroupe
Vacant
Operations and
Records
PROGRAM SPEC III
Veronica Barnes
PROGRAM SPEC II
Jacqueline Pursley
Tami Maxwell
ADMIN ASST IV
Vickie Bunton
MICROGRAPH TECH II
Vacant
CLERK III
Naomi Hubert
Kadijah Johnson
Emily Jividen
Laurie Krnavek
Chuck Flynn
Radiation
HEALTH PHYSICIST II
Chris Myers
Wendy Kaliszewski
HEALTH PHYSICIST I
Tony Thompson
Shannon Quinn
Richard Lamboi
Craig Sutton
Keith Waterman
Peggy Westlund
Keeley Randolph
Kasandra Swank
William Duncan
ENV PROTECTION SPEC III
Elizabeth Speights
ADMIN ASST III
Monique Zambrano
ADMIN ASST II
Keisha Grayson
Larry Raper
Environmental
Health
PROGRAM SPEC III
Alyson Henry
HEALTH PHYSICIST II
Ruben Cortez
ADMIN ASST II
Vacant
Helen Watkins
Radiation
Eric Skotak
Radioactive
Materials
HEALTH PHYSICIST I
Tony Haynes
Earlon Shirley
Roger Sawyer
Darwin Stiles
Jason Callahan
Farrar Stewart
Gabrielle Howard
Greg Gurnee
Forrest Weston
Marina Pulley
Steven Fernandez
James Durham
Michael Green
Robin Phillips
ADMIN ASST II
Patricia Mackey
Robert Free
Environmental
Monitoring
HEALTH PHYSICIST II
Art Tucker
Mike Rutherford
Glenn Corbin
Chris Moore
Amber Bolin
HEALTH PHYSICIST I
Irene Casares
Jose Trevino
Rae Walker
Gentry Hearn
Chris Amaro
Karen Blanchard
ENV PROTECTION SPEC III
Cathy Wolfe
Vacant
ENV PROTECTION SPEC I
Vacant
ADMIN ASST IV
Vacant
Joann Harthcock
X-Ray South
HEALTH PHYSICIST I
Carley Cardwell
ENV PROTECTION
SPEC IV
Anselmo Escamilla
Doug Susuras
Jordan Kahan
Shea Robertson
Vacant
Vacant
Vacant
Vacant
Vacant
Lisa Bruedigan
X-Ray North
HEALTH PHYSICIST I
Christine Retherford
ENV PROTECTION
SPEC IV
Ricky Croy
Connie Gibson
Michael Feliciano
Carrie Willis
Vicki Hurst
Olu Oduwusi
Michelle Jessee
Jurij Propel
Shawna Scarr
Vacant
Vacant
ADMIN ASST II
Vacant
Trae Windham
Mammography
HEALTH PHYSICIST I
Tim Gibson
Binu Rajan
Leanne Myers
Tina Suominen
Nina Fassell
ENV PROTECTION
SPEV IV
Candice Martin
Shay Christian
ENV PROTECTION
SPEC I
Melissa Luelling
Vacant
ADMIN ASST II
Gem Naivar
Nancy Zion
Appendix B-3
Radiation
Control
Program
January
2018

Appendix B-4
SS&D Org Chart



Appendix B-5 Question 3

Name	Position	Area of Effort	FTE%
Chris Amaro	WIPP Contract Trainer	Materials Compliance Emergency Response Administration	20 65 15
Karen Blanchard	Incident Investigator	Materials Compliance Emergency Response Administration	90 7 3
Amber Bolen	Emergency Planner/ Grant Coordinator	Materials Compliance Emergency Response Administration	5 50 45
Jason Callahan	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Irene Casares	Incident Investigator	Materials Compliance Emergency Response Administration	90 7 3
Glenn Corbin	Emergency Planner	Emergency Response Administration	95 5
Ruben Cortez	Radiation Safety Officer	Emergency Response Environmental Monitoring Instrument Calibration	10 60 30
Vanessa Danese	License Reviewer Medical and Academic, Industrial	Materials Licensing Emergency Response	95 5
William Duncan	Quality Assurance Reviewer	Materials Compliance Emergency Response Administration	92 5 3
James Durham	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Steven Fernandez	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Chuck Flynn	Manager PSQA Radiation	Administration Materials Compliance Emergency Response	85 10 5
Robert Free	Manager Environmental Monitoring Group	Materials Compliance Emergency Response Administration	40 30 30
Shawn Garza	Industrial Licensing Program Coordinator	Materials Licensing SS&D Emergency Response	85 10 5
Michael Green	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5

Name	Position	Area of Effort	FTE%
Greg Gurnee	Radioactive Materials, X-Ray, Mammography Inspector	Materials Compliance Emergency Response Administration	25 3 5
Tony Haynes	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Gentry Hearn	Incident Investigator	Materials Compliance Emergency Response Administration	90 7 3
Albert Hille	Program Specialist	Materials Licensing Emergency Response Administration	70 5 25
Sonia Hille	License Reviewer Industrial	Materials Licensing Emergency Response	95 5
Gabrielle Howard	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Scott Kee	Medical and Academic Licensing Program Coordinator	Materials Licensing SS&D Emergency Response	95 0 5
Richard Lamboi	Quality Assurance Reviewer	Materials Compliance Emergency Response Administration	92 5 3
Lauren McGuire	Environmental Protection Specialist	Materials Licensing IR Certification Emergency Response	55 40 5
Chris Moore	Incident Investigator/ Emergency Planner	Materials Compliance Emergency Response Administration	50 40 10
Chris Myers	Quality Assurance Reviewer	Materials Compliance Training Coordinator Emergency Response	85 10 5
Robin Phillips	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Marina Pulley	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Mike Rutherford	WIPP Contract Coordinator	Materials Compliance Emergency Response Administration	20 65 15
Paul Sanford	License Reviewer Medical and Academic	Materials Licensing Emergency Response	95 5

Name	Position	Area of Effort	FTE%
Roger Sawyer	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Earlon Shirley	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Eric Skotak	Manager Radioactive Materials Inspections	Materials Compliance Emergency Response Administration	60 5 35
Keith Smith	License Reviewer Industrial & Reciprocity	Materials Licensing SS&D Emergency Response	85 10 5
Liz Speights	Environmental Protection Specialist	Administration	100
Bridget Stephens	Industrial Radiography Certification Program Coordinator	IR Certification Emergency Response	95 5
Farrar Stewart	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Darwin (DD) Stiles	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Charlotte Sullivan	Manager Business Filing & Verification Section	Administration	10
Jose Trevino	Emergency Planner	Emergency Response Administration	95 5
Art Tucker	Incident Investigator	Materials Compliance Emergency Response Administration	90 7 3
Vacant	License Reviewer Medical and Academic	Materials Licensing Emergency Response	95 5
Vacant	Advanced Technology Licensing Program Coordinator	Materials Licensing SS&D Emergency Response	60 35 5

Name	Position	Area of Effort	FTE%
Vacant	Environmental Specialist	Materials Compliance Emergency Response Administration	35 15 50
Vacant	License Reviewer Medical and Academic	Materials Licensing SS&D Emergency Response	85 10 5
Karl Von Ahn	Manager Radioactive Materials Licensing	Materials Licensing SS&D Emergency Response	90 5 5
Rae Walker	Emergency Planner	Emergency Response Administration	95 5
Helen Watkins	Manager Radiation Branch	Emergency Response Administration	15 85
Peggy Westlund	Standards Development Specialist	Rules Development Emergency Response	95 5
Forrest Weston	Radioactive Materials Inspector	Materials Compliance Emergency Response Administration	92 3 5
Joyce Wilson	Industrial Radiography Certification Specialist	IR Certification Emergency Response	95 5
Cathy Wolfe	Environmental Specialist	Materials Compliance Emergency Response Administration	35 15 50

Appendix B-6 Question 4

Name	Group	Degree	Experience	Start Date
Michael Green	Inspections	Associates Degree Radiological Technology	3 years	9/14
Gabrielle Howard	Inspections	BS Nutrition	5 years	9/14
Darwin (DD) Stiles	Inspections	BS Health Professions	28 years	12/14
Farrar Stewart	Inspections	MS Environmental Science BS Bioenvironmental Sciences	1 year	8/15
Forrest Weston	Inspections	BS Psychology Associates Degree Nuclear Medicine	18 years	6/16
Marina Pulley	Inspections	MS Health Physics BS Radiological Health	2 years	7/17
Karl Von Ahn	Licensing	BS Biomedical Engineering	28 years	9/16
Chuck Flynn	PSQA	MS Nuclear Engineering BS Physics	43 years	7/14
William Duncan	PSQA	BS Nuclear Engineering	2 years	9/15
Richard Lamboi	PSQA	MS Physics MS Mechanical Engineering	11 years	11/16
Amber Bolen	Environmental Monitoring	MS Health Physics	10 years	12/17
Jose Trevino	Environmental Monitoring	PhD Nuclear Engineering/Health Physics	4 years	7/16

Appendix B-7 Question 5

Name	Title	Training Needed	Expected Completion Date
Marina Pulley	Inspector	G-108 Inspection Procedures H-304 Nuclear Medicine H-313 Brachytherapy & Gamma Knife G-205 Root Cause H-305 Industrial Radiography H-308 Transportation of RAM H-314 Well Logging	3/2018 5/2018 12/2017 3/2018 TBD 2018 6/2018 4/2018

Appendix B-8 Question 7

Name	Position	Date Departed
Barbara Taylor	Manager Radiation PSQA Group	Retired 4/14
David Wood	Quality Assurance Specialist	Resigned 1/15
Monica Perez	Rule Development Specialist	Retired 6/15
Scott Houchin	Quality Assurance Specialist	Resigned 6/15
Robert Green	Quality Assurance Specialist	Retired 5/16
Roger Winkelmann	Inspector	Retired 5/15
Chris Graves	Emergency Planner	Resigned 2/14
Chris Timmerman	Emergency Planner	Resigned 8/15
Anselmo Escamilla	Environmental Specialist	Transfer to X-Ray 1/15
Carly Hanson	License Reviewer Medical / Academic	Resigned 9/14
Carley Cardwell	License Reviewer Medical / Academic	Transfer to X-Ray 6/15
Derek Phillips	Inspector	Resigned 5/14
Elizabeth Sanders	Inspector	Resigned 12/15
Linda Volek	Manager Operation & Records Group	Retired 11/15
Krisztina Nemeti	Inspector	Resigned 12/15
Sabra Schray	Inspector	Retired 12/16
Richard Ratliff	Manager Radiation Safety Licensing Branch	Resigned 2/16
Ray Fleming	Manager RAM Licensing Group	Resigned 2/16
Jason Kelly	License Reviewer Advanced Technology Program Coordinator	Resigned 7/17
Stephen Stoutenburg	License Reviewer Medical / Academic	Resigned 12/17
Nicole Traphan	Environmental Specialist	Resigned 10/17

Appendix B-9 **Question 8**

Position	Date Vacated	Attempts to Fill
License Reviewer Medical and Academic	6/15	Position is currently posted.
License Reviewer Medical and Academic	12/17	Position is currently posted.
Environmental Specialist	10/17	Position posting has closed. In process of scheduling interviews.
Advanced Technology Program Coordinator/License Reviewer	7/17	Position is currently posted.

Appendix B-10 Question 9

Texas Radiation Advisory Board 1100 West 49th Street Austin, Texas 78756-3189 512-834-6688	
Stephen Harris Labor 2019	Mitchell Lucas, P.E. Nuclear Utility 2019
Vacant Public 2017	Frank M. Leavell, D.D.S. Dentist 2021
William (Bill) C. Campbell Insurance 2019	Darlene Metter, M.D. Nuclear Medicine 2019
Darshan J. Sachde Public 2019	John R Johnson, D.V.M. Agriculture 2017
Melissa Shorey Public 2021	Judith Raab Petroleum Well Service Industry 2019
John P. Hageman, MS, CHP Health Physics 2017	Simon Trubek, M.D. Radiology 2021
Gerald (Tim) Powell Radioactive Waste 2021	Kevin L. Raabe Uranium 2017
Kenneth V. Krieger Industry 2021	Mark A. Silberman, M.D. Pathology 2017
Mark C. Harvey, Ph.D. Nuclear Physics in Medicine 2021	Robert J. Emery DrPH. Hospital Administration 2017

Appendix B-11 Question 12

License-Site	Licensee	Priority	Previous Inspection	Date Paid	Under Review	Days Overdue	Notice Code Date	Inspection to Notice	Main Site
L00269-000	CHRISTUS HEALTH SOUTHEAST TEXAS	2	07/12/2013	1/11/2016	02/11/2016	31	3/1/2016	19	Y
L00331-000	SCOTT & WHITE MEMORIAL HOSPITAL	2	09/26/2011	3/27/2014	08/21/2014	147	9/24/2014	34	Y
L00358-002	BAPTIST HOSPITAL OF SOUTHEAST TEXAS	2	08/13/2013	2/12/2016	02/17/2016	5	3/11/2016	23	Y
L00442-004	HALLIBURTON ENERGY SERVICES INC	3	11/02/2010	8/2/2014	08/28/2014	26	9/19/2014	22	Y
L00457-000	THE METHODIST HOSPITAL	2	07/01/2013	12/31/2015	01/06/2016	6	1/11/2016	5	Y
L00845-001	HILLCREST BAPTIST MEDICAL CENTER	2	03/14/2012	9/13/2014	06/29/2016	655	7/20/2016	21	Y
L01186-000	THERMO FINNIGAN LLC	2	02/08/2012	8/9/2014	09/19/2014	41	10/2/2014	13	Y
L01212-000	CHRISTUS HEALTH SOUTHEAST TEXAS	2	08/09/2013	2/8/2016	02/25/2016	17	3/23/2016	27	Y
L01575-000	BERRY GP INC	1	03/20/2013	6/19/2014	08/13/2015	420	8/31/2015	18	Y
L01575-000	BERRY GP INC	1	08/13/2015	11/11/2016	05/11/2017	181	5/18/2017	7	Y
L01821-000	TEXAS A&M UNIVERSITY KINGSVILLE	3	05/17/2010	2/14/2014	03/27/2014	41	4/11/2014	15	Y
L02712-000	NON-DESTRUCTIVE INSPECTION CORPORATION	1	01/15/2015	4/15/2016	06/13/2017	424	6/22/2017	9	Y
L02739-000	COLUMBIA MED CTR OF LEWISVILLE SUBSIDIAR	2	03/24/2011	9/22/2013	11/12/2014	416	12/3/2014	21	Y
L03052-002	MEMORIAL HERMANN HEALTH SYSTEM	3	06/30/2010	3/30/2014	05/19/2016	781	5/25/2016	6	Y
L03062-002	SUNTRAC SERVICES INC	2	03/06/2015	9/4/2017	09/19/2017	15	9/25/2017	6	Y
L03115-000	GOOLSBY TESTING LABORATORIES INC	1	01/15/2014	4/16/2015	04/22/2015	6	5/5/2015	13	Y
L03158-000	ANDREWS COUNTY HOSPITAL DISTRICT	3	07/27/2011	4/26/2015	05/21/2015	25	6/18/2015	28	Y
L03290-000	KNAPP MEDICAL CENTER	3	01/16/2013	10/16/2016	10/21/2016	5	11/21/2016	31	Y
L03398-000	CARDINAL HEALTH	2	05/15/2013	11/14/2015	02/24/2016	102	3/17/2016	22	Y
L03424-000	NEW MEDICAL HORIZONS II LTD	3	12/08/2010	9/7/2014	09/09/2014	2	10/10/2014	31	Y
L03524-002	THERMO PROCESS INSTRUMENTS LP	2	07/11/2012	1/10/2015	01/12/2015	2	2/2/2015	21	Y
L03651-001	TESTMASTERS INC	1	09/22/2014	12/22/2015	01/14/2016	23	1/27/2016	13	Y
L03772-000	MEMORIAL HERMANN HEALTH SYSTEM	2	09/02/2011	3/3/2014	03/05/2014	2	3/28/2014	23	Y
L03816-000	D-ARROW INSPECTION INC	1	06/25/2013	9/24/2014	10/02/2014	8	10/21/2014	19	Y
L04169-004	RADIOLOGY ASSOCIATES LLP	3	08/09/2011	5/9/2015	06/02/2015	24	6/17/2015	15	Y
L04283-000	ISOTECH LABORATORIES INCORPORATED	3	09/13/2012	6/13/2016	08/04/2016	52	8/26/2016	22	Y
L04482-000	K P H CONSOLIDATION INC	3	11/16/2011	8/16/2015	12/07/2016	479	12/27/2016	20	Y
L04612-000	TEXAS CHILDRENS HOSPITAL	2	06/13/2012	12/13/2014	01/21/2015	39	2/10/2015	20	Y
L04619-003	BLAZER INSPECTION	1	02/13/2013	5/15/2014	05/21/2014	6	6/12/2014	22	Y
L04883-002	SPECIALTY PHARMACY SERVICES INC	2	06/02/2012	12/2/2014	12/11/2014	9	1/2/2015	22	Y
L04910-000	ST DAVIDS HEALTHCARE PARTNERSHIP LP LLP	2	12/13/2012	6/14/2015	06/24/2015	10	7/16/2015	22	Y
L04999-002	ECOSERV ENVIRONMENTAL SERVICES LLC	3	06/30/2010	3/30/2014	01/06/2016	647	1/12/2016	6	Y
L05009-001	TEXAS NUCLEAR IMAGING INC	3	05/05/2011	2/2/2015	12/15/2016	682	1/4/2017	20	Y
L05113-004	N-SPEC QUALITY SERVICES INCORPORATED	1	04/06/2016	7/6/2017	08/23/2017	48	9/6/2017	14	Y
L05220-001	MANDES INSPECTION & TESTING INC	1	01/22/2015	4/22/2016	04/26/2016	4	5/17/2016	21	Y
L05347-000	NXP USA INC	3	12/07/2010	9/6/2014	09/15/2014	9	10/2/2014	17	Y
L05561-005	TEXAS GAMMA RAY LLC	1	03/30/2016	6/29/2017	08/16/2017	48	8/24/2017	8	Y
L05566-000	CHOPRA IMAGING CENTER INC	3	08/18/2010	5/18/2014	05/20/2014	2	6/12/2014	23	Y
L05585-000	HOUSTON CYCLOTRON PARTNERS LP	2	08/09/2012	2/8/2015	02/12/2015	4	2/26/2015	14	Y
L05585-000	HOUSTON CYCLOTRON PARTNERS LP	2	02/12/2015	8/13/2017	08/18/2017	5	8/25/2017	7	Y
L05591-000	AUSTIN NUCLEAR PHARMACY INC	2	05/17/2012	11/16/2014	12/10/2014	24	12/31/2014	21	Y
L05801-001	UNITED STATES ENVIRONMENTAL SVCS LLC	3	10/18/2010	7/18/2014	09/09/2014	53	9/29/2014	20	Y
L05901-000	MILLENNIUM PHYSICIANS ASSOC PLLC	3	11/16/2011	8/16/2015	12/08/2015	114	12/29/2015	21	Y
L05969-000	ISOTHERAPEUTICS GROUP LLC	2	05/11/2011	11/9/2013	02/06/2015	454	2/25/2015	19	Y
L05969-000	ISOTHERAPEUTICS GROUP LLC	2	02/06/2015	8/7/2017	09/11/2017	35	9/25/2017	14	Y
L06020-000	NORTH CYPRESS MED CTR OPERATING CO LLC	2	02/27/2014	8/28/2016	12/29/2016	123	1/9/2017	11	Y
L06044-000	RADIOMEDIX INC	2	09/01/2011	3/2/2014	05/11/2015	435	6/9/2015	29	Y
L06094-000	NATIONAL OILWELL VARCO LP	2	01/10/2013	7/12/2015	08/06/2015	25	8/26/2015	20	Y
L06190-000	HOUSTON NORTHWEST OPERATING CO LLC	2	05/23/2012	11/22/2014	12/04/2014	12	12/15/2014	11	Y
L06206-000	TEXAS ONCOLOGY PA	2	08/17/2011	2/15/2014	04/07/2014	51	4/24/2014	17	Y
L06223-000	CROWN IMAGING LLC	3	12/09/2009	9/8/2013	02/19/2014	164	3/7/2014	16	Y
L06224-001	LIGHTHOUSE ENVIRONMENTAL SERVICES INC	3	04/29/2011	1/27/2015	03/24/2015	56	4/13/2015	20	Y
L06227-000	UNIVERSITY OF TEXAS MD ANDERSON CANCER	2	04/18/2012	10/18/2014	11/07/2014	20	11/20/2014	13	Y
L06235-000	TURNER INDUSTRIES GROUP LLC	2	07/03/2014	1/1/2017	01/10/2017	9	1/30/2017	20	Y
L06240-000	TEXAS ONCOLOGY	3	09/13/2012	6/13/2016	02/20/2017	252	3/13/2017	21	Y
L06293-000	APPLIED RIGAKU TECHNOLOGIES INC	2	04/11/2012	10/11/2014	10/22/2014	11	11/4/2014	13	Y
L06310-000	FLOWER MOUND HOSPITAL PARTNERS LLC	3	01/12/2011	10/12/2014	04/23/2015	193	5/11/2015	18	Y
L06334-000	TRIAD ISOTOPES INC	2	03/26/2012	9/25/2014	10/17/2014	22	11/6/2014	20	Y
L06366-000	THE UNIVERSITY OF TEXAS MD ANDERSON CANCE	2	03/29/2012	9/28/2014	10/01/2014	3	10/27/2014	26	Y
L06385-000	SUREFIRE INDUSTRIES USA, LLC	2	04/03/2012	10/3/2014	10/22/2014	19	11/14/2014	23	Y
L06385-000	SUREFIRE INDUSTRIES USA, LLC	2	10/22/2014	4/22/2017	06/07/2017	46	unlocatable licensee, no notice		Y
L06417-002	AMERAPEX CORPORATION	1	10/07/2015	1/5/2017	01/12/2017	7	2/9/2017	28	Y
L06426-000	SUNSET WELL SERVICE INC	3	12/09/2011	9/8/2015	09/18/2015	10	12/1/2015	74	Y
L06437-000	TEXAS GULF COAST VETERINARY SPECIALIST PLL	3	08/02/2012	5/2/2016	05/10/2016	8	5/25/2016	15	Y
L06465-000	TEXAS ONCOLOGY PA	2	08/14/2013	2/13/2016	12/07/2016	298	12/20/2016	13	Y
L06611-000	CONTROL AND INSPECTION SERVICES USA CORPO	1	03/18/2016	6/17/2017	07/05/2017	18	7/24/2017	19	Y
L06669-001	VERSA INTEGRITY GROUP INC	1	09/21/2015	12/20/2016	12/30/2016	10	1/11/2017	12	Y
L06703-000	CODE COMPLIANCE INSPECTION LLC	1	02/16/2016	5/17/2017	08/24/2017	99	9/18/2017	25	Y

Priority 1, 2, & 3 inspections (main site only) performed overdue 2014: 22
Priority 1, 2, & 3 inspections (main site only) performed overdue 2015: 15
Priority 1, 2, & 3 inspections (main site only) performed overdue 2016: 18
Priority 1, 2, & 3 inspections (main site only) performed overdue 2017: 13

Total Priority 1, 2, & 3 inspections (main site only) performed overdue: 68
Percentage of Priority 1, 2, & 3 inspections performed overdue: 6.5%

Appendix B-12 Question 12

License-Site	Licensee	Priority	Issue Date	Due Date	Initial Inspection	Days Overdue	Notice Issue Date	Days Inspection To Notice	Main Site
L06530-000	CIMA SERVICES LP	3	01/22/2013	1/22/2014	02/19/2014	28	3/7/2014	16	Y
L06547-000	WILSONART LLC	5	04/19/2013	4/19/2014	09/22/2014	156	10/14/2014	22	Y
L06574-000	GOODALL WITCHER HOSPITAL AUTHORITY	5	08/28/2013	8/28/2014	11/03/2014	67	11/24/2014	21	Y
L06581-000	FRONTIER TUBULAR SOLITIONS LLC	5	09/27/2013	9/27/2014	10/24/2014	27	11/17/2014	24	Y
L06644-000	MOTLEY SERVICES	3	05/08/2014	5/8/2015	05/18/2015	10	10/14/2015	149	Y
L06653-000	LOCKHEED MARTIN CORPORATION	2	06/11/2014	6/11/2015	06/16/2015	5	7/8/2015	22	Y
L06672-000	NABIL M ATTAYA MD PA	5	10/10/2014	10/10/2015	12/14/2015	65	1/12/2016	29	Y
L06762-000	JACINTO MEDICAL CENTER LP	5	01/05/2016	1/4/2017	01/10/2017	6	1/27/2017	17	Y
L06798-000	UROLOGY AUSTIN PLLC	3	08/09/2016	8/9/2017	09/20/2017	42	10/12/2017	22	Y

Initial inspections (main site only) performed overdue 2014: 4
Initial inspections (main site only) performed overdue 2015: 3
Initial inspections (main site only) performed overdue 2016: 0
Initial inspections (main site only) performed overdue 2017: 2

Total initial inspections (main site only) performed overdue: 9

Percentage of initial inspections performed overdue: 4.5%

Appendix B-13 Question 16

Inspector	Supervisor	License Category	Date
Jason Callahan	Eric Skotak	Nuclear Pharmacy Self-Contained Irradiator Industrial Radiography Remote Control Brachy	8/11/2014 12/8/2015 11/17/2016 10/19/2017
James Durham	Eric Skotak	Industrial Radiography Well Logging Self-Contained Irradiator Industrial Radiography	4/29/2014 12/9/2015 7/19/2016 6/13/2017
Steven Fernandez	Eric Skotak	Retired Rehired/Requalified Well Logging Industrial Radiography	2012 9/29/2015 1/12/2016 6/13/2017
Michael Green	Eric Skotak	In Training Manuf/Distribution Radiopharmaceutical Manuf	2015 10/26/2016 8/22/2017
Greg Gurnee	Eric Skotak	Irradiator Unshielded Remote Control Brachy Irradiator Unshielded Industrial Radiography	5/21/2014 9/15/2015 10/11/2016 3/14/2017
Tony Haynes	Eric Skotak	Manuf/Distribution Industrial Radiography Manuf/Distribution Remote Control Brachy	7/16/2014 12/17/2015 3/31/2016 10/4/2017
Gabrielle Howard	Eric Skotak	In Training Industrial Radiography Industrial Radiography	2015 10/25/2016 10/17/2017
Robin Phillips	Eric Skotak	Industrial Radiography Industrial Radiography Manuf/Distribution Well Logging	7/15/2014 12/16/2015 10/27/2016 9/13/2017
Marina Pulley	Eric Skotak	Hired/In Training	7/24/2017
Elizabeth Sanders	Eric Skotak	Industrial Radiography Portable Gauge Separated from Program	4/15/2014 10/5/2015 12/1/2015
Roger Sawyer	Eric Skotak	In Training Calibration/Ref Source Nuc Med Diagnostic Nuclear Pharmacy	2014 10/8/2015 9/20/2016 8/30/2017
Earlon Shirley	Eric Skotak	Gamma Knife Industrial Radiography Instrument Calibration Industrial Radiography	4/28/2014 4/28/2015 9/13/2016 4/13/2017

Appendix B-13 Question 16

Inspector	Supervisor	License Category	Date
Sabra Schray	Eric Skotak	Gamma Knife Self-Contained Irradiator Irradiator Unshielded Separated from Program	4/17/2014 4/29/2015 8/6/2016 12/31/2016
Farrar Stewart	Eric Skotak	In Training Industrial Radiography	2016 7/18/2017
Darwin Stiles	Eric Skotak	In Training Industrial Radiography	2016 8/8/2017
Forest Weston	Eric Skotak	In Training	2017
Roger Winkelmann	Eric Skotak	Gamma Knife Separated from Program	4/6/2014 4/30/2015

Appendix B-14 Question 17

Name	Instrument	Calibration Date
Jason Callahan	Ludlum 2241 Thermo RadEye SPRD-GN	9/26/2017 2/3/2017
James Durham	Ludlum 2241 Thermo RadEye SPRD-GN	9/26/2017 2/3/2017
Michael Green	Ludlum 2241 Thermo RadEye SPRD-GN	8/18/2017 2/3/2017
Steven Fernandez	Ludlum 2241 Thermo RadEye SPRD-GN	8/30/2017 6/8/2017
Greg Gurnee	Ludlum 2241 Thermo RadEye SPRD-GN	10/4/2017 7/11/2017
Tony Haynes	Ludlum 2241 Thermo RadEye SPRD-GN	5/16/2017 5/3/2017
Gabrielle Howard	Ludlum 2241 Thermo RadEye SPRD-GN	8/18/2017 2/3/2017
Robin Phillips	Ludlum 2241 Thermo RadEye SPRD-GN	8/30/2017 6/8/2017
Marina Pulley	Ludlum 2241 Thermo RadEye SPRD-GN	8/30/2017 2/3/2017
Roger Sawyer	Ludlum 2241 Thermo RadEye SPRD-GN	8/17/2017 2/3/2017
Earlon Shirley	Ludlum 2241 Thermo RadEye SPRD-GN	8/30/2017 2/3/2017
Eric Skotak	Ludlum 2241 Thermo RadEye SPRD-GN	10/25/2017 6/8/2017
Farrar Stewart	Ludlum 2241 Thermo RadEye SPRD-GN	8/17/17 6/8/2017
Darwin (DD) Stiles	Ludlum 2241 Thermo RadEye SPRD-GN	8/18/2017 6/8/2017
Forrest Weston	Ludlum 2241 Thermo RadEye SPRD-GN	10/4/2017 2/3/2017

RADIATION SURVEY INSTRUMENT CALIBRATION AND MAINTENANCE PROCEDURES

TEXAS DEPARTMENT OF STATE HEALTH SERVICES

BACKGROUND

Calibration of portable radiation survey instruments is a process which may be conducted with varying degrees of accuracy and precision. Both are a function of the facilities and equipment, time, personnel and financial resources available to perform the calibration. The object of calibrating an instrument intended for routine use is to ensure that its accuracy is adequate under the conditions in which it is used (ICRU 1976). The following set of procedures has been written in order to document the conditions under which portable survey instruments are currently being calibrated at the Texas Department of State Health Services, and to establish the procedures for users of portable survey instruments which assure that a minimum set of precautions are observed in the field to verify that the instruments function properly and that the calibration is valid.

Proper care of radiation detection and measuring equipment, as with all equipment, is the primary mechanism for insuring its proper functioning. Each individual to whom an instrument is assigned also has assigned the responsibility to perform frequent checks on the equipment to assure its proper functioning and to report immediately any problem which, based on their experience and familiarity with their survey instrumentation indicates a particular instrument is not functioning reliably. Further discussion of these responsibilities will be presented later in the text.

In order to facilitate communications regarding any problems encountered with portable radiation detection and measuring equipment, when practicable, a copy of the manufacturer's manual for each instrument and detector commonly used will be included as part of this manual. Additionally, familiarity with the operational characteristics of each instrument an inspector uses should enhance his abilities to perform surveys. Whenever possible, the manufacturer's calibration procedures will be followed. Significant deviations from manufacturer's suggested procedures will be verified with the manufacturer, prior to implementation or have a rationale developed and in both cases documented in the manual.

CONSTANCY CHECKS AND MAINTENANCE

As soon after calibration as possible each inspector should check his/her instrument against a small check source, such as those provided in the check source kits. One should use the same source each time the instrument is checked and one should also be sure to position the source at the same location on or near the detector.

This check should be made on all detectors, not just those that are calibrated as a means of assuring oneself that the operating characteristics of the detectors and the rate meter have not changed. The GM detectors should be checked daily, since they are used routinely to determine compliance. Other detectors may be checked less frequently. Each region should have an appropriate source of radiation for each of the common types of radiation except, of course, neutrons.

Sodium iodide detectors should be checked regularly for changes in response in established radiation fields. Crystals which have been fractured or which have begun to swell and discolor (they will become yellow as iodine is released) will demonstrate significantly lower count rates than normal. Although less frequent a problem photomultiplier tubes may also go bad. Generally, a bad

photomultiplier tube will be manifested by a sudden rise in count rate with no apparent cause. A damaged photomultiplier tube, however, might demonstrate a decreased count rate if one of the dynodes were displaced.

As well as checking the detectors frequently, each inspector should also check batteries and battery contacts frequently. Also if the instrument is to be stored for more than thirty days the batteries should be removed[1]. In humid climates the indicator/desiccant should be checked every month at a minimum and dried as described in "Preparation for Calibration" when necessary. Cleaning battery contacts every three months will also prevent unexpected losses of power and provide an opportunity to check the condition of the batteries periodically[2].

One should be mindful that the calibration of an instrument takes place under a fairly stringently defined set of conditions. Although one would like for these conditions to match those encountered in the field, they rarely do. When making measurements to determine compliance one should to the degree possible use the detector or instrument in the same orientation to the source of radiation as it had during calibration. One should be aware of significant differences in the energy or distribution of energies of the radiations which he is measuring compared to those used during calibration. Note should be made of whether radiation is being measured under broad or narrow beam conditions and whether or not other types of radiation may be present which might interfere with the measurement.

PREPARATION FOR CALIBRATION

Prior to bringing a survey instrument in for calibration each inspector should determine that the batteries are good or, if necessary, replace them. Additionally, in the case of ionization chamber instruments each inspector shall make sure that the indicator/desiccant is dry. If not, it may be dried by pouring it into a dish and heating it in a microwave oven until it turns dark blue or by placing it in a conventional oven and heating it for twelve hours at 250°F or one hour at 400°F[3]. Always allow sufficient time for the indicator/desiccant to cool before replacing it in its holder.

CALIBRATION PROCEDURES

CALIBRATION FACILITIES

At present all portable survey instruments, except the MDH's are calibrated at the Radiation Controls calibration range. The calibration range is located at the Health and Human Services Warehouse on Technology Blvd in Austin. The range is in a 40ft by 40ft room off the main warehouse floor and currently implements the use of two J.L. Shepherd model 28-6A collimated beam calibrators. One calibrator originally contained a Cesium-137 source of 120 mCi (4.44 GBq). Source output was verified by the manufacturer to be 40.9 mR hr^{-1} (1.055E-5 C $kg^{-1}hr^{-1}$) on August 31, 1989 utilizing the 45° collimator. This reading was taken using an MDH Industries model 2025 X-ray Monitor, calibrated by National Institute of Standards and Technology (NIST), report no. DG8640/87. This is in close agreement (3.2%) with a calculated exposure rate of 39.6 mR hr^{-1} (1.022E-5 C $kg^{-1}hr^{-1}$) from a 120 mCi source.

Subsequent measurements made by the DSHS's personnel on October 3, 1991, using Victoreen R chambers (traceable to NIST test no DG8953/89), produced an average, measured exposure rate 37.9 mR hr^{-1} (9.78E-6 C $kg^{-1}hr^{-1}$) with the 45° collimator. The calculated field based on the activity of

source as of 10/8/91 would be 37.72 mR hr^{-1} (9.73E-6 C $kg^{-1}hr^{-1}$). The difference between the calculated and measured numbers is 0.5%.

The other calibrator originally contained a Cesium-137 source of 1.2 Ci (44.4 GBq). Source output was verified by the manufacturer to be 312 mR hr^{-1} (8.05 C $kg^{-1}hr^{-1}$) on December 6, 1998, utilizing the 30° collimator. This reading was taken using an MDH Industries model 2025 X-ray Monitor, calibrated by NIST, report no. DB917/114. This is in agreement with a calculated exposure rate of 396 mR hr^{-1} (1.022E-4 C $kg^{-1}hr^{-1}$) from a 1.2 Ci source. Since the source is 10 times stronger than the previous source the beam edges for the 10 and 30 degree collimators are marked on the floor.

Also available for calibration is a CDV-784 calibrator that originally contained a Cesium-137 source of 130 Ci. Source output was verified by Civil Defense program to be 130 Ci on October 25, 1983.

CALIBRATION PERSONNEL

The individual who will supervise the instrument calibration will have experience in general health physics, the handling of sealed sources, operation of calibrators, and the use and maintenance of the survey meters to be calibrated.

CONDITIONS OF CALIBRATION

Calibrations may be carried out in several ways:

(1) By national standards laboratories using calibration standards of the highest possible accuracy.
(2) By major government, academic, research or industrial laboratories using institutional standards established by careful comparison with a national standard.
(3) By other groups using working standards (reference instruments) of lesser accuracy that are periodically calibrated by comparison with one of the above-mentioned national or institutional standards (ICRU 1976).

The calibration method described in this procedure falls into the third category.

All calibrations will be conducted within the temperature range 25±10°C (ANSI 1978). Additionally, no correction will be made for temperature or air pressure when calibrating ionization chamber instruments which operate at atmospheric pressure. The temperature and air pressure at the time of calibration will be noted on each calibration record and can be used by the inspectors in order to determine actual exposure rates when making measurements in the field (see attached air density correction table). Each inspector may apply this correction factor to normalize the reading to the standard conditions of calibration, then apply the correction factor appropriate for the temperature and air pressure to the corrected reading obtained at the time and date of his survey in order to obtain a more accurate measurement. Or the inspector may choose to apply the actual reading without making adjustments for variations over a reasonable range in temperature and air pressure.

Although "free space geometry should be achieved for photon... instrument calibration" (ANSI 1978), some contribution from scatter will occur due to the physical constraints imposed by available facilities and equipment. Tests have been conducted at DSHS in order to ascertain the effects of scatter from collimation, surrounding surfaces and supporting materials. No discernible effects were noted[4].

The current activity of the source is calculated as a minimum semiannually. Using the inverse square relationship distances are then calculated in order to obtain a one quarter and three quarter scale reading on each scale of each instrument. Some scales may not be calibrated or may only have a single calibration point. The calibration reports will be annotated accordingly[5]. Remote GM detectors will be calibrated with the long axis of the detector perpendicular to the central axis of the beam.

If the detector has a window, the window will be closed during calibration. Other GM detectors such as end window or pancake types will not routinely be calibrated for photon radiation fields. Instruments with internal detectors or chambers will be calibrated with the instrument facing the source of radiation, and the chamber's or detector's center at the distance from the source designated as the calibration point and with the center of the detector or chamber within a few centimeters of the central axis of the beam in the vertical and horizontal planes. In all cases calibrations will be performed in such a manner that the sensitive volume of the detector or chamber is fully encompassed by the beam[6].

A calibration shall consist of a comparison of the instrument's response to a known radiation field at two points on each scale. If an adjustment to the instrument is needed, it will only be made at one of these points. Should the instrument not respond to within ±10% of the second reading on that scale when checked in the appropriate radiation field, it will be replaced and scheduled for maintenance and/or repair. It should be noted that the error in the reading only relates to the error allowed between the calculated radiation field and the response of the instrument. It does not include the error in the calculation, the error in measurement of the distance, the error in any instrument used to measure the exposure rate or the error in the primary standard. If care is taken, however, the sum of these "unexpressed" errors should not exceed 10% (IAEA 1971).

The high voltage will not be checked; modern power supplies should generally be capable of providing stable high voltages to within a few per cent or better (IAEA 1971). Nor will an electronic calibration (a check of the linearity of the scale of the rate meter) be performed as part of routine calibration procedures. If an instrument cannot be calibrated within specification in the appropriate radiation fields, then in will be replaced and sent for maintenance and/or repair.

1 Ludlum Measurements, Instruction Manual Model 12s Miro R Meter, Section 6- Maintenance, 1999
2 Eberline, RO-20 Ion chamber Technical Manual, Section 4- Maintenance, 1995
3 Eberline, RO-20 Ion chamber Technical Manual, Section 4- Maintenance, 1995
4 Meyer, R. 2nd Correction to Memo re: Estimate of Error for Calibration Procedures, Internal Memo from Russ Meyer to Richard Ratliff, Texas Department of Health, Bureau of Radiation Control, dated November 20, 1991
5 Texas Department of Health, Bureau of Radiation Control. Regulatory Guide 5.2, Guide for the Preparation of Survey Instrument Calibration Applications, 1982
6 Texas Department of Health, Bureau of Radiation Control, Regulatory Guide 5.2, Guide for the Preparation of Survey Instrument Calibration Applications, 1982

PROCEDURES FOR SPECIFIC INSTRUMENTS

LUDLUM MODEL 14-C GEIGER COUNTER

This instrument will be calibrated only with the remote GM detector Models 44-6 or 44-38 series. The calibration will be carried out in the manner specified in the general section entitled Conditions of Calibration. Only one point will be checked on the x0.1 and x1000 (internal detector) scales. Ludlum model 14Cs currently in use by the Bureau come with three different meter faces. Meter faces can be distinguished by the location of the x100 scale in comparison with the other two scales. There are two Calibration Record sheets available to document the calibration of the instrument, one sheet is use if the x100 scale is in the middle of the face plate and the second is used otherwise.

LUDLUM MODEL 12S or 19 MICRO METER

This instruments calibration will be carried out in the manner specified in the general section entitled Conditions of Calibration. Contrary to recommendations by the manufacturer no attempt will be made during **routine** calibration procedures to calibrate each range with a pulser or establish a voltage plateau.

LUDLUM MODEL 2241 SCALER AND RATEMETER

This instrument will be calibrated with the remote GM detector Models 44-38 series. The calibration will be carried out in the manner specified in the general section entitled Conditions of Calibration. A minimum of three decades will be checked covering a range of 5 to 500 Roentgens per hour. The high range detector will be calibrated over a range of 3 decades and will have at least one of the reading be greater than one Roentgen per hour. The 1x1 sodium iodide detector will be calibrated at a minimum of three points over a range of 20 to 2000 micro-Roentgens per hour.

RADeCO MODEL H809 LOW VOLUME AIR SAMPLERS

Calibration only occurs at a flow rate of two cubic feet per minute. All samples will be collected at this flow rate. The instruments used to calibrate the RADeCO model H810 air samplers are either the RADeCO model 812 and/or 828 calibrators. These are returned to the manufacturer once a year for calibration.

RADeCO MODEL H810 LOW VOLUME AIR SAMPLERS

Routine calibration verifies a flow rate of two to four cubic feet per minute. If routine calibration is not with ten percent of the calibrators value, the sampler with be calibrated in accordance with technical manual to low value of up to one cubic foot per minute and a high value not to exceed ten cubic feet per minute. The instruments used to calibrate the RADeCO model H810 air samplers are either the RADeCO model 812 or 828 calibrators. These are returned to the manufacturer once a year for calibration.

LUDLUM MODEL 77-3

This instruments calibration will be carried out in the manner specified in the general section entitled Conditions of Calibration. During calibration the detector should be removed from the telescope by removing four screws that hold it to the telescope. Only one point will be checked on the x10, x100, and x1000 R hr^{-1} scales. These last three scales are calibrated in the CDV-784 calibrator by feeding the detector though the back of the calibrator into a custom detector holder. Radiation field produce in calibrator should be 20-80% of meter scale.

LUDLUM 9DP

Calibration and maintenance procedures for the Ludlum pressurized ion chambers are currently in the process of being developed. At the present time instruments should be sent to manufacturer for calibration and maintenance. Prior to shipping ion chamber should be depressurized using manufacturers procedure.

EBERLINE RO-20 & RO-2

Calibration and maintenance of the Eberline Ion chambers should be performed as outline in the instruments Technical manual with the exception that two points will be check on each scale when possible

E-600 SCALER AND RATEMETER WITH SPA-8 PROBE

The E-600 is entirely controlled by its microprocessor, its probe voltage and detection thresholds are directly set by output of the processor chip. Calibrating and configuring this instrument is accomplished from a program which runs on a host computer and communicates with the E-600 via a serial data link. Refer to the technical manuals supplied with the host program and instrument for detailed information on calibration.

American National Standard Institute(ANSI), Radiation Protection Instrumentation Test and Calibration, ANSI N323-1978, The Institute of Electrical and Electronics Engineers, Inc., New York, NY, 1978

American National Standard Institute(ANSI), Performance Specifications for Health Physics Instrumentation, ANSI N42.17A, 1989

International Atomic Energy Agency (IAEA), Handbook on the Calibration of Radiation Protection Monitoring Instruments, Technical Reports Series No. 133, Vienna, Austria, 1971

International Atomic Energy Agency (IAEA), Calibration of Radiation Protection Monitoring Instruments, Safety Reports Series No. 16, Vienna, Austria, 2000

International Commission on Radiation Units and Measurements (ICRU), "Radiation Protection Instrumentation and Its Application", ICRU report 20, Washington, DC, 1976

Knoll, G. F., Radiation Detection and Measurement, 2nd edition, Wiley, New York, NY, 1989

Appendix B-16 Question 19

License Number	Name	Action
L00331	Scott & White Memorial Hospital	Renewal
L00384	The University of Texas Southwestern Medical Center At Dallas	Renewal
L00101	University of North Texas	Renewal
L01290	Baylor University Medical Center	Renewal
L01299	The University of Texas Medical Branch	Renewal
L01886	University of Houston Environmental Health and Life Safety Department	Renewal
L02774	The University of Texas Health Science Center at Houston	Renewal
L04612	Texas Childrens Hospital	Renewal
L00451	The Dow Chemical Company	Renewal
L00581	St Lukes Health System Corporation	Termination
L05856	St Davids Healthcare Partnership LP	Termination
L06781	Areva Med LLC	Issued
L06661	Chi St Lukes Baylor College of Medicine Medical Center	Issued
L02807	Solvay USA Inc	Decommission
L03524	Thermo Process Instruments	Decommission
L06880	Schlumberger Technology Corporation	Issued
L03851	Sterigenics US LLC	Issued

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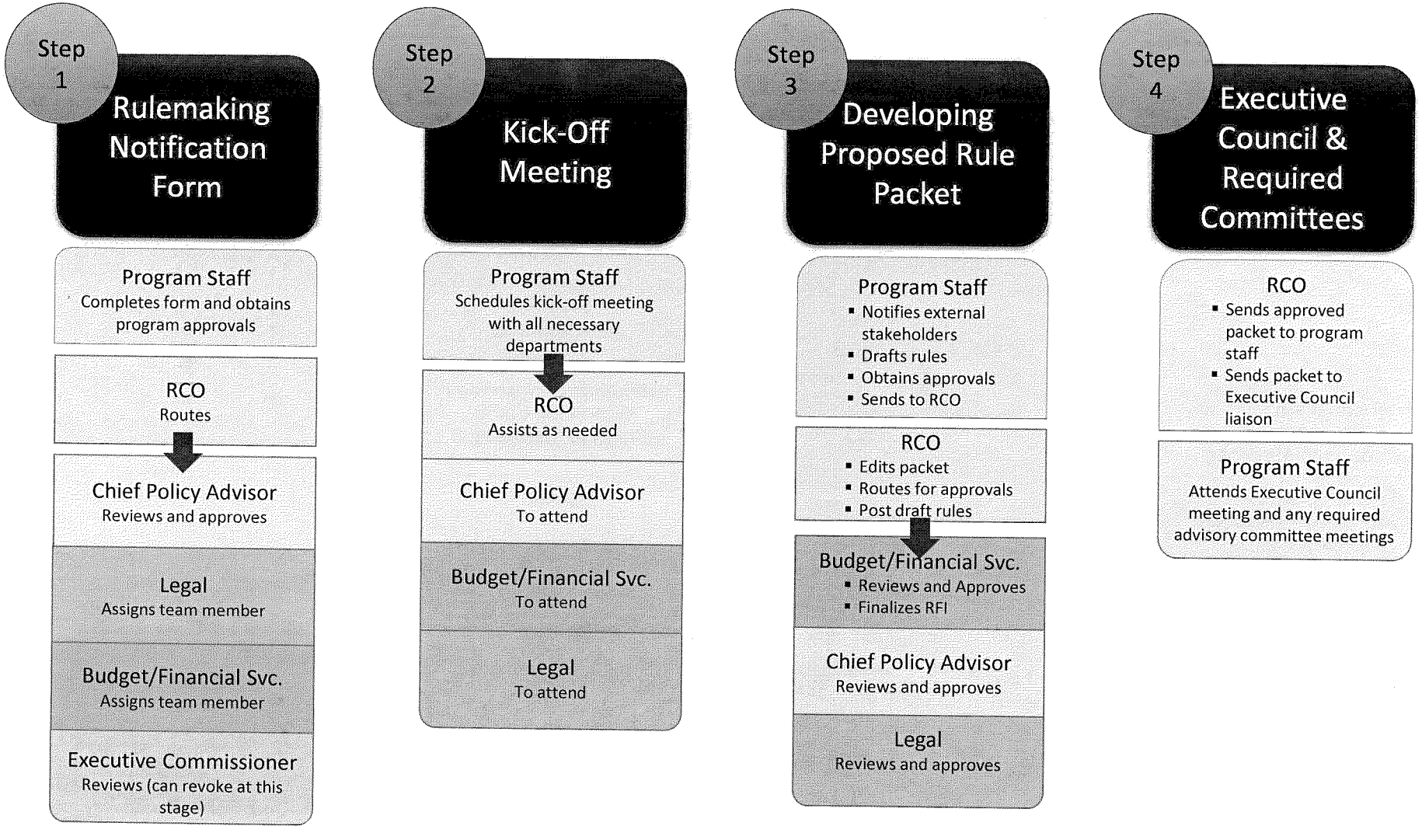
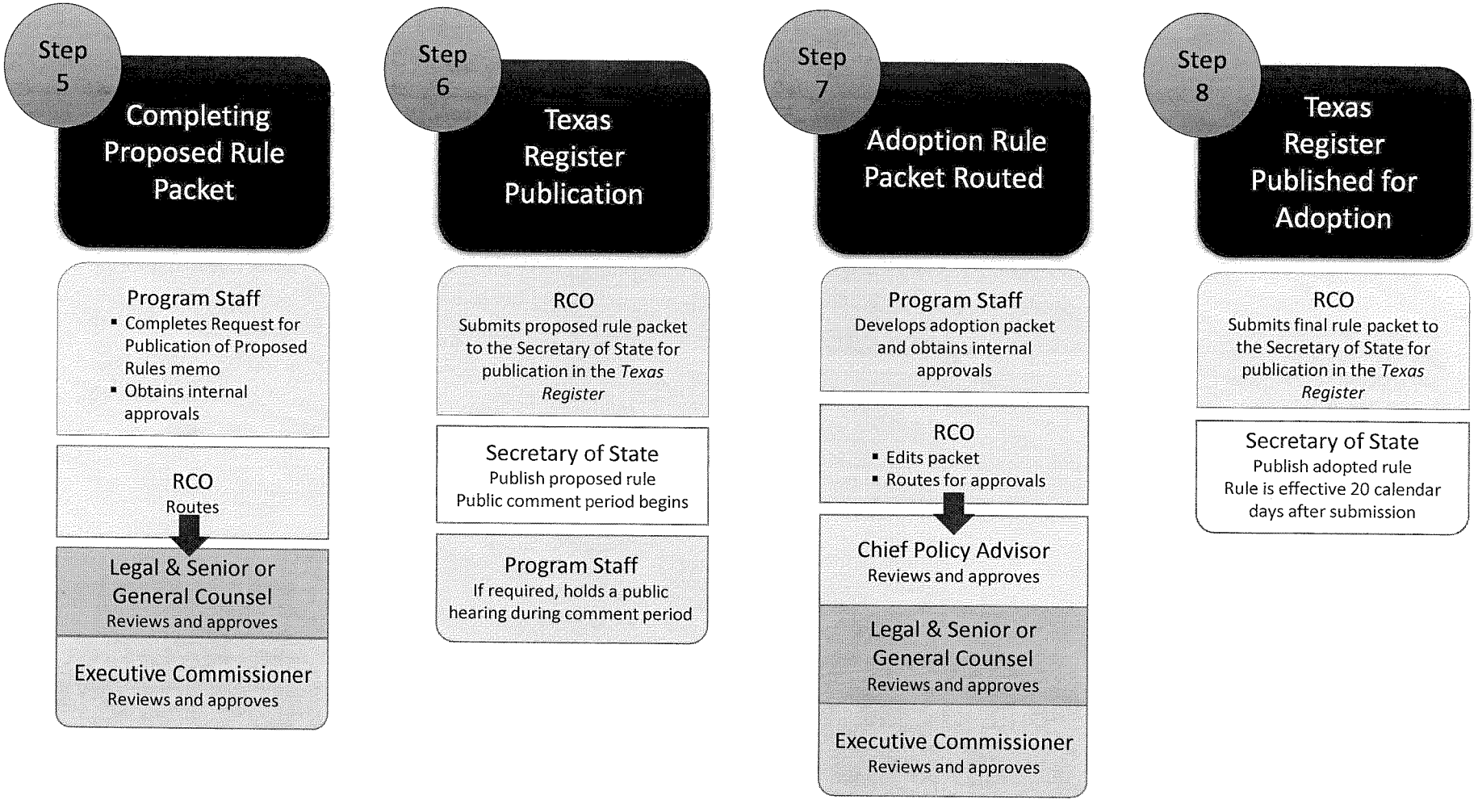
COMPANY NAME	LIC NBR
TRACE LIFE SCIENCES INC	L05435
THE PROTON THERAPY CENTER - HOUSTON LTD LLP	L05859
PHYSICIAN RELIANCE NETWORK INC	L05896
E PET IMAGING XXI LP	L05916
SAN JACINTO METHODIST HOSPITAL	L02388
YOAKUM COMMUNITY HOSPITAL	L05913
BCS HEART LLP	L04890
AMARILLO HEART GROUP LLP	L04697
TEXAS ONCOLOGY PA	L05816
VETERINARY DIAGNOSTIC IMAGING OF TX PA	L05917
CHRISTUS HEALTH SOUTHEAST TEXAS	L00269
UNIVERSITY OF HOUSTON - CLEAR LAKE	L02108
ARMC LP	L02434
CHCA BAYSHORE LP	L00153
G A SAMMAN MD PA	L05949
TEXAS ONCOLOGY PA	L05940
SOUTHWEST X-RAY LP	L05207
HENDRICK MEDICAL CENTER	L02433
MILLENNIUM PHYSICIANS ASSOC PLLC	L05901
UVALDE COUNTY HOSPITAL AUTHORITY	L03327
TEXAS TECH UNIV HEALTH SCI CENTER	L01869
CARDIAC NUCLEAR IMAGING INC	L05962
KELL WEST REGIONAL HOSPITAL	L05943
COMPLETE CARDIAC CARE	L05218
UNIVERSITY OF TEXAS AT EL PASO	L00159
SJ MEDICAL CENTER LLC	L02279
AUSTIN RADIOLOGICAL ASSOCIATION	L00545
TEXAS ONCOLOGY PA	L05019
TEXAS SOUTHERN UNIVERSITY	L03121
DEL RIO HEART INSTITUTE & DIABETES CTR	L05950
NEUROLOGY CINIC	L05971
TEXAS ONCOLOGY PA	L04905
GULF COAST CANCER & DIAGNOSTIC CTR @ SE	L05194
CARTER BLOODCARE	L00630
MEDICAL CLINIC OF HOUSTON LLP	L01315
CANCER CENTER ASSOCIATES	L05952
NACOGDOCHES CARDIAC CENTER PA	L05982
UNIVERSITY MEDICAL CENTER	L04719
PROTECHNICS ENVIRONMENTAL	L04477

COMPANY NAME	LIC NBR
CARDINAL HEALTH	L02048
UNIVERSITY OF TEXAS HEALTH CENTER TYLER	L01796
HUNT MEMORIAL HOSPITAL DISTRICT	L01695
ISOTHERAPEUTICS GROUP LLC	L05969
GULF COAST REGIONAL BLOOD CENTER	L04755
SOUTHERN METHODIST UNIVERSITY	L00443
INEOS STYROLUTION AMERICA LLC	L00354
UNIVERSITY OF TX HEALTH SCIENCE CTR SA	L05217
MOHIUDIN A ZEB MD	L04154
WILBARGER GENERAL HOSPITAL	L03047
ARVIND M PAI MD PA	L06008
ST DAVIDS HEALTHCARE PARTNERSHIP LP LLP	L00740
LAREDO CARDIOVASCULAR CONSULTANTS	L04687
TEXAS ONCOLOGY PA	L04880
EDWARD W LEAHEY MD PA	L06014
PHYSICIAN RELIANCE NETWORK INC	L04788
HARRISON COUNTY HOSPITAL ASSOCIATION	L02572
MEMORIAL MRI AND DIAGNOSTIC LLC	L05997
TEXAS ONCOLOGY PA	L04878
COLUMBIA MEDICAL CTR OF ARLINGTON SUBSID	L02228
SCURRY COUNTY HOSPITAL DISTRICT	L02409
MUENSTER HOSPITAL DISTRICT	L04887
VICTORIA OF TEXAS LP	L01630
MEDICAL AND RADIATION PHYSICS INC	L01417
OAKBEND MEDICAL CENTER	L02406
INVISTA SARL	L00386
TEXAS A & M UNIVERSITY	L00448
INSTITUTE OF BIOSCIENCES AND TECHNOLOGY	L04681
ISOTECH LABORATORIES INCORPORATED	L04283
RAYTHEON COMPANY	L04096
WEST PARK SURGERY CENTER LP	L05991
OCHILTREE COUNTY HOSPITAL DISTRICT	L06006
TEXAS ONCOLOGY PA	L05108
TEXAS HEALTH HARRIS METHODIST HOSP STEPH	L03097
LAXMICHAND KAMNANI	L05273
MEMORIAL HERMANN HOSPITAL SYSTEM	L00650
NORTH CYPRESS MED CTR OPERATING CO LLC	L06020
LIFESHARE BLOOD CENTERS	L04884
HOUSTON COMMUNITY COLLEGE SYSTEM	L03099
METHODIST HEALTHCARE SYS OF SA LTD LLP	L00594

COMPANY NAME	LIC NBR
TEXAS TECH UNIVERSITY	L01536
ANDRE P DESIRE MD PA	L06043
ANTOINE G YOUNIS MD PA	L05313
LUBBOCK HERITAGE HOSPITAL LLC	L06040

Appendix C-1


Step 1
Rulemaking Notification Form
Program Staff
Completes form and obtains program approvals
RCO
Routes
Chief Policy Advisor
Reviews and approves
Legal
Assigns team member
Budget/Financial Svc.
Assigns team member
Executive Commissioner
Reviews (can revoke at this stage)
Step 2
Kick-Off Meeting
Program Staff
Schedules kick-off meeting with all necessary departments
RCO
Assists as needed
Chief Policy Advisor
To attend
Budget/Financial Svc.
To attend
Legal
To attend
Step 3
Developing Proposed Rule Packet
Program Staff
Notifies external stakeholders
Drafts rules
Obtains approvals
Sends to RCO
RCO
Edits packet
Routes for approvals
Post draft rules
Budget/Financial Svc.
Reviews and Approves
Finalizes RFI
Chief Policy Advisor
Reviews and approves
Legal
Reviews and approves
Step 4
Executive Council & Required Committees
RCO
Sends approved packet to program staff
Sends packet to Executive Council liaison
Program Staff
Attends Executive Council meeting and any required advisory committee meetings


Step 5
Completing Proposed Rule Packet
Program Staff
Completes Request for Publication of Proposed Rules memo
Obtains internal approvals
RCO
Routes
Legal & Senior or General Counsel
Reviews and approves
Executive Commissioner
Reviews and approves
Step 6
Texas Register Publication
RCO
Submits proposed rule packet to the Secretary of State for publication in the Texas Register
Secretary of State
Publish proposed rule
Public comment period begins
Program Staff
If required, holds a public hearing during comment period
Step 7
Adoption Rule Packet Routed
Program Staff
Develops adoption packet and obtains internal approvals
RCO
Edits packet
Routes for approvals
Chief Policy Advisor
Reviews and approves
Legal & Senior or General Counsel
Reviews and approves
Executive Commissioner
Reviews and approves
Step 8
Texas Register Published for Adoption
RCO
Submits final rule packet to the Secretary of State for publication in the Texas Register
Secretary of State
Publish adopted rule
Rule is effective 20 calendar days after submission

Step	Person or Office Responsible	Action	Estimated Time
35.	RCO	Route adoption packet to Legal for final Legal review and Senior Counsel or General Counsel approval, with a requested return date. Legal returns adoption rule packet, noting Senior Counsel or General Counsel approval and any revisions to the documents. Legal keeps RCO updated on any communications with program staff and/or any delays in the approval process. RCO updates master documents according to revisions from Legal, ensuring that program staff have reviewed edits and resolved any concerns with the Legal.	1-2 weeks
36.	RCO	Send adoption rule packet to Executive Clerk for Executive Commissioner approval.	1 day
37.	Executive Clerk	Executive Commissioner approves and Executive Clerk returns packet to RCO.	1 week
38.	RCO	Submit adopted rules to the Secretary of State for publication in the *Texas Register.* Rule is effective 20 calendar days after this date, unless a later, specific effective date is requested.	2-3 days
39.	RCO	Send program staff final copy of adoption rule packet.	1 day
40.	Secretary of State	Publish adopted rules in the *Texas Register.*	Publication: 2 weeks

Rules Timeline

Step	Person or Office Responsible	Action	Estimated Time
1.	Program staff	Complete the Rulemaking Notification Form (RNF). **OPTIONAL**: Submit draft RNF to Rules Coordination Office (RCO) for review and editing. RCO reviews and edits RNF, noting any current rule projects that overlap with the rules listed on the RNF.	2-3 days
2.	Program staff	Obtain approval of RNF through program staff's chain of command. Program staff or final approver in program's chain of command forwards approved RNF to RCO.	30 days
3.	RCO	RNF sent to Chief Policy Advisor (CPA) for approval.	1 week
4.	RCO	RNF sent to Budget and Legal. Obtain team member assignments from Legal, Budget, and other areas as needed.	1 week
5.	RCO and Program staff	Hold kick-off meeting.	1 week
6.	Program staff	Notify external stakeholders of rule project and request their feedback.	Per plan on the RNF; generally at least two months prior to HHSC Executive Council meeting
7.	Program staff	Draft rules with input from and/or review by team members. Simultaneously, coordinate with Budget, Forecasting, Actuarial Analysis, and/or Rate Analysis to complete Rulemaking Fiscal Impact form (RFI).	Varies
8.	Program staff	Obtain approval from program management to share draft rules with stakeholders (approver documented on RNF). Also obtain approval of draft rules from assigned attorney and CPA.	1 week
9.	Program staff and RCO	Program staff submit draft rules to RCO for informal external stakeholder review. RCO proofreads document and translates amendment tracked changes into underlining and brackets. RCO posts draft rules on HHSC web site and forwards comments received from web site to program staff. Program staff complete any other external stakeholder outreach, based on the plan documented on the RNF.	Review period for stakeholders varies

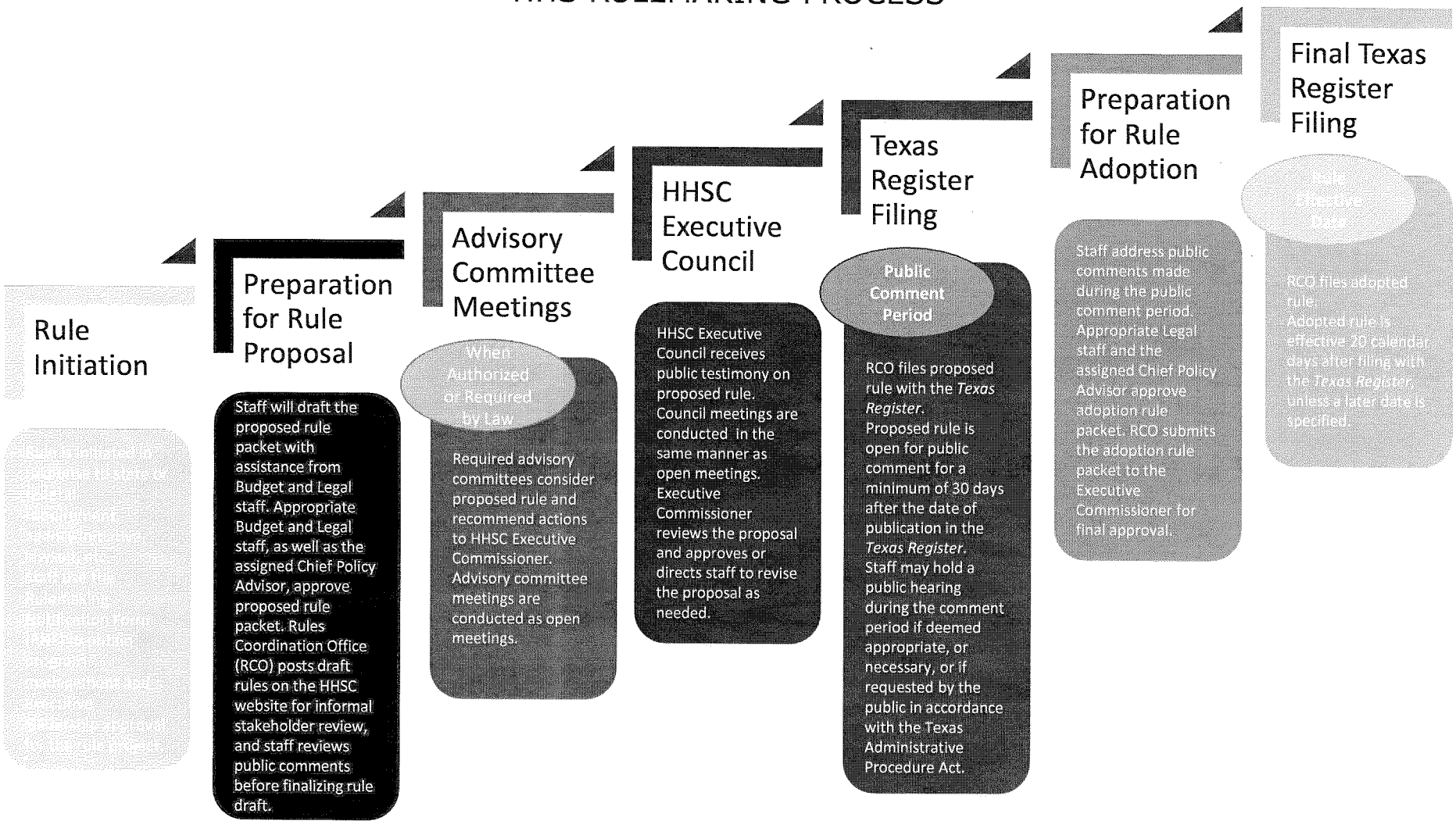
Step	Person or Office Responsible	Action	Estimated Time
10.	Program staff	Develop the proposed rule packet with any needed assistance from team members. Proposed rule packet includes: RFI, preamble, rules, HHSC Executive Council form, any other required committee form, draft of EC memo.	1-2 weeks
11.	Program staff	Obtain approval of proposed rule packet from program chain of command, including Commissioner for DSHS (or designee).	1-2 weeks
12.	Program staff	Submit proposed rule packet to RCO.	1 day
13.	RCO	RCO now has version control over all documents for the rule packet.	n/a
14.	RCO	Edit proposed rule packet, checking for both content and required formatting. Revisions beyond formatting, punctuation, grammar, etc. are sent to program staff for review and approval.	2-3 days
15.	RCO	Route rule packet for final Budget approval. Send proposed rule packet, except EC memo, to Budget for approval, with a requested return date. Budget returns RFI with electronic signatures added to form. Budget sends revisions to any other rule packet documents. Budget keeps RCO updated on any communications with program staff and/or any delays in the approval process. RCO updates master documents according to revisions from Budget, ensuring that program staff have reviewed edits and resolved any concerns with Budget. RCO sends rule packet to HHS System Budget team for review. HHS System Budget will respond by the RCO requested deadline with any questions or concerns.	2-3 weeks
16.	RCO	Route rule packet to CPA for approval, with a requested return date. CPA returns packet, noting approval and any revisions to the documents. CPA keeps RCO updated on any communications with program staff and/or any delays in the approval process. RCO updates master documents according to revisions from CPA, ensuring that program staff have reviewed edits and resolved any concerns with the CPA.	1 week

Step	Person or Office Responsible	Action	Estimated Time
17.	RCO	Route rule packet to Legal for final Legal review and Senior Counsel or General Counsel approval, with a requested return date. Legal returns packet, noting Senior Counsel or General Counsel approval and any revisions to the documents. Legal keeps RCO updated on any communications with program staff and/or any delays in the approval process. RCO updates master documents according to revisions from Legal, ensuring that program staff have reviewed edits and resolved any concerns with Legal.	1-2 weeks
18.	RCO	Send finalized rule packet to program staff for their records and to share with their management as needed.	1 day
19.	RCO	Send HHSC Executive Council memo, rule(s), and preamble to HHSC Executive Council liaison and liaison(s) for any required advisory council or committee(s). Copy presenter and program staff (if different) on email(s).	At least 3 weeks prior to meeting(s)
20.	Program staff	Attend HHSC Executive Council meeting and any required advisory council or committee meeting. Answer questions from members and note any public comments made at the meetings.	1 day
21.	Program staff and RCO	RCO contacts program staff to request an updated EC memo, outlining comment and response from the HHSC Executive Council meeting and any required advisory council or committee meeting(s). Updated memo must be approved by program chain of command before sending to RCO, including Commissioner for DSHS. **OR** RCO moves packet forward with original draft EC memo if program staff indicate that the draft EC memo can remain unchanged (skip next step).	3-5 days
22.	RCO	Updated EC memo sent to Legal for approval, including Senior Counsel or General Counsel. (Remainder of packet sent also, as reference material.) If there are corresponding changes to other rule packet documents, this is noted for Legal's additional review and approval, including the Senior Counsel or General Counsel.	3-5 days

Step	Person or Office Responsible	Action	Estimated Time
23.	RCO	Send rule packet to the Executive Clerk for Executive Commissioner approval.	1 day
24.	Executive Clerk	Executive Commissioner approves and Executive Clerk returns packet to RCO.	1 week
25.	RCO	Submit proposed rules to the Secretary of State for publication in the *Texas Register*.	2-3 days
26.	Secretary of State	Publish proposed rules in the *Texas Register*.	2 weeks
27.	RCO	Send program staff a clean copy of the rules, as rules would be adopted without changes, for use in developing the adopted rule packet.	
28.	(n/a)	Public comment period.	30 days
29.	Program staff	Develop adoption rule packet with team member assistance as needed. The adoption rule packet is comprised of: preamble, rules, EC memo.	1-2 weeks
30.	Program staff	Obtain approval of adoption rule packet from program chain of command, including Commissioner for DSHS (or designee).	1-2 weeks
31.	Program staff	Submit adoption rule packet to RCO.	1 day
32.	RCO	RCO now has version control over all master documents for the rule packet.	n/a
33.	RCO	Edit adoption rule packet, checking for both content and required formatting. Revisions beyond formatting, punctuation, grammar, etc. are sent to program staff for review and approval.	2-3 days
34.	RCO	Route adoption packet to CPA for approval, with a requested return date. CPA returns adoption rule packet, noting approval and any revisions to the documents. CPA keeps RCO updated on any communications with program staff and/or any delays in the approval process. RCO updates master documents according to revisions from CPA, ensuring that program staff have reviewed edits and resolved any concerns with the CPA.	1 week

C-3

HHS RULEMAKING PROCESS



Appendix C-4 Question 29

SS&D No.	M, D or User	Type or Use	Date Issued	Type of Action
TX-634-S-869-S	Thermo Fisher Scientific	(D) Gamma Gauge	3/19/2014	Inactivation
TX-426-D-805-S	Ludlum Measurements, Inc.	(D) Gamma Gauge	3/28/2014	Inactivation
TX-426-D-806-S	Ludlum Measurements, Inc.	(D) Gamma Gauge	3/28/2014	Inactivation
TX-426-D-807-S	Ludlum Measurements, Inc.	(D) Gamma Gauge	4/2/2014	Inactivation
TX-634-D-870-S	Thermo Fisher Scientific	(U) X-Ray Fluorescence	4/10/2014	Inactivation
TX-634-D-871-G	Thermo Fisher Scientific	(D) Gamma Gauge	5/30/2014	Inactivation
TX-1247-D-101-G	OneSubsea Processing Inc	(D) Gamma Gauge	6/3/2014	Amendment
TX-634-D-872-S	Thermo Fisher Scientific	(D) Gamma Gauge	6/4/2014	Inactivation
TX-634-D-873-S	Thermo Fisher Scientific	(D) Gamma Gauge	6/4/2014	Inactivation
TX-634-D-871-G	Thermo Fisher Scientific	(D) Gamma Gauge	6/5/2014	Correction
TX-634-D-874-B	Thermo Fisher Scientific	(T) Other	6/13/2014	Inactivation
TX-634-D-875-G	Thermo Fisher Scientific	(D) Gamma Gauge	6/13/2014	Inactivation
TX-634-D-876-B	Thermo Fisher Scientific	(U) X-Ray Fluorescence	6/13/2014	Inactivation
TX-518-S-802-S	Monsanto Agricultural Company	(I) Calibration Source	6/17/2014	Inactivation
TX-634-D-877-B	Thermo Fisher Scientific	(U) X-Ray Fluorescence	6/18/2014	Inactivation
TX-634-D-878-B	Thermo Fisher Scientific	(D) Gamma Gauge	7/10/2014	Inactivation
TX-8290-D-801-S	Gray Wireline Services, Inc.	(F) Well Logging	7/18/2014	Inactivation
TX-634-D-879-B	Thermo Fisher Scientific	(U) X-Ray Fluorescence	7/31/2014	Inactivation
TX-1328-D-102-S	Nuclear Scanning Services, Inc.	(H) General Neutron Source Applications	9/30/2014	New
TX-1351-D-102-B	Multi Phase Meters, Inc.	(D) Gamma Gauge	10/2/2014	Amendment
TX-1351-D-101-B	Multi Phase Meters, Inc.	(D) Gamma Gauge	10/7/2014	Amendment
TX-634-D-880-B	Thermo Fisher Scientific	(U) X-Ray Fluorscence	10/31/2014	Inactivation

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SS&D No.	M, D or User	Type or Use	Date Issued	Type of Action
TX-1351-D-101-B	Multi Phase Meters, Inc.	(D) Gamma Gauge	10/31/2014	Amendment
TX-1300-D-101-S	Geotek Limited	(D) Gamma Gauge	10/31/2014	Amendment
TX-734-D-104-S	Tracerco	(D) Gamma Gauge	11/14/2014	Amendment
TX-1141-D-101-S	Positron Corporation	(X) Medical Reference Sources	11/21/2014	Amendment
TX-634-D-881-S	Thermo Fisher Scientific	(D) Gamma Gauge	12/5/2014	Inactivation
TX-634-D-882-S	Thermo Fisher Scientific	(D) Gamma Gauge	12/5/2014	Inactivation
TX-634-D-883-S	Thermo Fisher Scientific	(H) General Neutron Source Application	12/12/2014	Inactivation
TX-734-D-107-S	Tracerco	(T) Other: Mobile Gamma Scanning	3/4/2015	Amendment
TX-1351-D-101-B	Multi Phase Meters, Inc.	(D) Gamma Gauge	3/13/2015	Amendment
TX-303-S-801-S	Gammatron, Inc.	(D) Gamma Gauge, (G) Portable Moisture/Density Gauges, (H) General Neutron Source Applications	3/27/2015	Inactivation
TX-303-S-802-S	Gammatron, Inc.	(AB) Medical Diagnosis Sources	4/10/2015	Inactivation
TX-303-S-803-S	Gammatron, Inc.	(AB) Medical Diagnosis Sources	4/20/2015	Inactivation
TX-634-D-884-B	Thermo Fisher Scientific	(D) Gamma Gauge	5/28/2015	Inactivation
TX-634-D-885-S	Thermo Fisher Scientific	(U) X-Ray Fluorescence	5/28/2015	Inactivation
TX-634-D-149-S	Thermo Fisher Scientific	(D) Gamma Gauge	5/29/2015	Amendment
TX-384-S-118-S	Industrial Nuclear Company	(A) Industrial Radiography	6/17/2015	New/Transfer
TX-634-D-886-B	Thermo Fisher Scientific	(U) X-Ray Fluoresence	7/7/2015	Inactivation

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SS&D No.	M, D or User	Type or Use	Date Issued	Type of Action
TX-634-D-887-B	Thermo Fisher Scientific	(U) X-Ray Fluorescence	7/9/2015	Inactivation
TX-679-D-101-S	Yokogawa Corporation of America	(E) Beta Gauges	7/29/2015	Amendment
TX-1247-D-102-G	OneSubsea Processing, Inc.	(D) Gamma Gauge	8/7/2015	New
TX-384-S-118-S	Industrial Nuclear Company, Inc.	(A) Industrial Radiography	6/17/2015	Correction
TX-1141-D-101-S	Positron Corporation	(X) Medical Reference Source	9/2/2015	Amendment
TX-1141-D-801-S	Positron Corporation	(X) Medical Reference Source	9/2/2015	Inactivation
TX-384-S-120-S	Industrial Nuclear Company, Inc.	(A) Industrial Radiography	10/29/2015	New
TX-1328-D-102-S	Nuclear Scanning Services, Inc.	(H) General Neutron Source Applications	12/30/2015	Amend
TX-1141-D-101-S	Positron Corporation	(X) Medical Reference Source	2/25/2016	Amend
TX-634-D-176-B	Thermo Process Instruments, LP	(H) General Neutron Source Applications	3/14/2016	Amend
TX-634-D-888-B	Thermo Process Instruments, LP	(D) Gamma Gauge	3/31/2016	Inactivation
TX-634-D-105-B	Thermo Process Instruments, LP	(D) Gamma Gauge	4/26/2016	Amend
TX-508-S-810-S	Nuclear Sources & Services, Inc.	(I) Calibration Sources	5/13/2016	Inactivation
TX-679-D-101-S	Yokogawa Electric Corporation	(E) Beta Gauges	5/13/2016	Amend
TX-508-S-811-S	Nuclear Sources & Services, Inc.	(I) Calibration Sources	5/17/2016	Inactivation
TX-508-S-812-S	Nuclear Sources & Services, Inc.	(AA) Manual Brachytherapy	5/27/2016	Inactivation
TX-586-D-114-G	Schlumberger Technology Corporation	(D) Gamma Gauges	5/31/2016	New
TX-634-D-178-B	Thermo Process Instruments, LP	(D) Gamma Gauges	6/16/2016	Amend
TX-634-D-889-S	Thermo Process Instruments, LP	(H) General Neutron Source Applications	6/16/2016	Inactivation

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SS&D No.	M, D or User	Type or Use	Date Issued	Type of Action
TX-634-D-890-S	Thermo Process Instruments, LP	(D) Gamma Gauges	6/21/2016	Inactivation
TX-634-D-176-B	Thermo Process Instruments, LP	(H) General Neutron Source Applications	7/7/2016	Amend
TX-634-D-176-B	Thermo Process Instruments, LP	(H) General Neutron Source Applications	8/12/2016	Amend
TX-642-D-105-B	Thermo Finnigan, LLC	(N) Ion Generators, Chromatography	8/19/2016	Amend
TX-586-D-114-G	Schlumberger Technology Corporation	(D) Gamma Gauges	8/26/2016	Amend
TX-1410-D-101-G	NeoTek Energy, Inc.	(D) Gamma Gauges	12/16/2016	New
TX-1351-D-102-B	FMC Technologies, Inc.	(D) Gamma Gauges	12/16/2016	Amend
TX-734-D-102-S	Tracerco	(D) Gamma Gauges	12/16/2016	Amend
TX-1422-D-101-G	NeoTek Energy, Inc.	(D) Gamma Gauges	12/16/2016	New
TX-1351-D-101-B	FMC Technologies, Inc.	(D) Gamma Gauges	12/22/2016	Amend
TX-634-S-891-G	Thermo Process Instruments, LP	(T) Other	12/30/2016	Inactivation
TX-634-S-891-G	Thermo Process Instruments, LP	(T) Other	1/5/2017	Correction
TX-634-D-892-S	Thermo Process Instruments, LP	(D) Gamma Gauges	1/6/2017	Inactivation
TX-1176-D-102-G	Micro Motion, Inc.	(D) Gamma Gauges	1/13/2017	New
TX-634-D-105-B	Thermo Process Instruments, LP	(D) Gamma Gauges	1/27/2017	Correction
TX-634-D-151-B	Thermo Process Instruments, LP	(D) Gamma Gauges	2/1/2017	Amend
TX-1176-D-102-G	Micro Motion, Inc.	(D) Gamma Gauges	2/9/2017	Correction
TX-734-D-105-G	Tracerco	(D) Gamma Gauges	3/7/2017	Amend
TX-1020-D-101-S	E.I. DuPont de Nemours & Company	(D) Gamma Gauges	4/28/2017	Amend
TX-586-D-114-G	Schlumberger Technology Corporation	(D) Gamma Gauges	5/5/2017	Amend
TX-734-D-106-S	Tracerco	(D) Gamma Gauges	5/17/2017	Amend

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SS&D No.	M, D or User	Type or Use	Date Issued	Type of Action
TX-1107-D-101-S	Integrated Plant Electrokhimpribohr	(F) Oil Well Logging	5/18/2017	Amend
TX-734-D-102-S	Tracerco	(D) Gamma Gauge	5/23/2017	Amend
TX-658-D-102-G	Valco Instruments Company	(N) Ion Generators, Chromatography	5/18/2017	Correction
TX-734-D-894-B	Thermo Process Instruments, LP	(H) General Neutron Source Applications	5/19/2017	Amend
TX-634-D-895-B	Thermo Process Instruments, LP	(D) Gamma Gauges	5/24/2017	Inactivation
TX-1351-D-103-G	FMC Technologies, Inc.	(D) Gamma Gauges	7/25/2017	New
TX-586-D-115-S	Schlumberger Technology Corporation	(F) Oil Well Logging	7/26/2017	New
TX-1351-D-103-G	FMC Technologies, Inc.	(D) Gamma Gauges	8/9/2017	Correction
TX-0634-D-901-S	Thermo Process Instruments, LP	(D) Gamma Gauges	8/9/2017	Inactivation
TX-0634-D-902-S	Thermo Process Instruments, LP	(D) Gamma Gauges	8/9/2017	Inactivation
TX-0634-D-903-S	Thermo Process Instruments, LP	(D) Gamma Gauges	8/9/2017	Inactivation
TX-0634-D-904-S	Thermo Process Instruments, LP	(D) Gamma Gauges	8/9/2017	Inactivation
TX-1297-D-101-S	Hotwell US LLC	(F) Well Logging	11/12/2017	Amend