



TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**APPLICATION FOR LICENSE TO AUTHORIZE
NEAR-SURFACE LAND DISPOSAL OF
LOW-LEVEL RADIOACTIVE WASTE**

*Radioactive Material Licensing Team,
Waste Permits Division
Office of Permitting Remediation & Registration*

January 23, 2004

TABLE OF CONTENTS

	Page
Table of Contents	ii
Instructions	iii
Procedural Information	vii
Estimated Licensing Time Line	ix
Application Form	1
1.0 General Information	1
2.0 Site Characteristics	8
3.0 Design	13
4.0 Construction	15
5.0 Operation	16
6.0 Closure	19
7.0 Post Closure and Institutional Control	20
8.0 Performance Assessment	21
9.0 Quality Assurance and Quality Control	25
10.0 Personnel	31
11.0 Environmental Report and Alternative Management Techniques	31
12.0 Financial Qualifications and Financial Assurance	36
13.0 Tier Review Process	37
14.0 Schedules	37



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INSTRUCTIONS

1. In developing an application for a low-level radioactive waste disposal facility, it is recommended that the applicant present information in the following format to ensure uniformity of information and to demonstrate that the facility is protective of human health and the environment. Use of this format is not necessary; however, using the application format will assist the TCEQ staff in locating necessary information and will aid in shortening the time needed for the review process. An applicant has the burden of proof on all applicable statutory and rule requirements, whether or not the information is specifically requested in this application form.
2. The application format is designed to assist the applicant in writing a license application that will achieve four main goals:
 - 2.1 compliance with all associated regulations, including the statutes of Texas Health and Safety Code (THSC) Chapter 401 and Title 30 of the Texas Administrative Code (TAC) Chapter 336;
 - 2.2 presentation of information that is complete and well-documented for quality;
 - 2.3 organization that aids in locating and understanding the information; and
 - 2.4 enhancement of a timely review process.
3. Land disposal facilities shall be sited, designed, operated, closed, and controlled after closure so that reasonable assurance exists that exposures to humans are within the limits established in the performance objectives in 30 TAC §336.724 (relating to Protection of the General Population from Releases of Radioactivity), 30 TAC §336.725 (relating to Protection of Individuals from Inadvertent Intrusion), 30 TAC §336.726 (relating to Protection of Individuals during Operations), and 30 TAC §336.727 (relating to Stability of the Disposal Site after Closure).[30 TAC §336.723]
4. Any person (individual, corporation or other legal entity) who disposes of low-level radioactive waste must obtain a license pursuant to THSC Chapter 401. If the operator of the low-level radioactive waste disposal facility is not the owner, then the operator shall be the applicant for a license. The applicant is referred to THSC Chapter 401, 30 TAC Chapters 1-100, 281, 305 and 336 for technical and procedural regulations, and Title 10 of the Code of Federal Regulations (CFR), Part 61.

5. A person may not commence construction or operation of a low-level radioactive waste disposal facility, or receive low-level radioactive waste for disposal, until the commission has issued a low-level radioactive waste disposal license.
6. The application (one signed original plus five complete copies) should be mailed to:

Texas Commission on Environmental Quality
Waste Permits Division
Radioactive Material Licensing Team
MC 126
PO Box 13087
Austin TX 78711-3087

Copies should consist of paper copies of all plans, well logs, seismic data, maps and cross-sections, and a computer diskette or compact disk (CD) of the remaining document. The document should be formatted in WordPerfect® version 10 word processing software or a 100% compatible format. The applicant is encouraged to provide electronic copies of all aforementioned data (plans, well logs, seismic data, maps, etc.) on the diskette or CD either in native file format or in PDF (Adobe Acrobat) format. Files may be compressed using WINZIP® or a 100% compatible program. [30 TAC §305.42(c)].

Telephone inquiries:

(512) 239-6313 - Radioactive Material Licensing Team
(512) 239-2007 - Facsimile Machine
(512) 239-0600 - Legal - Office of Legal Services
(512) 239-0192 - Fees - Financial Administration Division, Revenues Section
(512) 239-6239 - Financial Assurance

Organization and labeling of information submitted should be consistent with the organization of this form. The application should be organized in three-ring binders, each not to exceed three inches in thickness. All pages should be numbered and placed in the binders. New pages, figures, tables, or maps should be clearly marked as revisions, dated, and numbered or labeled appropriately for insertion in the application.

7. The application must be signed by the applicant or an authorized designee. [THSC §401.107(c)]. The signatory must indicate that person's title, role or position in the organization of the applicant. In all cases, the person signing the form should be authorized to do so by the applicant. [30 TAC §305.44]. The commission may require a person signing on behalf of an applicant to provide proof of authorization. An application submitted for a corporation must be signed by (or the signatory must be authorized by) a principal executive officer of at least the level of vice president; or for a partnership or sole proprietorship, by a general partner or the proprietor, respectively. For a municipal, state, federal, or other public facility, the application must be signed by either a principal executive officer or ranking elected official.
8. The applicant should ensure that the application contains sufficient information to allow for a detailed technical review of all sections in this application and the administrative review requirements of 30 TAC §336.807(d). An application will not be processed until all information required to properly consider the application has been submitted. If the applicant fails to submit additional requested information in a timely manner, the application will not be considered to be filed in accordance with the rules and regulations of the commission and may be returned. [30 TAC §281.18].

9. Application Fees and Costs

9.1 The fee for filing an application for a low-level radioactive waste disposal site license is \$500,000. The application processing fee is nonrefundable. If the commission's costs in processing an application exceed the \$500,000 application processing fee, the commission may assess and collect additional fees from the applicant to recover the costs. [30 TAC §336.103(a)].

9.2 Payment of fees shall be made at the time the application is submitted and shall include a copy of page 1 of the application form. Payment should be sent to:

Texas Commission on Environmental Quality
Cashier's Office, MC 214
PO Box 13088
Austin TX 78711-3088

9.3 The applicant shall pay for the costs of providing notice of the public meeting(s) and for the costs of holding any public meeting(s) to receive public comments on the administratively complete application as provided in 30 TAC §55.253 (relating to Public Comment Processing). [30 TAC §336.811].

9.4 After completion of the commission's technical review, the applicant is required to bear the cost of publication of notice of the application in a newspaper. [30 TAC §§39.707(b), 39.711(b)].

10. Designation of Material as Confidential:

The commission has responsibility to provide a copy of each application to other review agencies and to interested persons upon request and to safeguard confidential material from becoming public knowledge. Thus, the commission requests that an applicant submitting data or information (1) be prudent in the designation of material as confidential and (2) submit such material only when it might be essential to the staff in their development of a recommendation.

The commission suggests that the applicant **NOT** submit confidential information as part of the license application. However, if this cannot be avoided, the confidential information should be described in non-confidential terms throughout the application and cross-referenced to a separate document or binder entitled "CONFIDENTIAL MATERIAL." At the time of submission, the document or binder itself and each page individually must be conspicuously marked "CONFIDENTIAL."

Reasons for designating material confidential may include avoiding disclosure of trade secrets, proprietary processes, economics of operation or information that if made public would give an advantage to competitors or bidders. This includes authorizations under 5 U.S.C., §5552(b)(4) and special rules cited in Title 40 of the Code of Federal Regulations, §§2.301-2.309. The composition of the waste subject to the jurisdiction of the commission may not be regarded as confidential information. Finally, the name and address of the applicant or bidder may not be regarded as confidential information.

Information designated as confidential and accepted as such by the commission, will not be made public. However, any open records request that is received by the commission regarding information that an applicant claims to be confidential will be forwarded by the executive director of the commission to the Texas Attorney General in accordance with the Texas Government Code,

§552.301. Following submission, the Attorney General will make a determination whether the designated confidential information is within an exception to the requirements to provide the information to the public or not.

11. All engineering plans, specifications, and other related documents must be prepared, sealed, signed, and dated by a Texas professional engineer (P.E.), in accordance with 22 TAC §131.166 of the rules of the Texas Board of Professional Engineers. The Board rules require that all engineering pages be sealed, signed, and dated unless contained in a bound document, in which case only the original title sheet needs to be sealed. If a single seal is used on a bound document, there must be a note near the seal clearly stating which pages of the document the seal covers. All engineering drawings or plans must be individually sealed, signed, and dated. If there are subsequent revisions to pages covered by the engineering seal, each revised page must be individually sealed. An engineer may not seal a document in a field outside of his or her area of expertise. If more than one P.E.'s work is contained in a document, both seals are required on the document and the limits of their work clearly indicated. Please refer to the Texas Engineering Practice Act and the rules of the Texas Board of Professional Engineers for more information.
12. All geoscience documents must be prepared by or under the supervision of a Texas licensed professional geoscientist (P.G.), in accordance with Section 6.01 of the Texas Geoscience Practice Act. Geoscience includes the science of the earth and its origin and history, the investigation of the earth's environment and its constituent soils, rocks, minerals, fossil fuels, solids, and fluids, and the study of the natural and introduced agents, forces, and processes that cause changes in and on the earth. All geoscience documents submitted in this application must bear the full name, signature, date, license number, and seal of the geoscientist under which the document was prepared. If more than one P.G.'s work is contained in a document, both seals are required on the document and the limits of their work clearly indicated.
13. In preparing this application it is recommended the applicant refer to the following guidance:
 - 13.1 U.S. Nuclear Regulatory Commission, "Review Process for Low-Level Radioactive Waste Disposal License Application Under the Low-Level Radioactive Waste Policy Amendments Act," NUREG-1274, August 1987.
 - 13.2 U.S. Nuclear Regulatory Commission, "Standard Format and Content of a License Application for a Low-Level Radioactive Waste Disposal Facility," NUREG-1199, January 1991.
 - 13.3 U.S. Nuclear Regulatory Commission, "Standard Review Plan for the Review of a License Application for Low-Level Radioactive Waste Disposal Facility," "NUREG-1200 Revision 3, April 1994.
 - 13.4 U.S. Nuclear Regulatory Commission, NRC Regulatory Guide 4.18, "Standard Format and Content of Environmental Reports for Near-Surface Disposal of Radioactive Waste," June 1983.
 - 13.5 U.S. Nuclear Regulatory Commission, "Environmental Standard Review Plan for the Review of a License Application for a Low-Level Radioactive Waste Disposal Facility," NUREG-1300, April 1987.
 - 13.6 U.S. Nuclear Regulatory Commission, "A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities," NUREG-1573, October 2000.

PROCEDURAL INFORMATION

1. Upon receipt of an application for a radioactive material license, the executive director's staff reviews the application for administrative completeness. During the review, the applicant may be contacted for clarification or additional information. The application or a summary of its contents may be forwarded for review to a commission contractor, other state agencies and local governmental entities. The applicant shall provide a complete copy of the application, including all amendments and/or supplements to the application, on a publicly-accessible web site and provide the commission with the web address link for the application materials [30 TAC §336.807]. Not later than the 45th day after the date an application is received, the executive director shall issue an administrative notice of deficiency to each applicant whose application is timely submitted, but is determined by the executive director to be administratively incomplete.

The executive director shall provide an applicant, for whom an administrative notice of deficiency is issued, not more than three 30-day opportunities to correct the noted deficiencies in the application. For each 30-day opportunity, the executive director will evaluate the information received in response to a notice of deficiency within 30 days. If the required information is not received from the applicant within 30 days of the date of receipt of the deficiency notice, the executive director shall return the incomplete application to the applicant. The executive director shall reject any application that, after the period for correcting deficiencies has expired, is not administratively complete.[30 TAC §336.807]

2. When an application is determined to be administratively complete, the chief clerk mails *Notice of Declaration of Administrative Completeness* to the applicant, to potentially affected persons, and to others. [30 TAC §336.809 & 30 TAC §39.702]. 30 TAC §§39.413 and 39.705 describe the mailed notice procedures for this first notice. The applicant must also place a copy of the administratively complete application in a public place in the county or counties in which the proposed disposal facility site is located. [30 TAC §39.707(b)]. The executive director shall conduct at least one public meeting in the county or counties where a disposal facility is proposed to be located to receive public comments on the administratively complete applications in accordance with 30 TAC §336.811.
3. The executive director shall prepare a written evaluation of each administratively complete application according to the requirements of 30 TAC §336.813. The executive director may issue a request for further information to each applicant whose administratively complete application is determined by the executive director to be insufficient for the purposes of the evaluation. An applicant, for whom a request for further information is issued, may be provided two 30-day opportunities to respond to the request at the discretion of the executive director.

The executive director shall use the written evaluations and application materials to evaluate each application according to the criteria established by 30 TAC §§336.815, 336.817, 336.819, and 336.821. The executive director shall evaluate each application for each criterion for purposes of comparing the relative merit of the application, giving:

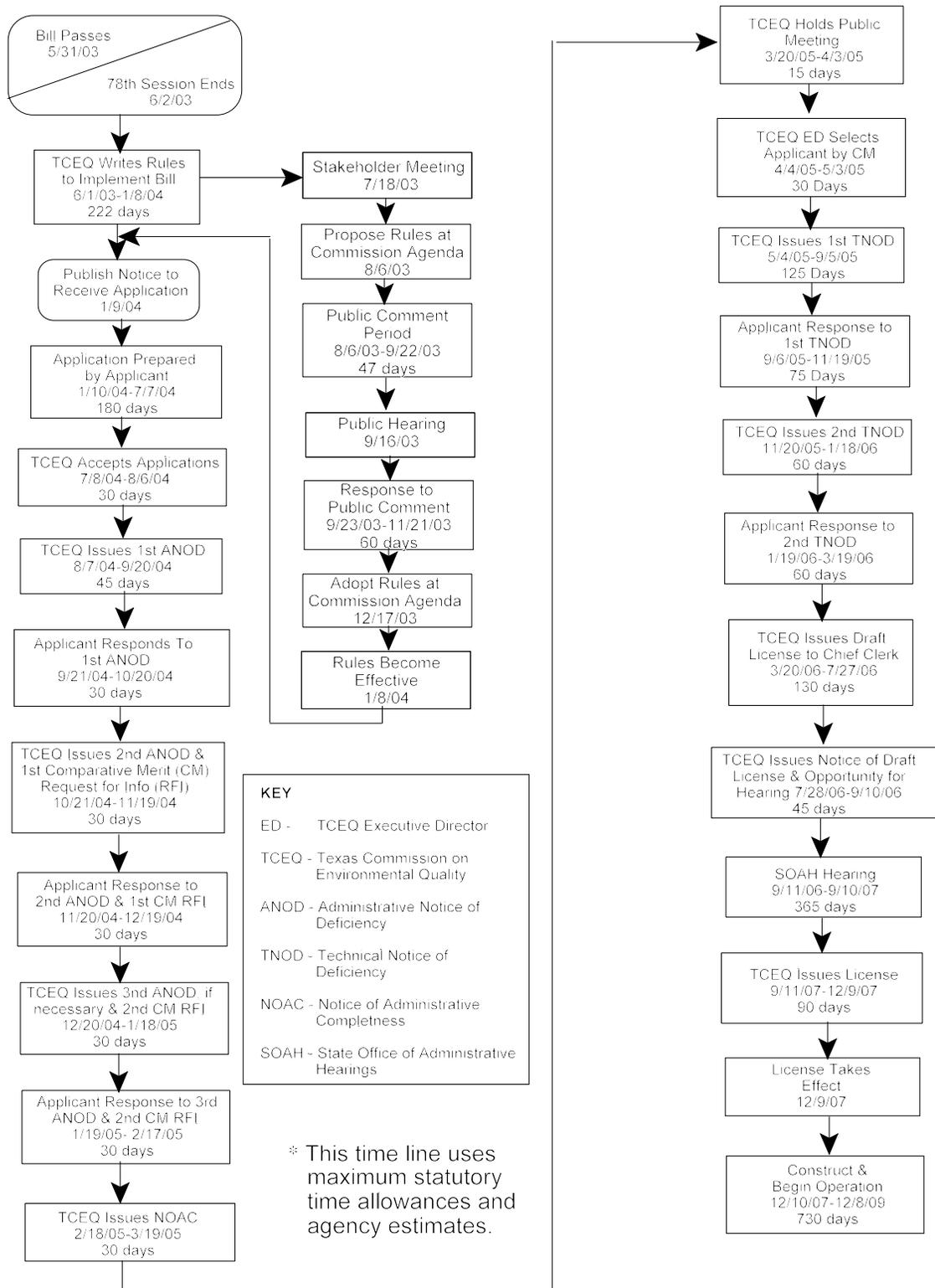
- 3.1 equal weight to each criterion within a tier of criteria; and
- 3.2 the greatest weight to Tier 1 criteria, greater weight to Tier 2 criteria than to Tier 3 criteria, and the least weight to Tier 4 criteria.

Not later than the 270th day after receipt of the last timely filed application, the executive director, based on the written evaluations and application materials, shall select the application that has the highest comparative merit for technical review under 30 TAC §336.823 (relating to Technical

Review). If the selected application is rejected or denied by the commission, the executive director may select the application with the next highest comparative merit and proceed with the technical review under 30 TAC §336.823. [30 TAC §336.813].

4. The executive director's staff begins a technical review as soon as the application is administratively complete. The applicant may be contacted for clarification or additional information at any time during the technical review. [30 TAC §281.19]. Once the technical review is complete, the draft license is filed with the chief clerk. The chief clerk mails the *Notice of Completion of Technical Review*, publishes newspaper notice at the applicant's expense, and publishes notice in the Texas Register. [30 TAC §39.707(b) & (c)]. The deadline for filing public comments, protests, or hearing requests with the chief clerk is 30 days after publication. [30 TAC §39.703(b)].
5. A contested case hearing will be scheduled on an application when requested by the applicant, or a person affected, in accordance with THSC §401.239. The Administrative Law Judge shall issue a proposal for decision not later than the first anniversary of the publication date of the notice of draft license. The commission shall take final action on the proposal for decision not later than the 90th day after the date the proposal is issued.

ESTIMATED PERMITTING TIME LINE*
Rules Development & Licensing Process for Proposed Low-Level Radioactive Waste Disposal Facility



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Agency Use Only: RW- _____

Texas Commission on Environmental Quality

**APPLICATION FOR LICENSE TO AUTHORIZE
NEAR-SURFACE LAND DISPOSAL OF LOW-LEVEL RADIOACTIVE WASTE**

TABLE OF CONTENTS *(Provided by Applicant)*

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF COMMON TERMS AND ABBREVIATIONS

1.0 GENERAL INFORMATION

1.1 Type of Application Submittal (check all that apply):

Initial ____ Renewal ____ Amendment ____

1.2 Facility Name _____

TCEQ Solid Waste Registration No. _____ EPA ID No. _____

RN _____ CN _____

Street Address _____

City _____, Texas Zip Code _____ County _____

Mailing Address _____

City _____, Texas Zip Code _____ County _____

1.3 Operator (Applicant) _____
(Individual, Corporation, or Other Legal Entity Name)

Address _____

City _____ State _____ Zip Code _____

Telephone Number _____

1.4 Mineral Rights

Does the applicant own the mineral rights to the facility property?

___ Yes ___ No

Comments _____

1.5 Charter Number

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

(Charter Number)

1.6 Registered Agent

If the application is submitted by a person residing out of state, or is submitted by a corporation, the applicant must name the Agent in Service or Agent of Service who is registered with the Texas Secretary of State's office, and provide a complete mailing address for the agent. The agent must be a Texas resident.

Agent _____

Address _____

City _____ State _____ Zip Code _____

Telephone Number _____

1.7 Owner (if the same as operator, state "same as operator"):

Name _____

Address _____

City _____ State _____ Zip Code _____

Telephone Number _____

Charter Number _____

1.8 Indicate the ownership status of the facility [30 TAC §305.45(a)(2)]

1.8.1 Private: (a) Corporation _____
(b) Partnership _____
(c) Proprietorship _____
(d) Nonprofit organization _____

1.8.2 Public: (a) Federal _____
(b) Military _____
(c) State _____
(d) Regional _____
(e) County _____
(f) Municipal _____

1.8.3 Other (specify) _____

1.9 List those persons or firms authorized to act for the applicant during the processing of the license application. Also indicate the capacity in which each person may represent the applicant (health physics, engineering, geology, hydrology, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing address, e-mail address, fax and telephone number(s) for each person listed. Also, include an organization chart which clearly shows the lines of communication for the various offices or firms providing support to the applicant for applicable areas of expertise.

1.10 Specify the individual who will be responsible for causing notice to be published in the newspaper. Include his or her complete mailing address, e-mail address, fax and telephone number.

1.11 For applications for new licenses, license renewals, and major amendments a copy of the administratively complete application must be made available at a public place in the county where the facility is located or proposed to be located for review and copying by the public. Identify the public place in the county (e.g., public library, county court house, city hall), including the address, where the application will be located.

1.12 If the applicant is a partnership, the name and address of each partner and the principal location where the partnership does business. [30 TAC §336.706(a)(1)(B)].

1.13 If the applicant is a corporation or unincorporated association [30 TAC §336.706(a)(1)(c)],

- 1.13.1 the state where it is incorporated or organized and the principal location where it does business; and
- 1.13.2 the names and addresses of its directors and principal officers.
- 1.14 If the applicant proposes to contract the management of the construction and/or operation of the disposal facility to another person, the full name, address, and telephone number of the management contractor, the full name and address of each principal, partner, or director of the contractor, the state where it is organized, and the principal location where it does business. [30 TAC §336.706(a)(1)(D)].
- 1.15 If the applicant is a corporation under the Texas Business Corporation Act, provide written verification (either affidavit or tax receipt), to confirm that no tax owed the State under Chapter 171, Tax Code, is delinquent. [30 TAC §305.54(b)].
- 1.16 Business Information
 - 1.16.1 Give a brief description of the nature of the applicant’s business.
 - 1.16.2 List the principal products and/or services which are provided by the applicant’s business. Please itemize by Standard Industrial Classification (SIC) codes.
- 1.17 TCEQ Core Data Form

The TCEQ requires that a Core Data Form (Form 10400) be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed. For more information regarding the Core Data Form, call (512) 239-5175 or go to the TCEQ Web site at <http://www.TCEQ.state.tx.us/permitting/projects/cr>.
- 1.18 Submit as “Attachment A” a copy of a resolution of support of the proposed land disposal facility or facilities from the commissioners court of the county in which the land disposal facility or facilities are proposed to be located. [30 TAC §336.807(d)(11)].
- 1.19 Submit as “Attachment B” a copy of the warranty deed or other conveyance showing that the right, title, and interest in the land, including mineral interests, on which the land disposal facility or facilities are proposed to be located is owned in fee by the applicant. If land, including mineral interests, is not owned in fee by the applicant, indicate how the requirements of §§336.710 and 336.734 will be addressed. [30 TAC §336.807(d)(9)] & [THSC §401.204]. The applicant may demonstrate compliance with these requirements by either having acquired:
 - 1.19.1 an undivided ownership of the buildings, surface estate, and mineral estate in fee simple through purchase or completed condemnation; or
 - 1.19.2 an undivided ownership of the buildings and surface estate, along with an exemption, granted by the commission in accordance with federal law for use of a surface use agreement, in lieu of acquiring fee simple title to the mineral estate. [30 TAC §336.207(4)] The application for exemption must be submitted with the license application in order to satisfy the requirements of the administrative review of the application. [30 TAC §336.808(b)]

- 1.20 If application is for renewal or amendment to existing license(s), please describe all requested license changes (in a manner that facilitates their incorporation into the license) and the reasons for the request.
- 1.21 Institutional information in the application shall include:
 - 1.21.1 a certification by the State or federal government which will own the disposal site that the state or federal government is prepared to accept transfer of the license when the provisions of 30 TAC §336.721 (relating to Transfer of License to Custodial Agency) are met and will assume responsibility for custodial care after site closure and post-closure observation and maintenance [30 TAC §336.710(1)];
 - 1.21.2 evidence that arrangements have been made for assumption of ownership in fee by the State or federal government before the commission issues a license where the proposed disposal site is on land not owned by the State or federal government [30 TAC §§336.710(2) and 336.734(a)];
 - 1.21.3 a description of the ownership of the land and fixtures that are part of the proposed disposal site. A plat plan describing the site and identifying ownership of the surface and subsurface estates must be included. Where portions of the site have been leased or will be leased to others, the terms of the lease agreement must be described [30 TAC §336.710(3)]; and
 - 1.21.4 a description of contractual terms and conditions of any agreement for the management or operation of the proposed disposal sites [30 TAC §336.710(4)].
- 1.22 Describe the activities conducted by the applicant which require a permit or license from a regulatory authority. [30 TAC §305.45(a)(5)].
- 1.23 Provide the applicant's compliance history to demonstrate its regard for the regulatory process. [THSC 401.112(a)(5)]

1.24 Indicate (by listing the permit/license number(s) in the column below) all existing, pending, or interim status permits or licenses; permits-by-rule; state and/or federal permits or other approvals which pertain to pollution control or waste management conducted by your facility. [30 TAC §§305.45(a)(7), 336.708(a)(12)]. Complete each blank by entering the permit/license number, the date of application, or "none".

Relevant Program and/or Law		Permit No./ License No.	Gov. Agency*
1.	Texas Solid Waste Disposal Act	_____	_____
2.	Wastewater disposal under Texas Water Code	_____	_____
3.	Underground Injection Well	_____	_____
4.	Texas Clean Air Act	_____	_____
5.	Texas Uranium Surface Mining & Reclamation Act	_____	_____
6.	Texas Surface Coal Mining & Reclamation Act	_____	_____
7.	Hazardous Waste Management program under the Resource Conservation and Recovery Act	_____	_____
8.	NPDES program under the Clean Water Act	_____	_____
9.	PSD program under the Clean Air Act	_____	_____
10.	Nonattainment program under the Clean Air Act	_____	_____
11.	National Emission Standards for Hazardous Pollutants (NESHAP) preconstruction approval under the Clean Air Act	_____	_____
12.	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	_____	_____
13.	Dredge or fill permits under Section 404 of the Clean Water Act	_____	_____
14.	Texas Radiation Control Act	_____	_____
15.	Other relevant environmental permits/licenses	_____	_____

*Use the following acronyms for each agency as shown below:

TCEQ	- Texas Commission on Environmental Quality	EPA	- U.S. Environmental Protection Agency
RCT	- Railroad Commission of Texas	CORPS	- U.S. Army Corps of Engineers
TDH	- Texas Department of Health	TDA	- Texas Department of Agriculture
NRC	- U.S. Nuclear Regulatory Commission		

SIGNATURE PAGE

I, _____, _____
(printed name of applicant) (title)

Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature _____, Date _____
(applicant or applicant's authorized agent)

TO BE COMPLETED BY THE APPLICANT IF THE APPLICATION IS SIGNED BY AN AGENT FOR THE APPLICANT

I, _____ hereby designate _____
(applicant) (agent)

as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Radiation Control Act license. I further understand that I am responsible for the contents of this application, for oral statements given by my agent in support of the application, and for compliance with the terms and conditions of any license which might be issued based upon this application.

Printed or Typed Name of Applicant or Principal Executive Officer

Signature

(Note: Application Must Bear Signature & Seal of Notary Public)

SUBSCRIBED AND SWORN to before me by the said _____
on this _____ day of _____, 20_____.

My commission expires on the _____ day of _____, _____.

Notary Public in and for
_____ County, Texas

2.0 SITE CHARACTERISTICS [30 TAC §336.708(a)(3)]

2.1 Location and Geography

- 2.1.1 Legal Description of Facility - Submit as "Attachment C" a legal description of each tract of land upon which the waste management operations referred to in this license application will occur or have occurred. Although a legal description is required, a metes and bounds description is not necessary for urban sites with appropriate "lot" description(s).
- 2.1.2 Survey Map - Submit as "Attachment D" a map illustrating the location of the proposed disposal unit(s) relative to established surveys.
- 2.1.3 Location Map - Submit as "Attachment E" a map showing the location of the facility site with respect to known or easily identifiable landmarks, for example, a map illustrating county boundaries, highways, and major roads. Describe the access route(s) from the nearest U.S. or State Highway to the facility.
- 2.1.4 Disposal Unit Locations - Provide the geographical coordinates (in terms of latitude and longitude) for the area centroid of each proposed disposal unit (repeat as necessary):

Latitude: ___° ___' ___" North Longitude: ___° ___' ___" West

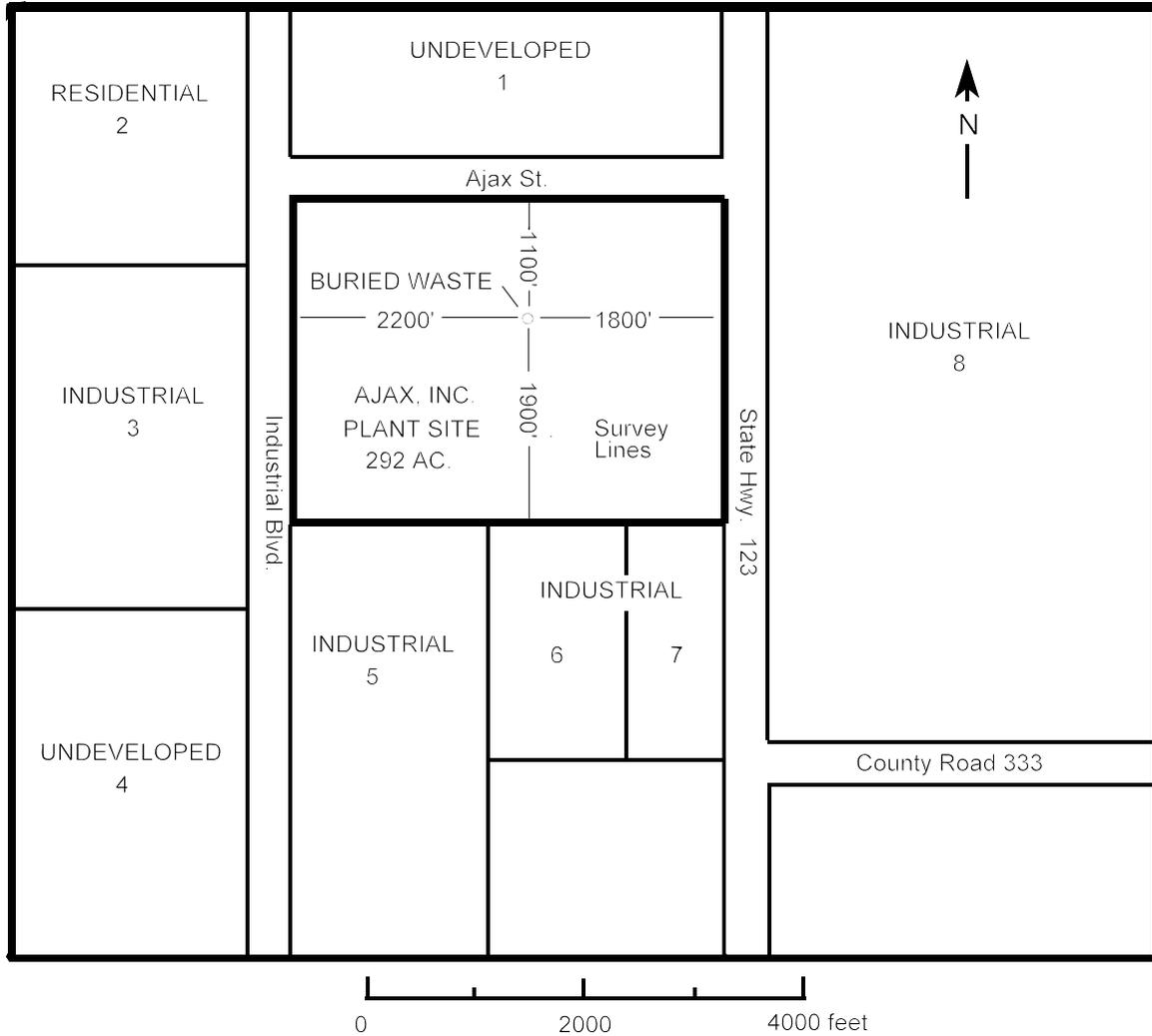
Latitude: ___° ___' ___" North Longitude: ___° ___' ___" West

2.1.5 Topographic Map [30 TAC §305.45(a)(6)]

Submit as "Attachment F" a drawn-to-scale topographic map (or other map if a topographic map is unavailable) of the facility and area extending at least one mile beyond the facility boundaries. Maps must be prepared by a licensed professional engineer or a registered surveyor. Maps must be of material suitable for a permanent record, and be on sheets 8½ inches by 11 inches or folded to that size, and be on a scale of not less than one inch equals two thousand feet. The scale should be adequate to depict the following features:

- 2.1.5.1 the approximate boundaries and areal size in acres of the facility;
- 2.1.5.2 the overall facility, each of its surface intake and discharge structures, each of its waste treatment, storage or disposal facilities; and
- 2.1.5.3 all wells (water, oil and gas, disposal, etc.), springs and other surface water bodies, listed in public records or otherwise known to the applicant within one mile of the facility property boundary, and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.).

SAMPLE APPLICATION MAP



LAN

DOWNERS CROSS-REFERENCED TO APPLICATION MAP

- | | |
|-------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <p>1. Mr. & Mrs. Samuel L. Davis
11901 Knights Bridge
Austin, Texas 78759</p> | <p>5. Jaxson Brewing Co.
4240 Line Road
Dallas, Texas 77640</p> |
| <p>2. Mr. & Mrs. Edward Sanchez
1405 Craigmont Lane
Waco, Texas 76710</p> | <p>6. Plainview Company
6647 Star Blvd.
Houston, Texas 77590</p> |
| <p>3. Tex-Link Corp.
8411 Zip Street
Houston, Texas 77590</p> | <p>7. ABC Chemicals, Inc.
1212 Austin Ave.
Dallas, Texas 77640</p> |
| <p>4. Mr. & Mrs. Ted Goldsby
3210 20th Street
Waco, Texas 76724</p> | <p>8. Big-C Bottle Co.
10024 N.W. Hwy.
Bovina, Texas 79402</p> |

- 2.1.6 Adjacent Landowners - [30 TAC §§305.45(a)(6)(D), 305.54(c)] Submit as “Attachment G” a map and a cross-referenced list of complete mailing addresses for all landowners of property adjacent to the facility (see example below). Also, submit a computer diskette or compact disk (CD) containing only the mailing list. The document should be formatted in WordPerfect® version 10 word processing software, or a 100% compatible format. Please label the disk with the applicant's name, regulated entity number (RNXXXXXXXXXX), customer number (CNXXXXXXXXXX) and street address (physical address). In formatting the mailing list, type the applicant's name, regulated entity number and street address on the top line before typing the addresses. Names and addresses must be typed in the format indicated below. This format is required by the U.S. Postal Service for machine readability. *Each letter in the name and address must be capitalized, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Each address listed must be blocked and spaced consecutively as shown below.*

Example:

Applicant's name

Applicant's regulated entity number: RNXXXXXXXXXX

Applicant's customer number: CNXXXXXXXXXX

Applicant's physical address

MR & MRS SAMUEL L DAVIS

11901 KNIGHTS BRIDGE

AUSTIN TX 78759

MR & MRS EDWARD SANCHEZ

1405 CRAIGMONT LANE

WACO TX 76710

- 2.1.7 Indian Lands - Is the facility located on Indian lands?

Yes No

- 2.1.8 Coastal Management Program - Is the facility located within the Coastal Management Program boundary?

Yes No

For questions regarding the Coastal Management Program, please call 1-800-998-4456, OR 1(512) 463-4228.

- 2.1.9 Local Waste Prohibition - Is the facility in an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste. [THSC §363.112]

Yes No

If yes, please provide a copy of the ordinance or order.

- 2.1.10 International Border Proximity - Demonstrate that the site is not located in a county any part of which is located 62 miles or less from an international boundary. [30 TAC §336.728(m)]

2.2 Demography and Socioeconomics

- 2.2.1 Describe and quantify area and site characteristics including historical and cultural landmarks, archaeology, demography, and current land uses. [30 TAC §§336.708(a)(3), 336.708(a)(8)(B)]
- 2.2.2 Within the region where the land disposal facility is to be located, provide an analysis to demonstrate that a disposal site shall be selected so that projected population growth and future developments are not likely to affect the ability of the land disposal facility to meet the performance objectives of 30 TAC §336.723. [30 TAC §336.728(b)]
- 2.2.3 Describe and quantify socioeconomic effects on surrounding communities of operation of the licensed activity and of associated transportation of low-level radioactive waste. [THSC §401.112(a)(3)]

2.3 Meteorology and Climatology

- 2.3.1 Describe and quantify area and site characteristics including air quality, meteorology, climatology, and natural hazards. [THSC §401.112(a)(1)] & [30 TAC §336.708(a)(3)]
- 2.3.2 Demonstrate that the site is not located in a county in which the average annual rainfall is greater than 20 inches. [THSC §401.217(2)] & [30 TAC §336.728(n)]

2.4 Surface Water Hydrology

- 2.4.1 Describe and quantify area and site characteristics, including surface hydrology. [THSC §401.233(b)] & [30 TAC §336.708(a)(3)]
- 2.4.2 Demonstrate that the disposal site is generally well drained and free of areas of flooding or frequent ponding. Waste disposal shall not take place in a 100-year flood plain, coastal high-hazard area, or wetland, as defined in Executive Order 11988, "Floodplain Management Guidelines." [THSC §401.217(4)]& [30 TAC §336.728(d)]
- 2.4.3 Demonstrate that upstream drainage areas are minimized to decrease the amount of runoff which could erode or inundate disposal units. [30 TAC §336.728(e)]
- 2.4.4 Demonstrate that the site is not located in a county that adjoins river segment 2309, 2310, or 2311, as identified by the commission in the *Texas Surface Water Quality Standards* in 30 TAC §307.10(3). These river segments are identified as follows [30 TAC §336.728(o)]:
 - (1) river segment 2309 is the Devil's River;
 - (2) river segment 2310 is the lower Pecos River; and
 - (3) river segment 2311 is the upper Pecos River.

- 2.4.5 Demonstrate that the site is not located less than 20 miles upstream of or up-drainage from the maximum elevation of the surface of a reservoir project that [30 TAC §336.728(p)]:
- (1) has been constructed or is under construction by the United States Bureau of Reclamation or the United States Army Corps of Engineers; or
 - (2) has been approved for construction by the Texas Water Development Board as part of the state water plan under the Texas Water Code, Subchapter C, Chapter 16.

2.5 Geology and Seismology

- 2.5.1 Describe and quantify area and site characteristics including geology, seismology and topography. [THSC §401.112(a)(1)] & [30 TAC §336.708(a)(3)]
- 2.5.2 Demonstrate that the disposal site avoids tectonic processes such as faulting, folding, seismic activity, or vulcanism that occur with such frequency and extent as to significantly affect the ability of the disposal site to meet the performance objectives of 30 TAC §336.723, or may preclude defensible modeling and prediction of long-term impacts. [30 TAC §336.728(i)]
- 2.5.3 Demonstrate that the disposal site avoids areas where surface geologic processes such as mass wasting, erosion, slumping, landsliding, or weathering occur with such frequency and extent to significantly affect the ability of the disposal site to meet the performance objectives of 30 TAC §336.723 or may preclude defensible modeling and prediction of long-term impacts. [30 TAC §336.728(j)]

2.6 Geotechnical and Geochemical Characteristics

- 2.6.1 Describe and quantify area and site characteristics including geotechnical features, geochemistry, soils, and natural radiation background. [30 TAC §336.708(a)(3)]
- 2.6.2 Demonstrate that the disposal site will not be located in areas where soil conditions are such that spill cleanup would be impracticable. [30 TAC §336.728(l)]

2.7 Ground Water Hydrology

- 2.7.1 Describe and quantify area and site characteristics including ground water hydrology. [THSC §401.233(b)] & [30 TAC §336.708(a)(3)]
- 2.7.2 Demonstrate that the disposal site will provide sufficient depth to the water table so that groundwater, perennial or otherwise, will not intrude into the waste. [30 TAC §336.728(f)]
- 2.7.3 Demonstrate that areas will be avoided that are the recharge areas of sole source aquifers, unless it can be demonstrated with reasonable assurance that the disposal site shall be designed, constructed, operated, and closed without an unreasonable risk to an aquifer. [30 TAC §336.728(g)]

2.7.4 Demonstrate that the hydrogeologic unit used for disposal shall not discharge groundwater to the surface within the disposal site. [30 TAC §336.728(h)]

2.8 Natural Resources

2.8.1 Identify the known natural resources at the site, whose exploitation could result in inadvertent intrusion into the wastes after removal of active institutional control. [30 TAC §336.708(a)(4)]

2.8.2 Demonstrate that the selected disposal site avoids areas that have known natural resources which, if exploited, would result in failure to meet the performance objectives of 30 TAC §336.723. [30 TAC §336.728(c)]

2.9 Ecology

2.9.1 Describe and quantify area and site characteristics including ecology [THSC § 401.233(b)] & [30 TAC §336.708(a)(3)]

2.10 Pre-operational Environmental Monitoring

2.10.1 Describe and quantify area and site characteristics, including natural radiation background. [THSC §401.233(b)] & [30 TAC §336.708(a)(3)]

2.10.2 Describe the baseline environmental monitoring program, including radioactive and chemical characteristics. [THSC §§401.112(a)(6), (11) & (17), 401.233(b)] & [30 TAC §336.708(a)(10)]

2.10.3 Describe a pre-operational monitoring program to provide basic environmental data on the disposal site's characteristics. For those characteristics that are subject to seasonal variation, data must cover at least a 12-month period. [30 TAC §336.731(a)]

3.0 DESIGN

Information provided in this section, including engineering plans, specifications, and other related documents must be prepared, sealed, signed, and dated by a Texas professional engineer (P.E.), in accordance with 22 TAC §131.166 of the rules of the Texas Board of Professional Engineers.

3.1 General Information

3.1.1 Provide a description of the general character of the proposed activities. [30 TAC §336.706(a)(3)(B)]

3.1.2 Describe the principal design criteria and their relationship to the performance objectives of 30 TAC §336.723. [30 TAC §336.707(1)]

3.1.3 Describe the facilities and systems used for, or in connection with, the collection, transportation, treatment, and disposal of waste. [THSC §401.112(a)(7)] & [30 TAC §305.45(a)(8)(A)]

3.1.4 Demonstrate that the disposal is designed to complement and improve, where appropriate, the ability of the disposal site's natural characteristics to assure that the performance objectives of 30 TAC §336.723 will be met. [30 TAC §336.729(c)]

3.1.5 Describe the plans for use of the land disposal facility for purposes other than disposal of waste. [30 TAC §336.706(a)(3)(D)]

3.2 Codes and Standards

Describe the codes and standards which the applicant has applied to the design. [30 TAC §336.707(3)]

3.3 Onsite Facilities

Provide accurate drawings and descriptions of on-site buildings including, but not limited to, construction, foundation details, instrumentation, ventilation, plumbing and fire suppression systems, and types of intruder barriers; onsite traffic systems; physical security system; survey control program; areas of waste storage. [30 TAC §§336.707(5), 305.54(f)]

3.4 Structural Stability

Describe the design features of the land disposal facility and the disposal units. For near-surface disposal, the description shall include those design features related to structural stability of backfill and wastes. [30 TAC §§336.707(4), 305.54(f)]

3.5 Disposal Unit Cover

3.5.1 Describe the design features of the land disposal facility and the disposal units. For near-surface disposal, the description shall include those design features related to integrity and structural stability of covers for disposal units. [30 TAC §§336.707(4), 305.54(f)]

3.5.2 Demonstrate that the covers are designed to minimize water infiltration, to direct percolating or surface water away from the disposed waste, and to resist degradation by surface geologic processes and biotic activity. [30 TAC §336.729(d)]

3.6 Management of Water

3.6.1 Describe those design features related to infiltration of water, contact of wastes with standing water, and disposal site drainage. [30 TAC §§336.707(4), 305.54(f)]

3.6.2 Demonstrate that the disposal site is designed to minimize the contact of water with waste during storage, the contact of standing water with waste during disposal, and the contact of percolating or standing water with wastes after disposal. [30 TAC §336.729(f)]

3.6.3 Indicate proximity to creeks or culverts, types of intruder barriers, onsite drainage systems, and methods to control surface water and groundwater access to the wastes. [30 TAC §§336.707(5), 305.54(f)]

3.6.4 Demonstrate that surface features direct surface water drainage away from disposal units at velocities and gradients which will not result in erosion that will require ongoing active maintenance. [30 TAC §336.729(e)]

3.7 Design Considerations for Natural Events

3.7.1 Describe the design basis natural events or phenomena and their relationship to the principal design criteria. [30 TAC §336.707(2)]

3.7.2 Demonstrate how the design of the land disposal facility incorporates safeguards against hazards resulting from local meteorological conditions, including phenomena such as hurricanes, tornados, violent storms, and susceptibility to flooding, as well as seismic phenomena such as earthquakes and earth tremors. [30 TAC §336.729(g)]

4.0 CONSTRUCTION

4.1 Construction Codes and Standards

Describe the codes and standards which will apply to construction of the land disposal facilities. [30 TAC §336.707(3)]

4.2 Construction Methods and Features

Describe construction of the disposal facility, including construction methods of the disposal units. [30 TAC §§336.707(5), 305.54(f)]

4.3 Construction Safety and Equipment

Describe construction of the disposal facility, including construction methods of the disposal units. [30 TAC §§336.707(5), 305.54(f)] Describe:

4.3.1 types of equipment;

4.3.2 equipment specifications and capabilities; and

4.3.3 storage, maintenance, replacement, and inspection of equipment.

4.4 Construction Environmental Monitoring

Provide plans for the operation of a monitoring program during the land disposal facility site construction. Measurements and observations shall be made and recorded to provide data to evaluate the potential health and environmental impacts during the construction of the

facility and to enable the evaluation of long-term effects and the need for mitigative measures. The monitoring system shall be capable of providing early warning of releases of radionuclides and chemical constituents before they leave the disposal site boundary. [30 TAC §336.731(b)]

5.0 OPERATION

5.1 Waste Receipt, Inspection, and Acceptance

Describe the types, chemical and physical forms, quantities, classification, and specifications of the radioactive material proposed to be received, possessed, processed, and disposed of at the land disposal facility. The description shall include any prior disposal containing radioactive material at the site. The description shall include performance criteria for form and packaging of the waste or radioactive material that has been previously received and will be received. [THSC §401.112(a)(8)] & [30 TAC §§336.707(6), 305.45(a)(8)(B)(ii)]

5.2 Waste Analysis Plan

The applicant shall provide a Waste Analysis Plan which describes [THSC §§401.218, 401.225]:

- 5.2.1 The applicant's protocol for waste acceptance, classification, and rejection criteria
- 5.2.2 All analysis and inspection techniques, including any analytical procedures to be used
- 5.2.3 A description of how the facility will ensure waste and/or debris arriving at the site matches the waste and/or debris designated on accompanying shipping tickets.
- 5.2.4 A description of the specific provisions and actions the applicant will take if the materials do not meet low-level radioactive waste specifications or are improperly processed or packaged.
- 5.2.5 Normal characteristics of the waste which must be known in order to store, process, or dispose of the waste and debris; and any abnormal characteristics which may upset further treatment or processing operations.
- 5.2.6 Methods which the applicant will use to identify and manage free liquids
- 5.2.7 Methods which the applicant will use to identify and manage the Class A, Class B, Class C, and Containerized Class A wastes.

5.3 Interim Storage, Processing, and Handling of Waste

- 5.3.1 Describe the operation of the land disposal facility. The description shall include: methods and areas of waste storage, the procedures for and areas of waste segregation, and facilities for and methods of processing waste including improperly

packaged shipments. The description shall also include the methods to be employed in the handling of wastes. [30 TAC §§336.707(5), 305.54(f)]

5.3.2 Provide a flow diagram of waste processing and disposal operations and a description and accurate drawings of processing equipment, and any special handling techniques to be employed. [30 TAC §336.708(a)(5)]

5.4 Waste Disposal

5.4.1 Provide a description of the operation of the land disposal facility. The description shall include waste emplacement; The description shall also include the methods to be employed in the handling and disposal of wastes containing chelating agents or other nonradiological substances that might affect meeting the performance objectives of 30 TAC §336.723. [30 TAC §§336.707(5), 305.54(f)]

5.4.2 Provide, for each place of disposal, the volume and rate of disposal of the defined waste, including appropriate averages, the maximum rates of disposal over representative periods of time, and detailed information regarding the patterns of disposal. [30 TAC §305.45(a)(8)(B)(i)]

5.4.3 Demonstrate that wastes designated as Class A under 30 TAC §336.362(a) shall be properly segregated from other wastes. This segregation is not necessary for Class A wastes if they meet the stability requirements in 30 TAC §336.362(b)(2). [30 TAC §336.730(a)]

5.4.4 Demonstrate that wastes designated as containerized Class A, Class B, or Class C under 30 TAC §336.362(a) shall be disposed of in the following manner:

5.4.4.1 within a reinforced concrete container and within a reinforced concrete barrier, or within containment structures made of materials technologically equivalent or superior to reinforced concrete; [THSC §401.218(b)]

5.4.4.2 in such a manner that the waste can be monitored and retrieved; [30 TAC §336.730(b)(2)]

5.4.4.3 and, so that the top of the waste is a minimum of five meters below the top surface of the cover or shall be disposed of with intruder barriers that are designed to protect against an inadvertent intrusion for at least 500 years. [30 TAC §336.730(b)(3)]

5.5 Operations and Safety

5.5.1 Provide an Operating and Emergency Procedures Manual that provides detailed procedures for receiving, handling, storing, processing, and disposal of waste. Emergency procedures shall include a spill detection and cleanup program for the site and associated transportation of waste. [THSC §§401.112(a) (12), 401.112(a)(16)] & [30 TAC §336.707(9)]

5.5.2 Provide a description of the radiation safety program for control and monitoring of contamination to personnel, vehicles, equipment, buildings, and the disposal site. Both routine operations and accidents shall be addressed. The program description

shall include procedures, instrumentation, facilities, and equipment. [30 TAC §336.707(8)]

5.5.3 Provide a description of the administrative procedures that the applicant must apply to control activities at the land disposal facility, including hours of proposed operation. [30 TAC §336.707(10)]

5.5.4 Provide the facility's security plans. [THSC §401.112(a)(14)]

5.6 Mixed Waste

5.6.1 Provide a plan to comply with the requirements of 30 TAC Chapter 335 (relating to Industrial Solid Waste and Municipal Hazardous Waste) for the disposal of mixed waste. The licensee may not dispose of mixed waste unless the licensee is specifically licensed for the disposal of mixed waste under 30 TAC Chapter 336 and permitted under 30 TAC Chapter 335. [30 TAC §336.733©]

5.6.2 Provide plan to comply with the following requirements: All low-level radioactive waste and mixed waste received for disposal by the applicant shall be classified in accordance with 30 TAC §336.362(a), shall meet the applicable characteristics of 30 TAC §336.362(b) , and shall be labeled in accordance with 30 TAC §336.362(c). [30 TAC §336.733(a)]

5.7 Operational Environmental Monitoring [THSC §401.112(a)(11)]

5.7.1 Provide a description of the facility electronic record keeping system as required in 30 TAC §336.740(i) (relating to Maintenance of Records and Reports). [30 TAC §336.707(11)]

5.7.2 Provide a description of the operational monitoring programs, including radioactive and chemical characteristics; and plan for taking corrective measures if migration of radionuclides or chemical constituents is indicated. Monitoring data shall be sufficient to evaluate the potential health and environmental impacts during the operation of the facility and to enable the evaluation of long-term effects and the need for mitigative measures. Demonstrate the capability of the monitoring system to provide early warning of releases of radionuclides and chemical constituents before they leave the disposal site boundary. [30 TAC §336.708(a)(10) & [30 TAC §336.731(b)]

5.8 Federal Facility Waste

Applications for the licensing of the disposal of federal facility waste shall demonstrate compliance with the provisions of 30 TAC Chapter 336, the Texas Radiation Control Act, and other applicable provisions of the application. The commission may license federal facility waste disposal only at a separate and distinct disposal unit that is operated exclusively for the disposal of federal facility waste and that is adjacent to the compact waste disposal facility. [30 TAC §336.901]

Applicants seeking authorization for disposal of federal facility wastes shall submit:

- 5.8.1 detailed plans for management, control, stabilization, and disposal of federal facility waste and the decommissioning of the licensed federal facility waste disposal activity;
- 5.8.2 a written agreement, acceptable to the executive director and signed by the United States secretary of energy, stating that the federal government will assume all right, title, and interest in land and buildings acquired under 30 TAC §336.710 (relating to Institutional Information) for the disposal of federal facility waste, together with requisite rights of access to the land and buildings; [30 TAC§336.909(2)]
- 5.8.3 formal acknowledgment that the licensee will convey to the federal government the right, title, and interest in federal facility waste located at the federal facility waste disposal facility;
- 5.8.4 detailed plans regarding the transfer of federal facility waste, land, and buildings to the federal government without cost to the state or federal government, other than the administrative and legal costs incurred in making the transfer; and
- 5.8.5 a signed statement which indemnifies the state, and its officers and agents, for any liability imposed on the state under state or federal law for damages, removal, or remedial action with respect to the land, the facility, or the waste accepted, stored, or disposed of, because the transfer does not relieve a license holder of liability for any act or omission before or following the transfer. This indemnification does not relieve the license holder of providing financial assurance for decommissioning, institutional control, and, after decommissioning, corrective action. [30 TAC §336.909(5)]

6.0 CLOSURE

6.1 Statutory and Regulatory Considerations

- 6.1.1 The applicant shall provide a decommissioning and site closure and stabilization plan, including those design features, activities, and preparations which are intended to facilitate disposal site closure and to eliminate the need for ongoing active maintenance after closure and an estimated date of site closure which is to be updated as required. [H&SC §401.112(a)(13)] & [30 TAC §§336.708(a)(11), 336.719]
- 6.1.2 The applicant shall provide a description of the facility design and procedures related to disposal site closure and stabilization, elimination to the extent practicable of long-term disposal site maintenance, inadvertent intrusion, occupational exposures, disposal site monitoring, and adequacy of the size of the buffer zone for monitoring and potential mitigative measures. [30 TAC §§336.707(4), 305.54(f)]
- 6.1.3 The applicant shall demonstrate that the site design features are directed toward long-term isolation and avoidance of the need for continuing active maintenance after site closure so that there is reasonable assurance that the performance objectives of 30 TAC §336.723 will be met. [30 TAC §336.729(a)]
- 6.1.4 The applicant shall demonstrate that the disposal site design and operation are compatible with the disposal site closure plan and lead to disposal site closure that

provides reasonable assurance that the performance objectives of 30 TAC §336.723 will be met. [30 TAC §336.729(b)]

6.1.5 The applicant shall provide cost estimates approved by the executive director for site closure and stabilization of the disposal site including decontamination and dismantlement of land disposal facility structures. Cost estimates shall take into account total costs that would be incurred if an independent contractor were hired to perform the closure and stabilization work. [30 TAC §336.736(b)]

6.2 Closure Environmental Monitoring [H&SC §401.112(a)(6), (11) & (17)]

6.2.1 The applicant shall provide a description of baseline, operational, and long-term environmental monitoring programs, including radioactive and chemical characteristics, and the plan for taking corrective measures if migration of radionuclides or chemical constituents is indicated. [30 TAC §336.708(a)(10)]

6.2.2 The applicant shall provide a post-operational surveillance monitoring program based on the operating history and the closure and stabilization of the disposal site. The monitoring system shall be capable of providing early warning of releases of radionuclides and chemical constituents before they leave the disposal site boundary. [30 TAC §336.731(c)]

6.3.3 The licensee shall have a plan for taking corrective measures if migration of radionuclides and chemical constituents would indicate that the performance objectives of 30 TAC §336.723 may not be met. [30 TAC §336.731(d)]

7.0 POST-CLOSURE AND INSTITUTIONAL CONTROL

7.1 Post-Closure

7.1.1 The applicant shall provide a plan to observe, monitor, and carry out necessary maintenance and repairs at the disposal site until the site closure is complete and the license is transferred by the commission in accordance with 30 TAC §336.721 (relating to Transfer of License to Custodial Agency). [30 TAC §336.720(a)]

7.1.2 If the applicant intends to dispose of mixed waste, the applicant shall demonstrate, after final closure, plans for compliance with all post-closure requirements contained in 30 TAC §335.174, including maintenance and monitoring throughout the post-closure care period.

7.1.3 The applicant shall provide a cost estimate associated with the post closure care requirements of this section.

7.2 Monitoring and Institutional Control

7.2.1 The applicant shall provide a description of the long-term environmental monitoring programs, including radioactive and chemical characteristics, and plan for taking corrective measures if migration of radionuclides or chemical constituents is indicated [H&SC §401.112(a)(6), (11) & (17)] & [30 TAC §336.708(a)(10)]

- 7.2.2 The applicant shall provide a plan on how the custodial agency shall carry out an institutional control program to physically control access to the disposal site following transfer of control of the disposal site from the disposal site operator. The institutional control program shall also include, but not be limited to, carrying out an environmental monitoring program at the disposal site, periodic surveillance, minor custodial care, and other requirements as determined by the commission or executive director, and administration of funds to cover the costs for these activities. The period of institutional control shall be determined by the commission but may not be relied upon for more than 100 years following transfer of control of the disposal site to the custodial agency. [30 TAC §336.734(b)]
- 7.2.3 The applicant shall provide a cost estimate for institutional control including: perpetual surveillance, monitoring, required maintenance, other care of the disposal site. The amount of funds necessary to provide perpetual care during the institutional control period shall be based upon a real annual rate of interest, above inflation, of 2%. [30 TAC §336.737(a)]

7.3 Corrective Action

- 7.3.1 The applicant shall address (e.g. modeling) unplanned events that pose a risk to public health, safety, and the environment that may occur after the decommissioning and closure of the compact waste disposal facility or federal facility waste disposal facility [30 TAC §336.738(a)]
- 7.3.2 The applicant shall provide a plan for taking corrective measures if migration of radionuclides and chemical constituents would indicate that the performance objectives of 30 TAC §336.723 may not be met. [30 TAC §336.731(d)]
- 7.3.3 The applicant shall provide a cost estimate for corrective action associated with public health and safety issues described in Section 7.3.1 of this application and with performance objective issues described in Section 7.3.2 of this application [30 TAC §336.738]

8.0 PERFORMANCE ASSESSMENT

8.1 Compliance With Performance Objectives

In developing the performance assessment section, the applicant is referred to the following U.S. Nuclear Regulatory Commission guidance documents: (1) NUREG-1200, "Standard Review Plan for the Review of a License Application for Low-Level Radioactive Waste Disposal Facility," January 1991; (2) NUREG-1573, "A Performance Assessment Methodology for Low-Level Radioactive Waste Disposal Facilities," October 2000; and (3) NUREG-1199, "Standard Format and Content of a license application for a Low-Level Radioactive Waste Disposal Facility," January 1991.

- 8.1.1 In meeting the performance objectives in 30 TAC §336.724 (relating to Protection of the General Population from Releases of Radioactivity), 30 TAC §336.725 (relating to Protection of Individuals from Inadvertent Intrusion), 30 TAC §336.726 (relating to Protection of Individuals during Operations), and 30 TAC §336.727 (relating to Stability of the Disposal Site after Closure), the applicant shall provide the following information:

- (1) data used for demonstrating compliance with performance objectives;
- (2) how data was collected;
- (3) development of conceptual model(s);
- (4) defining scenarios and pathways;
- (5) selection of appropriate mathematical model(s) and code(s);
- (6) calibration of the model(s)/code(s) and the data output from execution of the code(s);
- (7) sensitivity and uncertainty analyses; and
- (8) a determination of site adequacy in meeting the performance objectives.

8.1.2 Other Activities/Facilities - Demonstrate that the disposal site shall not be located where nearby facilities or activities could adversely impact the ability of the site to meet the performance objectives of 30 TAC §336.723 or significantly mask the environmental monitoring program. If activities involving radioactive material were previously performed on the site, evaluate the contribution of those activities that may impact the ability of the site to meet performance objectives. [30 TAC §336.728(k)]

8.2 Source Term

8.2.1 Describe the types, chemical and physical forms, quantities, classification, and specifications of the radioactive material proposed to be received, possessed, processed, and disposed of at the land disposal facility. Provide sufficient information about the wastes projected to be disposed of at the disposal site to allow for defensible modeling of potential radiological impacts associated with waste disposal. This description shall include any prior disposal containing radioactive material at the site. This description shall include performance criteria for form and packaging of the waste or radioactive material that has been previously received and will be received. [30 TAC §§336.707(6), 305.45(a)(8)(B)(ii)] & [THSC §401.112(a)(8)]

8.2.2 Waste During Operational Life

The following information on waste characteristics should be provided:

- (1) A discussion of the potential for receipt of Compact and non-Compact waste, as well as the conditions for such waste receipt.
- (2) An identification of the major individual waste streams that constitute the majority of the waste volume and activity.
- (3) An identification of the waste streams that constitute the remaining waste volume and activity. These waste streams may be identified in terms of typical waste streams generated by a number of generators (e.g., a waste stream consisting of low-activity waste generated by hospitals).

- (4) Information on the physical, chemical, and radiological characteristics of each waste stream so identified in items 2 and 3 above. This information should include:
 - (a) annual volumes,
 - (b) waste class,
 - (c) average concentrations of the principal radionuclides constituting the waste stream,
 - (d) the chemical and physical form,
 - (e) the presence of chelating agents,
 - (f) packaging characteristics (e.g., whether the waste will be disposed in a high-integrity container), and
 - (g) solidification agent. Descriptions of the chemical and physical form should provide information important to an estimation of release rates (e.g., whether the waste stream consists of activated metals, sealed sources, and ion-exchange resins).
- (5) For the information discussed above on waste volumes, an estimate of trends, for example, whether the waste stream will be generated at a constant annual rate, or only occasionally. Waste streams only expected to be generated at a future time (e.g., waste streams associated with decommissioning of a nuclear power plant) should be specifically identified.
- (6) For major generators, any plans to alter waste generation rates (e.g., in volume reduction, decommissioning plans) over the first 5 years of the operational life of the disposal facility.
- (7) A presentation and discussion of any limitations that will be imposed on waste receipt, form, packaging, or other characteristics that would influence assessments of disposal facility performance. Such limitations could potentially include limitations on total site inventories of radionuclides of concern (e.g., C-14, H-3, Tc-99, or I-129), or requirements on the structural stability of certain Class A wastes. These proposed limitations will be incorporated into the land disposal facility license as conditions of operation.
- (8) A summary of the total projected waste volume and activity for each year of the operational life.

8.2.3 Describe the waste anticipated to be generated during closure operations. The information should be sufficient to enable an independent staff assessment of potential closure costs and impacts. The waste description should thus provide information similar to that discussed in item 8.2.2(4) above.

8.3 Operations Under Normal And Accident Conditions

8.3.1 Demonstrate that operations at the land disposal facility shall be conducted in compliance with the standards for radiation protection set out in 30 TAC 336

Subchapter D (relating to Standards for Protection Against Radiation), except for releases of radioactivity in effluents from the land disposal facility, which shall be governed by 30 TAC §336.724 (relating to Protection of the General Population from Releases of Radioactivity). Effort shall be made to maintain radiation exposures as low as is reasonably achievable. [30 TAC §336.726]

Provide analyses of the protection of individuals during operations including assessments of expected exposures due to routine operations and likely accidents during handling, processing, storage, and disposal of waste. The analyses shall provide reasonable assurance that exposures will be controlled to meet the requirements of 30 TAC Chapter 336 Subchapter D (relating to Standards for Protection Against Radiation). [30 TAC §§336.709(3), 336.726]

- 8.3.2 Demonstrate that concentrations of radioactive material which may be released to the general environment in groundwater, surface water, air, soil, plants, or animals shall not result in an annual dose above background exceeding an equivalent of 25 millirems to the whole body, 75 millirems to the thyroid, or 25 millirems to any other organ of any member of the public. Effort shall be made to maintain releases of radioactivity in effluents to the general environment as low as is reasonably achievable. [30 TAC §336.724]

Pathways analyzed in demonstrating protection of the general population from releases of radioactivity including air, soil, groundwater, surface water, plant uptake, and exhumation by animals shall clearly identify and differentiate between the roles performed by the natural disposal site characteristics and design features in isolating and segregating the wastes. The analyses shall clearly demonstrate that there is reasonable assurance that the exposures to humans from the release of radioactivity will not exceed the limits specified in 30 TAC §336.724 (relating to Protection of the General Population from Releases of Radioactivity). A minimum period of 1,000 years after closure or the period where peak dose occurs, whichever is longer, is required as the period of analysis to capture the peak dose from the more mobile long-lived radionuclides and to demonstrate the relationship of site suitability to the performance objective in 30 TAC §336.709(1) and to the performance objective in 30 TAC §336.724. [THSC §401.113(c)(1)] & [30 TAC §336.709(1)]

- 8.3.3 Provide information regarding the types, significance, and magnitudes of releases of radioactivity associated with accidents or unusual operational conditions. The information should be sufficient to enable analysis of projected radiological impacts to any individual.

8.4 Post-Closure And Institutional Control Period

Provide information on how the disposal facility will be sited, designed, used, operated, and closed to achieve long-term stability of the disposal site and to eliminate the need for ongoing active maintenance of the disposal site following closure so that only surveillance, monitoring, or minor custodial care are required. [30 TAC §336.727]

Analyses of the long-term stability of the disposal site and the need for ongoing active maintenance after closure shall be based upon analyses of active natural processes such as erosion, mass wasting, slope failure, settlement of wastes and backfill, infiltration through covers over disposal units and adjacent soils, and surface drainage of the disposal site. The

analyses shall provide reasonable assurance that there will not be a need for ongoing active maintenance of the disposal site following closure. [30 TAC §336.709(4)]

8.5 Post-Institutional Control Period

Demonstrate how design, operation, and closure of the land disposal facility shall ensure protection of any individual inadvertently intruding into the disposal site and occupying the site or contacting the waste at any time after active institutional controls over the disposal site are removed. [30 TAC §336.725]

Provide analyses of the protection of individuals from inadvertent intrusion including demonstration that there is reasonable assurance that the waste classification and segregation requirements will be met and that adequate barriers to inadvertent intrusion will be provided. [30 TAC §§336.725, 336.709(2)]

9.0 QUALITY ASSURANCE AND QUALITY CONTROL

Provide a detailed description of the quality assurance program, tailored to disposal of low-level radioactive waste, developed and applied by the applicant for the determination of natural disposal site characteristics and for quality assurance during the design, construction, operation, and closure of the land disposal facility and during the receipt, handling, and emplacement of waste. [30 TAC §336.707(7)].

In developing the Quality Assurance (QA) and Quality Control (QC) section the applicant is referred to NUREG 1200, "Standard Review Plan for the Review of a License Application for Low-Level Radioactive Waste Disposal Facility," January 1991. The applicant shall provide descriptions and plans of the following:

- 9.1 Identify and describe the authority and responsibilities of organizations performing QA/QC activities.
 - 9.1.1 Provide a single organization chart showing how major organizations or companies interrelate with one another throughout the site characterization, design, construction, operation, and closure of the facility.
 - 9.1.2 Provide organizational charts and functional responsibility that denote lines of responsibility and areas of authority within each major organization in the project throughout the site characterization, design, construction, operation, and closure of the facility.
 - 9.1.3 Describe measures that ensure that entities performing QA/QC activities have authority and freedom to: 1) identify problems, 2) initiate, recommend or provide solutions, and 3) verify implementation of a chosen solution.
 - 9.1.4 Describe how entities with primary responsibility for ensuring implementation of the QA/QC program have access to management, as necessary.
 - 9.1.5 Identify positions that have written delegated responsibility and authority to stop work or control further processing, delivery, installation or use of non-conforming items.

9.1.5 Describe the extent to which the applicant will delegate to contractors or subcontractors the work of establishing and executing the QA/QC program including:

- (1) How requirements will be imposed on contractors and subcontractors to ensure that entities within their organization performing QA/QC functions have sufficient authority to implement the program; and
- (2) How the applicant will maintain control over delegated portions of the QA/QC program.

9.2 Describe measures to implement and monitor the QA/QC program

9.2.1 Describe qualification requirements for persons responsible for ensuring effective implementation of the QA/QC program.

9.2.2 Describe indoctrination and training programs to ensure that suitable proficiency is achieved and maintained.

9.2.3 Describe measures to ensure that there is regular management review within the QA/QC program to assess effectiveness of the program.

9.2.4 Describe provisions for review of the QA/QC program by personnel above or outside the QA/QC organization.

9.3 Design Controls

This section addresses design related items including: specifications, plans, drawings, blueprints, theoretical analysis, exploration findings, experimentation results, the application of investigative findings and theories into practical applications, modeling, and testing results for devices, equipment, and materials

9.3.1 Provide a description of how design control elements of the QA/QC plan are to be planned, documented, and implemented prior to the start of design work.

9.3.2 Describe measures (including personnel and their responsibilities and procedures) to confirm that the design of the structures, systems, and components are suitable for the intended purpose (design verification) including:

- (1) Design review;
- (2) Peer review; and
- (3) Alternate calculation methods (if applicable)

9.3.3 Describe measures (including personnel and their responsibilities and procedures) to ensure that all data have been handled as intended (design checking) including:

- (1) Confirmation of computations; and
- (2) Accuracy of data input into computer codes

- 9.3.4 Describe measures for identifying and controlling design interrelationships and for providing coordination between participating design organizations.
 - 9.3.5 Describe how design changes will be subject to design control measures commensurate with those applied to the original design.
 - 9.3.6 Describe how errors are documented, and how corrective action is to be taken to prevent recurrence of errors.
 - 9.3.7 Describe measures for ensuring that the process of selecting materials, parts, and equipment is effective.
- 9.4 Procurement of Material, Equipment, and Services
- 9.4.1 Describe procedures that clearly delineate the sequence of actions to be performed in the preparation, review and approval of procurement documents including, but not limited to:
 - (1) Ensure qualified personnel will review and concur on the adequacy of quality requirements stated in procurement documented;
 - (2) Ensure that quality requirements and acceptance/rejection criteria are clearly stated;
 - (3) Ensure that quality requirements and acceptance/rejection criteria are inspectable and controllable;
 - (4) Ensure that documentation requirements are clearly stated; and
 - (5) Ensure procuring agency's right of access to the supplier's facility and records for source inspection and audit.
 - 9.4.2 Describe measures to ensure that material, equipment, and services will conform to procurement document specifications including:
 - (1) Evaluation and selection of sources of supply before contract is awarded;
 - (2) Surveillance at supplier's facility during design, manufacture, inspection and testing to verify compliance with quality requirements;
 - (3) Source and/or receipt inspection of procured items;
 - (4) Documentation from the supplier that procured items meet codes, standards, or specifications, or other quality requirements; and
 - (5) Periodic verification of the supplier's certificates of conformance.
 - 9.4.3 Describe procedures for cleaning, handling, packaging, preservation, storage, and shipping of materials, material samples, components and assemblies to prevent damage, loss, or deterioration by environmental conditions.

- 9.4.4 Describe measures to ensure that materials, parts, and components can be identified accurately once obtained and located on site.
 - 9.4.5 Describe measures to ensure that materials, parts and components remain in compliance with design specifications in storage at the site.
 - 9.4.6 Describe measures to control materials, parts, or components that do not conform to requirements in order to avoid their inadvertent use. Include measures for identification, segregation, disposition, repair or rework procedures, and documentation.
- 9.5 Processes, Procedures and Instructions
- 9.5.1 Describe measures to be taken to ensure that activities affecting quality are prescribed and performed in accordance with documented instructions or procedures. Delineate the sequence of actions to be performed in the preparation, review, approval, and control of instructions and procedures.
 - 9.5.2 Describe measures to ensure that processes and their controls are detailed in approved procedures. Measures to ensure training and qualification of personnel, formal instructions, drawings, checklists, and equipment specifications should be described.
- 9.6 Document Control
- 9.6.1 Describe measures to ensure the review, approval, and issuance, and control of documents related to design, construction, and operations, including:
 - (1) Identification of entities responsible for reviewing, approving and issuing documents and revisions;
 - (2) Procedures to ensure that changes to documents are subject to the same level of review as initial version documents;
 - (3) Inclusion of approved changes in documents before change is implemented;
 - (4) Control of obsolete documents to eliminate inadvertent use; and
 - (5) Master list to establish the current revision number;
 - 9.6.2 Describe measures that ensure that sufficient records are maintained to furnish evidence or activities affecting quality including, but not limited to:
 - (1) Type of operation, inspector, equipment, data recorder;
 - (2) Test logs, operating logs, results of reviews, drawings, inspections, tests, audits, monitoring of work performance, materials analysis, personnel records, training records, equipment and procedure manuals; and
 - (3) Notation of any deficiencies and corrective action taken.

9.7 Inspection and Testing

9.7.1 Describe measures that ensure that a program for inspection is established and implemented to verify conformance with the documented instructions, procedures, or drawings including:

- (1) Inspections to verify procedures, or to accept or reject completed work;
- (2) Inspection procedures and instructions with necessary drawings and specifications are available for use before the inspections are performed;
- (3) Replaced, reworked, modified, or repaired items are inspected in accordance with original inspection requirements;
- (4) Inspectors are appropriately qualified and independent of the group performing the activity being inspected;
- (5) Indirect control by monitoring is used if direct inspection is impossible or disadvantageous; and
- (6) Procedures to identify inspection status by use of markings.

9.7.2 Describe measures that establish a testing program that identifies all testing required to demonstrate:

- (1) The site's geologic, hydrologic, and geochemical characteristics are capable or providing long-term isolation; and
- (2) Structures, systems, and components will perform satisfactorily in service.

9.7.3 Describe testing procedures to ensure that testing is conducted:

- (1) By trained and appropriately qualified personnel;
- (2) According to written test procedures that incorporate requirements and acceptance limits;
- (3) Using adequate test instrumentation and equipment;
- (4) Under suitable environmental conditions; and
- (5) Using adequate documentation to ensure that test requirements are satisfied.

9.7.4 Describe procedures to ensure that samples are preserved appropriately for future retrieval, and that documentation is provided to identify and control stored samples. These procedures shall include, but are not limited to:

- (1) Drill core samples
- (2) Laboratory test samples

- (3) Waste samples used for classification and material properties

9.7.5 Describe measures taken to ensure that tools, gauges, instruments, and other measuring and testing devices are identified, controlled, adjusted, and calibrated at specified periods to maintain accuracy including:

- (1) Adjustment and calibration is done using certified equipment or reference standards having known valid relationships to nationally recognized standards;
- (2) If no national standard exists, the basis for calibration is documented;
- (3) If equipment is found out of calibration, methods for evaluating previous test results and repeating testing if necessary; and
- (4) Maintenance of documentation indicating calibration status of testing equipment.

9.8 Describe measures to ensure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformance items are identified and corrected. Describe how corrective action will be taken and documented to preclude repetition.

9.9 Audits, Surveillance and Managerial Control

9.9.1 Describe the program and that of the principal contractors for conducting comprehensive planned and periodic audits to verify compliance with all aspects of the QA/QC program to determine the effectiveness of the program including:

- (1) External audits to be performed on the respective suppliers;
- (2) Internal audits to be performed within the organization
- (3) Planning and scheduling of audits;
- (4) Conduct of audits in accordance with written procedures by appropriately trained personnel not having direct responsibility in the area being audited; and
- (5) Documentation of audit results with review by management personnel and (if needed) follow-up action, including re-audit.

10.0 PERSONNEL

Provide the following information concerning personnel qualifications [30 TAC §336.706(a)(2)]:

10.1 the organizational structure of the applicant, both offsite and onsite, including a description of lines of authority and assignments of responsibilities, whether in the form of administrative directives, contract provisions, or otherwise.

- 10.2 the technical qualifications, including training and experience, of the applicant and members of the applicant's staff to engage in the proposed activities. Minimum training and experience requirements for personnel filling key positions described in Subsection 13.1 of this section shall be provided;
- 10.3 description of minimum training and experience requirements of personnel filling on-site management and key operations positions.
- 10.4 a description of the applicant's personnel training program; and
- 10.5 the plan to maintain an adequate complement of trained personnel to carry out waste receipt, handling, and disposal operations in a safe manner. Those plans should include provisions for operating the facility in the event of unavailability of any contracted services or equipment.

11.0 ENVIRONMENTAL REPORT AND ALTERNATIVE MANAGEMENT TECHNIQUES

Provide an environmental report under the requirements of Title 10 of the Code of Federal Regulations, §§51.45, 51.62, and 61.10, as amended. [30 TAC §336.708(b)] The following sections that were previously addressed in the application may be referenced in the report. However, for ease of reading and timeliness of review, summary statements and any additional information should be provided for every topic heading.

11.1 Purpose and Need for Proposed Project

Provide a statement of need and a description of the proposed activities identifying the location of the proposed site, the character of the proposed activities, and any plans for use of the site for purposes other than processing and disposal of waste. [30 TAC §336.708(a)(1)]

11.2 Description of Site-Selection Process

Describe the site selection process, including considerations of the interrelationships between location of waste generators, transportation costs and means, site characteristics, and compatibility with current land uses. [30 TAC §336.708(a)(6)]

11.3 Alternatives to Proposed Project

Discuss project alternatives, including a discussion of the alternatives considered by the applicant for processing and disposal of waste [30 TAC §336.708(a)(7)]

Provide evidence relating to the reasonableness of any technique for managing low-level radioactive waste to be practiced at the proposed land disposal facility or facilities including:

- 11.3.1 studies of alternate techniques of waste processing and reduction at the site of waste generation; and
- 11.3.2 studies of the use of aboveground isolation facilities. [THSC §401.219] & [30 TAC §336.805(3)]

11.4 Characteristics of Proposed Site

Describe area and site characteristics including ecology, geology (including geotechnical features), seismology, geochemistry, soils, topography, hydrology, air quality, natural radiation background, meteorology, climatology, historical and cultural landmarks, archaeology, demography, and current land uses. The applicant's report shall address the following topics: [30 TAC §336.708(a)(3)]

11.4.1 Geography and Demography

- (1) Site Location
- (2) Site Description
- (3) Population Distribution
- (4) Uses of Adjacent Land and Waters

11.4.2 Ecology

- (1) Terrestrial Ecology
- (2) Aquatic Ecology

11.4.3 Meteorology and Air Quality

- (1) Meteorology
- (2) Air Quality

11.4.4 Geology and Seismology

11.4.5 Hydrology

- (1) Surface water
- (2) Ground Water

11.4.6 Regional Historic, Archeological, Architectural, Scenic, Cultural, and Natural Landmarks

11.4.7 Socioeconomics

11.5 Design of Proposed Facility

Provide a flow diagram of waste processing and disposal operations, a description and accurate drawings of processing equipment, and any special handling techniques to be employed. [30 TAC §336.708(a)(5)]

11.5.1 Description of Wastes to be Accepted

Provide a description of the types, chemical and physical forms, quantities, classification, and specifications of the radioactive material proposed to be received, possessed, processed, and disposed of at the land disposal facility. This description shall include any prior disposal containing radioactive material at the site. This description shall include performance criteria for form and packaging of the waste or radioactive material that has been previously received and will be received. [30 TAC §336.707(6)]

11.5.2 Facility Description

Provide a description of the design features of the land disposal facility and the disposal units. For near-surface disposal, the description shall include those design features related to infiltration of water; integrity of covers for disposal units; structural stability of backfill, wastes, and covers; contact of wastes with standing water; disposal site drainage; disposal site closure and stabilization; elimination of long-term disposal site maintenance; inadvertent intrusion; occupational exposures; disposal site monitoring; and adequacy of the size of the buffer zone for monitoring and potential mitigative measures. The description also should include the following features: [30 TAC §336.707(4)]

- (1) Principal Features
- (2) Site Utilization Plan
- (3) Construction Plans
- (4) Types of Structures
- (5) Excavated Materials Area

11.6 Environmental Effects of Proposed Facility

Provide a description of the pathways analyzed in demonstrating protection of the general population from releases of radioactivity. This shall include air, soil, groundwater, surface water, plant uptake, and exhumation by animals. The analyses shall clearly identify and differentiate between the roles performed by the natural disposal site characteristics and design features in isolating and segregating the wastes. The analyses shall clearly demonstrate that there is reasonable assurance that the exposures to humans from the release of radioactivity will not exceed the limits set forth in 30 TAC §336.724 (relating to Protection of the General Population from Releases of Radioactivity). The applicant's report shall address the following topics: [30 TAC §336.709(1)]

11.6.1 Short-Term Environmental Effects

- (1) Site Preparation and Construction Effects
- (2) Facility Operation Effects
- (3) Facility Closure Activities Effects

11.6.2 Long-Term Environmental Effects

- (1) Environmental Effects of Long-Term Containment
- (2) Environmental Effects of Potential Radionuclide Releases

11.7 Environmental Effects of Accidents

Discuss environmental effects of postulated operational and transportation accidents. [30 TAC §336.708(a)(9)]

11.8 Summary Evaluation of Proposed Project

The information in this section should summarize the important adverse environmental impacts and the overall benefit-cost analysis for the proposed project. It is understood that not all benefits and adverse impacts can be stated in monetary terms but this should not be taken as reason to automatically quantify the impact as trivial. An attempt should be made to state the benefit or adverse impact in the terms that best describe it. The following impacts discussions should be provided:

11.8.1 Unavoidable Adverse Environmental Impacts

11.8.2 Irreversible and Irrecoverable Commitments of Resources

11.8.3 Relationship Between Short-Term Uses and Long-Term Productivity of Man's Environment

11.8.4 Benefit-Cost Balance

11.9 Environmental Measurements and Monitoring Programs

Provide a description of baseline, operational, and long-term environmental monitoring programs, including radioactive and chemical characteristics, and the plan for taking corrective measures if migration of radionuclides or chemical constituents is indicated. [30 TAC §336.708(a)(10)]

11.9.1 Pre-operational Environmental Programs

A pre-operational monitoring program shall be conducted to provide basic environmental data on the disposal site characteristics. For those characteristics that are subject to seasonal variation, data must cover at least a 12-month period. The report shall address the following topics: [30 TAC §336.731(a)]

- (1) Meteorological Baselines
- (2) Hydrology and Water Quality
- (3) Terrestrial Environment

(4) Radiological Baselines

11.9.2 Operational Monitoring

During the land disposal facility site construction and operation, the licensee shall maintain a monitoring program. Measurements and observations shall be made and recorded to provide data to evaluate the potential health and environmental impacts during both the construction and the operation of the facility and to enable the evaluation of long-term effects and the need for mitigative measures. The monitoring system shall be capable of providing early warning of releases of radionuclides and chemical constituents before they leave the disposal site boundary. The applicant's report shall address the following topics: [30 TAC §336.731(b)]

- (1) Meteorological Monitoring System
- (2) Hydrological Monitoring System
- (3) Ecological Monitoring System
- (4) Radiological Monitoring System

11.9.3 Postoperational Monitoring

Provide a post-operational surveillance monitoring program based on the operating history and the closure and stabilization of the disposal site. The monitoring system shall be capable of providing early warning of releases of radionuclides and chemical constituents before they leave the disposal site boundary. [30 TAC §336.731(c)]

11.10 Status of Compliance

Provide a list of all permits, licenses, approvals, and other entitlements required by Federal, State, local, and regional authorities that must be obtained for protection of the environment, and discuss the status and history of compliance with these requirements. The discussion of alternatives in the report should include a discussion of whether the alternatives will comply with such applicable environmental quality standards and requirements.

12.0 FINANCIAL QUALIFICATION AND FINANCIAL ASSURANCE

The financial information in the application shall be sufficient to demonstrate that the financial qualifications of the applicant are adequate to carry out the activities for which the license is sought, in accordance with 30 TAC §336.735 (relating to Applicant Qualifications and Assurances) and to meet other financial assurance requirements of §336, Subchapter H including: §336.736 (relating to Liability Coverage and Funding for Disposal Site Closure and Stabilization); §336.737 (relating to Funding for Institutional Control); §336.738 (relating to Funding for Corrective Action); and Chapter 37 (relating to Financial Assurance).

- 12.1 The applicant shall demonstrate that it either possesses the necessary funds or has reasonable assurance of obtaining the necessary funds, or by a combination of the two, to cover the estimated costs for the following:

- 12.1.1 Conducting all licensed activities over the planned operating life of the project, including costs of construction and disposal [30 TAC §336.735].
- 12.1.2 Paying annual license fees and any agency costs of processing the application that may exceed the \$500,000 application processing fee [30 TAC §336.735].
- 12.1.3 Providing sufficient insurance to cover potential injury to any property or person, including potential injury from risks relating to transportation. [H&SC §401.112(a)(9)] & [30 TAC §336.706(a)(5)]
- 12.1.4 Providing financial assurance for:
 - (1) Disposal site closure and stabilization including decontamination and dismantlement of land disposal facility structures, disposal of any radioactive material remaining at the site at closure, and closure and stabilization of the disposal site so that, following transfer of the disposal site to the custodial agency, the need for ongoing active maintenance is eliminated to the extent practicable and only minor custodial care, surveillance, and monitoring are required. Applicant shall base financial assurance for this section on cost estimates provided in Section 6.1.5 of this application [30 TAC §336.736(a)]
 - (2) Bodily injury and property damage to third parties caused by sudden and non-sudden accidental occurrences arising from operations of the compact waste disposal facility and/or federal facility waste disposal facility in a manner that meets the requirements of 30 TAC §37.9059 (relating to Financial Assurance Requirements for Liability);
 - (3) Post closure observation and maintenance based on the cost estimate submitted in Section 7.1 (for facilities accepting mixed waste, or non-mixed waste, as appropriate)
 - (4) Institutional control using the perpetual care account, and based on the cost estimate submitted in Section 7.2.3 of this application [30 TAC §336.737(b)]
 - (5) Corrective action to address unplanned events that pose a risk to public health and safety that may occur after the decommissioning and closure of the compact waste disposal facility or federal facility waste disposal facility, based on cost estimates submitted in Section 7.2.3 of this application
- 12.2 The applicant shall describe how the proposed insurance to be obtained by the applicant is sufficient to cover potential injury to any property or person, including potential injury from risks relating to transportation. [H&SC §401.112(a)(9)] & [30 TAC §336.706(a)(5)]
- 12.3 The applicant shall describe the financial assurance mechanisms to be obtained by the applicant to address the obligations identified in 12.1.4.
- 12.4 The applicant shall provide the information used to calculate the estimated costs for each of the items in 12.1.1 - 12.1.4.

12.5 The applicant shall provide the financial information described in 30 TAC §305.50(a)(4)(D)(ii)-(vii) to demonstrate the financial capacity to satisfy the requirements of 12.1.

13.0 TIER REVIEW PROCESS

Ensure that information contained in the application clearly addresses the Tier Criteria given in 30 TAC §§336.815, 336.817, 336.819, and 336.821. Include in the application a cross index, labeled "Attachment F," which shows the location in the application where each of the Tier Criteria is fully addressed.

14.0 SCHEDULES

Provide the following proposed time schedules[30 TAC §336.708(a)(2), 30 TAC §336.706(a)(4)]:

14.1 Schedule for Licensing

14.2 Schedule for Construction

14.3 Schedule for Operations (Receipt, Processing and Disposal of Waste)

14.4 Schedule for Closure

The schedules should show that the applicant has considered the time needed for regulatory reviews and for public meetings and administrative hearings.