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## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

June 20, 2014

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Division of Materials Safety and State Agreements  
Office of Federal and State Materials and Environmental Management Programs  
U. S. Nuclear Regulatory Commission  
Washington D.C. 20555-0001

Re: TCEQ Response to Draft IMPEP Report Dated May 21, 2014

Dear Mr. White,

Thank you for the letter and draft report submitted to the Texas Department of State Health Services (DSHS) and the Texas Commission on Environmental Quality (TCEQ) (Commission) on May 21, 2014. As you state in your letter, the U.S. Nuclear Regulatory Commission (NRC) uses the Integrated Materials Performance Evaluation Program (IMPEP) in the evaluation of Agreement State programs. The draft report attached to the letter documents the results of the Agreement State review held in Texas on February 10-14, 2014.

The Commission is pleased that the NRC's IMPEP Review Team has recommended that the Texas Agreement State's Program be found to be at the highest attainable level to adequately protect public health and safety and is compatible with the NRC's program. We are also pleased that the Review Team has recommended that the next IMPEP review take place in approximately four years, which is the maximum allowable time between program reviews.

The Commission is also aware that the Review Team has three program recommendations for the TCEQ. Our agency takes these recommendations seriously and appreciates the opportunity to respond to these suggestions as well as comment on other parts of the Review Team's draft report. The sequence of our responses follows the comments and recommendations in the draft report.

### Comment 1

(Section 3.3.1 and 3.4.1)

Our first comment is in regard to the Review Team's remarks regarding Technical Staffing and Training in Section 3.3.1 and 3.4.1 of the draft report. According to the draft report, the Compliance Team has two full-time onsite Low Level Radioactive Waste (LLRW) inspectors and two main office inspectors that are shared with the

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uranium recovery program for a total of 2.4 full-time employees (FTEs) dedicated to the LLRW inspection program. In addition, Section 3.4.1 states that approximately 0.7 FTE is assigned to the uranium recovery program.

The Commission is not sure how the FTE count of 2.4 was determined, but would like to clarify the job description of the Compliance Team. The TCEQ maintains two full-time resident inspectors at the LLRW disposal site in Andrews County. These two inspectors provide daily operational coverage Monday through Friday and on weekends and holidays as necessary. Their primary duty is to inspect incoming shipments of Compact Commission Waste for acceptance and disposal, but also assist with LLRW, by-product and waste processing investigations, and complaint investigations. The two "main office" inspectors conduct the LLRW investigations, LLRW by-product and waste processing investigations, complaint investigations, Uranium Recovery investigations, and Class III Underground Injection Control (UIC) investigations, along with other Radioactive Material compliance duties such as training and developing investigation procedures, etc. In addition, the Homeland Security Coordinator/Section Manager (HSC) and the Assistant Homeland Security Coordinator (AHSC) spend considerable time reviewing and approving LLRW investigations as well as LLRW disposal investigations. They also spend time accompanying investigators on inspections throughout the year as workloads allow. The main office investigators and the HSC and AHSC adjust their daily, monthly and annual schedules and activities relative to the LLRW, Uranium, and UIC programs based on agency strategies, risks, and needs to further protect human health and the environment. Additionally, the environmental monitoring (EM) compliance program for LLRW activities at the Andrews disposal site is conducted by Health Physicists and Engineers from Radioactive Materials Division (RMD) on an annual basis where soil and groundwater samples are collected for analysis. Waste Control Specialists (WCS) submits EM reports to the agency and RMD staff review these reports for compliance on a semi-annual basis.

#### Comment 2

(Section 3.3.2)

In Section 3.3.2, the draft report states that the Commission performed an inspection of licensee activities during the first waste shipment and considers this inspection to be the initial inspection of the LLRW disposal site. The Review Team determined that this inspection was limited to a review of waste receipt and disposal activities and did not include an inspection of other licensee activities that would be reviewed during a routine health and safety inspection, such as the licensee's radiation protection and environmental compliance programs.

The inspectors evaluated the licensee's radiation control measures during the receipt, transfer, and disposal of the waste shipment. The inspection included witnessing the

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waste shipment surveys and visual inspections conducted by the licensee. In addition, the inspectors also surveyed and conducted a visual inspection of the waste shipment to verify the licensee's measurements and findings. Also the inspectors witnessed the verification of the waste class, personnel frisking for the presence of radioactive material contamination, and reviewed personnel exposure records. They also reviewed transport vehicle surveys as well as the visual inspection records which included the results of wipe tests. Also, the licensee provides semi-annual EM reports to RMD for their review. The reports include a summary of the environmental and effluent monitoring program, including the results of all environmental media samples. RMD staff conveys any issues that need further action to the licensee. RMD staff also visited the facility and split samples with the licensee during the review period. The resident inspectors, in coordination with the licensee, exchange the environmental dosimeters and radon cups on a quarterly basis.

Therefore, even though the Review Team did not consider the April 2012 inspection to be an initial inspection of the LLRW disposal site (because it was not described as such), the Commission conducted inspections under the waste processing license which would be considered during an initial inspection of the LLRW disposal site, and which would be adequate to protect public health and safety (please see the attached chart and discussion for additional information).

#### Comment 3

(Section 3.3.2)

The draft report also states that the Compliance Team conducted routine inspections of the radioactive waste processing license in 2010, 2011 and 2013 and that the waste processing license was not inspected in 2012.

The Commission is not clear why the lack of an inspection in 2012 has been noted. The Commission, which has two permanent resident inspectors on-site each day, inspects the waste processing licenses every two years in accordance with the Enclosure 1 of the NRC's Manual Chapter (MC) 2800. The Commission considers this inspection frequency, coupled with the daily presence of resident inspectors to be adequate to protect public health and safety.

However, while the Commission does acknowledge that NRC's MC 2800, which establishes a routine inspection frequency of every two years for LLRW disposal facilities, is in conflict with NRC's MC 2401 which prescribes an annual routine inspection, the Commission will seek to align its LLRW inspection frequency based on the NRCs final input.

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Comment 4

(Section 3.3.3)

The draft report states in Section 3.3.3 that the Radioactive Material Licensing Section oversees the review of financial assurance, engineering reports, and environmental monitoring reports for the LLRW disposal site. It goes on to say that the environmental staff visits the facility annually to review the environmental monitoring program and that the main office and resident inspectors perform the engineering inspections and provide feedback to the engineering staff in the main office. This statement needs to be clarified.

The resident inspectors do not perform engineering inspections. The resident inspectors provide information, including photos of certain aspects of construction or other related engineering activities based on their observations.

Comment 5

(Section 3.3.3)

The draft report says that four inspection reports for the waste processor license were reviewed. The Review Team noted that the 2013 inspection of the waste processing facility was documented using a pre-drafted report format that did not clearly identify the scope of the inspection and was being finalized during this onsite review.

The Commission is unclear as to the rationale behind this assertion. The subject report clearly stated the scope of the inspection was to evaluate the licensee's compliance with the applicable Commission's rules/regulations and the conditions of the licensee's license related to the waste processing program. The inspection included a review of the Radiation Protection Program Audit, Internal and External Personnel Monitoring, Personnel Frisking, Respiratory Protection, Radiation Work Permits, Personnel Overexposure Incidents, Notification and Reports to Individual, Waste Management, Training, and Posting Requirements. In addition, a facility inspection was conducted which covered the Mixed Waste Treatment Facility and the waste storage areas.

Comment 6

(Section 3.3.3)

The Review Team also noted that the Commission has not yet developed comprehensive inspection procedures to support the overall LLRW inspection program. As listed above, the Review Team noted that the overall inspection report template is a general, pre-drafted, semi-completed inspection report that does not clearly identify the scope of the inspection or documents all the appropriate health and safety issues. The Review Team recommended that the Compliance Team, in coordination with the Radioactive

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Materials Section, develop detailed inspection procedures for LLRW inspections to provide feedback to the LLRW program and enhance the inspection program.

The Commission is considering adding detailed procedures to the existing inspection procedures which would enhance the LLRW inspection program. For the on-demand LLRW shipments, the Commission currently uses an inspection report in the form of a checklist which covers the requirements related to the receipt, acceptance, transfer and disposal of the waste. The report includes an inspection findings summary and photos.

Comment 7

(Section 3.3.3)

The Review Team noted that a routine increased controls (IC) inspection of the radioactive waste processor license occurred in January 2010; however, no subsequent routine IC inspections have been conducted of either the waste processing or disposal site license and the Review Team considered the routine IC inspection overdue.

There were no significant changes in IC procedures or activities at the facility up to the opening date of the LLRW disposal site in April 2012; therefore an annual routine IC inspection was not performed. Prior to the receipt of the waste at the LLRW disposal site, the Commission conducted a pre-operational inspection which included the inspection of the security system. The Commission conducted an IC inspection at the LLRW facility at the end of May, 2014.

Comment 8

(Section 3.3.3)

According to the draft report, supervisor accompaniments were conducted annually for all inspectors, with the exception of one inspector who received only one supervisor accompaniment during the review period.

To clarify, supervisor accompaniments of the inspectors were conducted but were not documented. The Commission will document all future supervisor accompaniments as appropriate.

Comment 9

(Section 3.4.1)

In Section 3.4.1 of the draft report, it states that only one inspector is trained to perform UIC permit inspections. The other inspector only conducts the radioactive materials inspections.

For clarification, the other inspector is being trained to perform UIC inspections and has conducted limited UIC permit inspections.

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Comment 10

(Section 3.4.2)

According to Section 3.4.2 of the draft report, during the review period, the inspection staff missed 14 of 20 UIC permit inspections and 10 of 44 routine annual radioactive material license inspections. During discussions between the review team, Commission managers and uranium recovery inspectors, the Commission indicated that they had deferred inspections due to the higher than anticipated workload required in preparation for the start of operations at the LLRW disposal site in 2012. Based on information provided by the Commission, the review team determined that there were no currently overdue radiation safety inspections in the Uranium Mills program.

The Commission would like to clarify that the UIC program for Class I, III, IV, and V wells in the State of Texas is the program administered by the TCEQ and approved by EPA pursuant to Section 1422 of the Safe Drinking Water Act (see 40 CFR Section 147.2200). Because TCEQ administers an EPA-approved UIC program pursuant to the Safe Drinking Water Act, TCEQ questions NRC's authority and role regarding its comment on the number of TCEQ-conducted UIC permit inspections. UIC permit inspections do not appear to be under NRC's purview under the Federal Safe Drinking Water Act or the Atomic Energy Act.

TCEQ's EPA-approved UIC program is not subject to requirements regarding the number of permit inspections conducted. TCEQ strives to conduct an inspection of each permitted Class I & III injection well facility annually. TCEQ will also respond and perform inspections based on submitted complaints. Due to staff limitations and priorities for inspecting other facilities, there have been times when TCEQ was not able to inspect each permitted Class III injection well facility annually. The EPA does review the TCEQ UIC program annually, including review of the permit inspection program, and finds each year that the TCEQ runs an acceptable program.

Therefore, the TCEQ respectfully request that all review and mention of the Class III UIC program be removed from the final NRC report.

Comment 11

(Section 3.4.2)

The Commission's procedure requires that inspection findings are communicated to a licensee during the exit meeting at the end of the inspection. A written report is generated for each inspection and provided to the licensee only upon request. The Review Team noted that inspection reports were not reviewed by management within 30 days of the inspection, as specified in Sections 1.6 and 1.7 of the Commission's

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Radioactive Materials Compliance Investigation Guidance and in addition, allegedly several inspection reports could not be located.

The Commission agrees with the Review Team's findings regarding management review. This was due to the higher than anticipated workload required in preparation for the start of operations at the LLRW disposal site in 2012. The Commission will make a reasonable effort to adhere to a 30-day time frame. With regard to the missing reports, although the review team initially had difficulty locating the inspection reports in the file room. Based on further discussions with the Review Team, it is the Commission's understanding that the inspection reports in question were located and reviewed by the Review Team.

Comment 12

(Section 3.4.3)

The draft report states in Section 3.4.3 that the Commission's radiation safety inspections were thorough and included operational and record reviews. Any violations were communicated by the inspector to the licensee during exit interviews. However, the Review Team noted that power failure procedures, environmental monitoring results, and groundwater reports are not reviewed as part of the inspection program.

To clarify and to be more accurate, depending on the scope of the inspection, the areas mentioned above are typically inspected/reviewed and documented during the routine UIC permit and/or Radioactive Material inspections. In addition, the permittee/licensee submits quarterly/semi-annual groundwater reports to the Commission for review and any findings are conveyed to the licensee. Furthermore, due to schedule conflicts between the two NRC Review Team members and their unavailability to participate in more than a one-day inspection, the NRC Review Team was unavailable for a full routine inspection. During the accompaniment in February 2014, the inspectors performed an abbreviated facility inspection and followed up on items from the previous inspection due to time constraints. The limited scope of the inspection was discussed with the review team members and the Commission does not believe that comments related to the limited scope of the inspection are appropriate in the final report.

Comment 13

(Section 3.4.3)

According to the draft report, the Commission did not perform pre-operational inspections prior to startup of new facilities and has no equivalent guidance for inspection frequency or inspection report content of the groundwater compliance program to ensure health and safety are protected.

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To clarify this statement, during the reporting period, there was only one new in-situ uranium recovery site. The Commission agrees with the Review Team's finding that a pre-operational inspection of this facility was not conducted by the Commission prior to start of production. A pre-operational test was conducted by the licensee in November 2010 and production started that same month. The Commission conducted an inspection of this facility in March 2011. The Commission is considering adding detailed pre-operational procedures for new facilities to the existing inspection procedures to enhance the inspection program. To ensure health and safety, the Commission evaluates and verifies the licensee/permittee environmental compliance program through on-site inspections and/or review of the groundwater monitoring reports submitted by the permittee and the licensee to the Commission.

Comment 14

(Section 3.4.3)

The draft report states that the licensing and permitting staff, who have geohydrology and engineering technical expertise, does not routinely accompany the inspection staff who have health physics expertise during routine inspections.

Also in the draft report, it states that information on the conditions at the sites identified during inspections is not timely communicated to the licensing/permitting staff. The Review Team recommends that the Compliance Team, in coordination with the UIC Permits Section and the Uranium Section, develop detailed inspection procedures for uranium recovery inspections to provide feedback to the uranium recovery program and enhance the inspection program.

To clarify this assertion, it should be noted that the Compliance Team, prior to an inspection, notifies the licensing/permitting staff of their inspection plans and discuss any areas of concern that may pertain to a site that is being inspected. If needed, licensing and/or permitting staff will accompany the inspector during their inspection. With regard to this issue the Commission had followed up with the Review Team at the time of the IMPEP review and provided copies of correspondence documenting consistent communications about inspection findings between the Compliance Team and the licensing/permitting staff.

Comment 15

(Section 3.4.4)

In Section 3.4.4 of the draft report, the Review Team discussed with the Commission the status of one license which was revoked in 2003 for nonpayment of fees. The groundwater at both sites has been fully restored but the surface contamination has not been cleaned up. A gamma survey was performed on both sites in 2012 which confirmed the sites are contaminated. According to the report, neither site is properly



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posted or secured based on discussions with Commission staff and observations of the site made by NRC staff. The report also states that the IMPEP review team discussed TCEQ's responsibilities with them.

The Commission is aware of its responsibility to protect the public health and safety at this site. It should be noted that signs had been posted during the last TCEQ review of the site, but that theft of the radiological signage has been an ongoing problem at this location. TCEQ is currently working on a path forward for this area.

### **Recommendations from the Draft Report**

As stated at the beginning of this letter and in the draft report, the Review Team made three program recommendations. Each is addressed below.

1. The Review Team recommends that the Commission develop and implement a strategy to address staffing in the LLRW and uranium recovery inspection programs in order to enhance the effectiveness and efficiency of the Program.

The Commission is considering the development and implementation of additional strategies to address staffing in the LLRW and uranium recovery inspection programs. The Commission recently implemented the use of innovative technologies to automate and streamline LLRW disposal inspections through the use of SharePoint coupled with electronic tablets. The use of innovative technologies greatly increased the efficiencies of the LLRW FTEs, and the commission will seek to expand these same efficiencies to the Uranium and UIC programs.

2. The Review Team recommends that the Compliance Team, in coordination with the Radioactive Materials Section, develop detailed inspection procedures for LLRW inspections to provide feedback to the LLRW program and enhance the inspection program.

The Commission is considering adding detailed procedures to the existing inspection procedures to enhance the inspection program.

3. The Review Team recommends that the Compliance Team, in coordination with the UIC Permits Section and the Uranium Section, develop detailed inspection procedures for uranium recovery inspections to provide feedback to the uranium recovery program and enhance the inspection program.

The Commission is considering adding detailed procedures to the existing inspection procedures to enhance the inspection program.

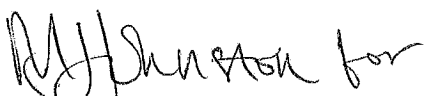
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The TCEQ is very appreciative of the efforts made by the Review Team to understand, evaluate, and recognize the Commission's Low Level Radioactive Waste Disposal Program and its Uranium Recovery Program. The safe regulation of these programs is of paramount importance to the TCEQ and the citizens of Texas. Therefore we are pleased that the Review Team recommended the Texas Agreement State Program be found adequate to protect public health and safety and compatible with the NRC's program. We look forward to continued communication and cooperation with your agency.

Sincerely,



Kelly Cook, Director

Critical Infrastructure Division



Charles Maguire, Director

Radioactive Materials Division

Enclosure:

Low Level Radioactive Waste (LLRW) Disposal Inspection Overview

## **Low Level Radioactive Waste (LLRW) Disposal Inspection Overview**

The inspection frequency of a LLRW disposal facility during operations and closure phases are established in the Nuclear Regulatory Commission (NRC) Manual Chapter (MC) 2401 (issued on 11/27/01). In general, based on MC 2401, the inspection of various license activities should be conducted on an annual basis. However, the inspections of a LLRW disposal facility (waste burial, commercial and non-commercial) is also specified in the Enclosure 1 of the NRC's MC 2800 (dated 11/25/2003) is based on a two year frequency. This appears to be in conflict with the inspection frequency specified in MC 2401. The table below shows the inspection frequencies in MC 2401 for various license activities during the operations phase. The routine inspections conducted by TCEQ are also included in the table.

WCS currently holds a radioactive material license (RML No. Ro4100) for the receipt and disposal of LLRW and for the storage and processing of radioactive waste. The waste processing license Ro4971 was combined with RML Ro4100 when Amendment 22 was issued on July 24, 2013. WCS also holds RML Ro5807 for the disposal of by-product 11.e.2 material.

WCS was approved by TCEQ to accept and dispose of LLRW on April 25, 2012 under Radioactive Material License Ro4100. The first shipment of LLRW was disposed of at the WCS facility on April 27, 2012. The TCEQ inspectors inspected the waste shipment which included surveys and visual inspection of the vehicle and the waste package. In addition, the inspectors witnessed and evaluated the radiation control measures followed by WCS during the acceptance transfer, and disposal of the waste shipment. Since this was the first waste shipment disposed at the facility, the inspection performed by the TCEQ counted as the initial operations inspection of the LLRW program.

Although, CID did not specifically document a routine LLRW license inspection, several inspection modules specified in MC 2401 were covered during the inspection of on demand receipt and disposal of the LLRW shipments, routine waste processing license (Ro4971, prior to be combined with RML 4100) and/or under by-product material license.

<b>Inspection Title</b>	<b>Frequency</b>	<b>Routine Inspection Conducted by TCEQ</b>
Management Entrance/Exit Interview	Each Inspection	<b><u>Routine Waste Processing License Inspection</u></b> 1/13-14/2010 8/23-25/2011 10/4-5/2011 7/1-2/2013  <b><u>Routine LLRW License Inspection</u></b> 3/25-27/2014 5/28-30/2014
Radiation Protection	Annual	<b><u>Under LLRW License</u></b> During on demand receipt, transfer, and disposal of LLRW shipments.  <b><u>Routine Waste Processing License Inspection</u></b> 7/1-2/2013 (Personnel monitoring, respiratory, radiation work permits records; inspection of storage/operational areas, including mix waste treatment facility; posting requirements)  <b><u>Routine LLRW License Inspection</u></b> 3/25-27/2014 5/28-30/2014
Closeout Inspection and Survey	NA	NA
Inspection of Waste Generator Requirements	Every Other Year	This section mainly applies to the licensed waste generators. For waste generated at WCS the TCEQ inspectors in coordination with the RMD inspect the applicable components of the requirements.

Special Nuclear Material (SNM)	Annual	10/4-5/2011
Operations Review of a LLRW disposal facility	Annual	<p><b><u>Under LLRW License</u></b>  Conducted by the resident inspectors during on demand receipt of the LLRW shipments at the WCS facility; also conducted</p> <p><b><u>Routine LLRW License Inspection</u></b>  3/25-27/2014  5/28-30/2014</p>
Facility Engineering	Annual	Conducted by RMD staff as necessary
Solid Waste Management & Transportation of RAM	Annual	<p><b><u>Under LLRW License</u></b>  Receipt, transfer, and disposal of LLRW shipments, including storage, processing, and packaging of LLRW are conducted by the resident inspectors during on demand receipt of the LLRW shipments at the WCS facility.</p> <p><b><u>Routine Waste Processing License Inspection</u></b>  7/1-2/2013 (records and inspection of storage/operational areas)</p> <p><b><u>Routine LLRW License Inspection</u></b>  3/25-27/2014  5/28-30/2014  <b>Note:</b> WCS has not shipped LLRW or other radioactive materials off site.</p>
Management Organization and Controls	Annual	<p>WCS' management organization, including their responsibilities is checked during each routine inspection if there have been significant changes. WCS has TCEQ approved procedures for the operation of their LLRW disposal facility. These procedures are checked for updates and revisions during routine and/or on demand waste shipments inspections.</p> <p><b><u>Routine LLRW License Inspection</u></b>  3/25-27/2014  5/28-30/2014</p>
Operator Training/Retraining	Every Other Year	7/1-2/2013
Surveillance Testing	Annual	The equipment, work orders, procedures used during Receipt, transfer, and disposal of LLRW shipments, including storage, processing, and packaging of LLRW are witnessed by the resident inspectors During on demand receipt of the LLRW shipments at the WCS facility.
Radioactive Waste Management	Annual	1/13-14/2010 10/4-5/2011
Environmental Programs	Annual	<p>WCS has approved Standard Operating Procedures for environmental monitoring program.</p> <p>WCS provides semi-annual environmental monitoring reports to the RMD for their review. The report includes summary of the environmental and effluent monitoring program, including the results of all environmental media samples. RMD staff conveys any issues that need further action to WCS. RMD staff split samples with WCS on a semi-annual basis. The resident inspectors exchange the TCEQ environmental dosimeters and radon cups on a quarterly basis. WCS also provides an annual meteorological report to the RMD for their review.</p> <p><b><u>Routine LLRW License Inspection</u></b>  5/28-30/2014 (Visited each environmental monitoring station; inspected Low/high volume air monitoring devices, radon cups, and dosimeters; also inspected one of the four meteorological stations).</p>
Emergency Planning	Annual	<p>WCS is required to conduct biennial on-site emergency response exercises. TCEQ resident inspector(s) and/or other TCEQ staff have participated in the exercises. The most recent emergency response exercise was conducted on 3/28/2014. One of the resident inspectors participated in the exercise.</p> <p><b><u>Routine LLRW License Inspection</u></b>  5/28-30/2014  Initiated discussions with WCS staff and conducted records review; additional follow up needed.</p>