October 15, 2024

Via ***rulescoordinator@rrc.texas.gov***

Rules Coordinator
Railroad Commission of Texas
Office of General Counsel
P.O. Drawer 12967
Austin, TX 78711-2967

Re: Comments on Proposed Amendments to Statewide Rules 8 and Subchapter B

Dear Rules Coordinator:

Commission Shift appreciates the opportunity to provide input on the Railroad Commission's Proposed Amendments to Statewide Rules 8 and Subchapter B.

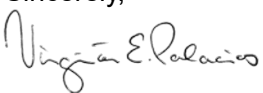
Commission Shift is a nonpartisan non-profit focused on reforming oil and gas oversight in Texas by building public support to hold the Railroad Commission of Texas accountable to its mission in a shifting energy landscape. We have met with community members and groups affected by oil and gas waste and recycling operations and have collected feedback relevant to these proposed amendments.

In line with these goals and concerns, Commission Shift respectfully submits the enclosed comments. Commission Shift's comments suggest how the Railroad Commission's oversight of oil and gas waste and recycling operations could be improved by (1) allowing for actual meaningful public participation; (2) incorporating rules that better protect the public and environment from authorized activities and during the permitting and operation of waste management units; and (3) strengthening the Commission's ability to reject bad applications and improving the Commission & public's ability to enforce against bad actors.

Note that these comments are divided into three parts. The first portion places the rule in context, highlighting community experience with the regulation of oil and gas waste management and providing historical background. The second part outlines overarching themes to Commission Shift's concerns, which seven other groups have also co-signed as indicated below. The third part provides specific, line-item comments on the proposed rules.

Commission Shift welcomes a dialogue with the Commission as any questions or concerns arise during the Commission's review of these comments, just as industry has been allowed to dialogue with the Commission for the past two years in the drafting of these rules. The Commission must listen to the voices of concerned Texans---there is still opportunity for the Commission to finalize commonsense rules that still safeguard human health and the environment, as it is required by statute to do. But the proposed amendments fall short of this mandate, as the following comments explain.

Sincerely,



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vpalacios@commissionshift.org

The following organizations share Commission Shift's concerns about this rulemaking and have specifically signed on to Part II of the attached comments:

Clean Water Action Texas | Austin, TX

La Salle County Commissioners Court | Cotulla, TX

Liveable Arlington | Arlington, TX

Lower Brazos Riverwatch | Sugar Land, TX

Middle Pecos Groundwater Conservation District | Fort Stockton, TX

Reeves County Groundwater Conservation District | Pecos, TX

River Pierce Foundation | San Ygnacio, TX

Enclosures have been sent in multiple parts due to file size limitations:

Enclosure 1: Two files: (1) These comments dated October 15, 2024; and
(2) Exhibits 1-46 (inclusive), which are identical to those submitted by Commission Shift on November 3, 2023 during the informal comment period.

Enclosure 2: One file: (1) Exhibits 7.01-11.01 and 14.03 and 14.06-30.09, which Commission Shift cites for the first time in this rulemaking. This single file consists of:

Exhibit 7.01	Exhibit 14.03	Exhibit 24.02	Exhibit 30.04
Exhibit 7.02	Exhibit 14.06	Exhibit 24.03	Exhibit 30.05
Exhibit 7.03	Exhibit 16.01	Exhibit 26.01	Exhibit 30.06
Exhibit 7.04	Exhibit 16.02	Exhibit 30.01	Exhibit 30.07
Exhibit 9.01	Exhibit 16.03	Exhibit 30.02	Exhibit 30.08
Exhibit 11.01	Exhibit 24.01	Exhibit 30.03	Exhibit 30.09

Enclosure 3: One file: (1) Exhibits 30.10-46.04, which Commission Shift cites for the first time in this rulemaking. This single file consists of:

Exhibit 30.10	Exhibit 30.15	Exhibit 34.04	Exhibit 46.01
Exhibit 30.11	Exhibit 33.01	Exhibit 34.05	Exhibit 46.02
Exhibit 30.12	Exhibit 34.01	Exhibit 34.06	Exhibit 46.03
Exhibit 30.13	Exhibit 34.02	Exhibit 43.01	Exhibit 46.04
Exhibit 30.14	Exhibit 34.03	Exhibit 43.02	Exhibit 46.05

Enclosure 4: Dropbox link emailed to Rules Coordinator, per Rules Coordinator staff direction with two files:

(1) Exhibits to the Glass Report, as a single file.

(2) Exhibits related to Public Information Act Requests, as a single file, consisting of:

Exhibit 14.01	Exhibit 14.04
Exhibit 14.02	Exhibit 14.05

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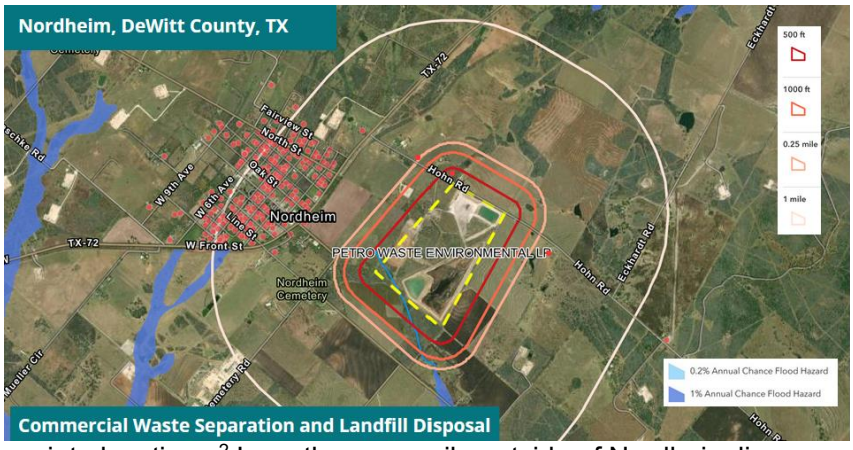
PART I – CONTEXT & COMMUNITY EXPERIENCE WITH SWR 8 & CHAPTER B

1. Communities have been harmed by operations regulated under the current rule and by lack of enforcement.

Texans across the state have struggled for years with how oil and gas waste operations are regulated under the current rules, and how the current rules are being enforced. Commission Shift has talked to many community members living near these operations and offers the following vignettes to give context to the proposed rulemaking.[1]

Petro Waste's Hohn Landfill Facility near Nordheim, TX (DeWitt County). Citizens of Nordheim and DeWitt County have experienced firsthand how the Commission and Rule 8 has failed to keep polluting facilities from being permitted and operated in inappropriate locations.[2] Less than one mile outside of Nordheim lies Petro Waste Environmental LP's 140-acre+ Hohn Facility, a commercial waste separation and landfill disposal facility.[3] Citizens of Nordheim have also submitted comments in this rulemaking.[4]



To help the Commission visualize how close facilities like Hohn are to sensitive receptors like homes, water bodies, floodplains and water wells, Commission Shift has created maps of some of these facilities using publicly available data.[5] Reported residences are shown as red dots; many are

[1] Other stories include: Ex. 1 Fehling, Dave. How 'Landfarms' For Disposing Drilling Waste Are Causing Problems In Texas. NPR. (Nov. 12, 2012). https://stateimpact.npr.org/texas/2012/11/12/landfarms-for-disposing-drilling-waste-causing-problems-in-texas/

[2] The story of citizens' on-going struggles with the landfill near Nordheim has been documented in a number of news outlets. See e.g., Ex. 2 Tiny Nordheim Sues State Over Drilling Waste Dump (Texas Tribune) (August 2016) https://www.texastribune.org/2016/08/02/eagle-ford-tiny-nordheim-keeps-battling-drilling-w/; South Texas Drilling Country Saying No to Waste (October 2, 2013) https://www.nytimes.com/2014/10/03/us/south-texas-drilling-country-saying-no-to-waste.html; Ex. 3 Nordheim loses fight as Railroad Commission OKs oil field landfill. (May 3, 2016) https://www.mysanantonio.com/business/eagle-ford-energy/article/Nordheim-loses-fight-as-Railroad-Commission-OKs-7390449.php. Those struggles include: dealing with a permitting process that allows applicants to continue redesigning and amending their application even after it is declared administratively complete; and struggling to obtain adequate stormwater controls and air monitoring.

[3] Petro Waste Environmental Obtains Nordheim Landfill Permit (May 3, 2016) https://tailwatercapital.com/petro-waste-environmental-obtains-nordheim-landfill-permit/

[4] CAP Comments (2023) https://www.rrc.texas.gov/media/b12b1frc/comments-ch4-informal-draft-nordheimcap.pdf See also Ex. 14.06 (Summarizing concerns from community members, including the group Citizens Against Pollution. These community members and CAP request the Commission address their specific concerns as well).

[5] These and other maps can be found at https://commissionshift.org/our-work/cleaning-up-oil-gas/waste-pits/ Commission Shift notes that it makes no claims as to the accuracy of this data (though it has used publicly available

within one mile of the facility, some closer than 500 feet. Only surface owners within 500 feet of the property line would have received notice under the proposed rules—but as the complaints from this facility show, the facility's ill effects have been felt far beyond 500 feet. This is another reason that setbacks should be expanded from beyond what is proposed in the rules—500 ft from the permitted pit (not the property boundary)—is too little. Also included in this map is the 100-year floodplain, which appears to extend near one of the pits visible in the satellite image.

In May 2023, one of the several retention ponds built with excavated pit materials near the Hohn facility burst, sending fluid and berm materials spilling out across Hohn Road and into a neighboring rancher's pastureland (see below).[6] All in all, it took a day and a half for all the water to drain out. Stories like this illustrate the importance of strong rules on construction practices and the appropriate uses of oil and gas waste.

The McBride Waste Separation facility near Waskom, TX (Harrison County) is another example of how difficult living next to a waste facility can be with the way the current rules are implemented and enforced. Through Public Information Act requests, Commission Shift obtained numerous records detailing citizen complaints and

sources, including the Commission's list of active waste sites) and these maps are not intended to make any claims about the accuracy of permitting or enforcement, but are intended to help the Commission put the facilities in context with nearby sensitive sites.

[6] Photos courtesy of Sister Elizabeth Riebschlaeger.

operator violations for this facility. In just one example of troubling conditions from July 2023 (below), an inspection reported an unpermitted pit with off-the-chart readings of salinity (over 80,000 ppm).[7] (For context, the proposed rules would require such a pit to get a permit if its contents exceed 3,000 ppm chloride (under the current rules, 80,000 ppm is also not allowed without a permit).) During that visit, trucks were observed actively unloading saltwater into the pit while fluids with a salinity of over 20,000 ppm had spilled out of the pit into the woods for a distance of 335 feet.[8]

In addition, in the Texas Groundwater Protection Council's Joint Groundwater Monitoring and Contamination Report, the Waskom Waste Separation Facility is listed as facility with an active groundwater contamination case since 2020 (File number OCP#5237), with the contaminants described to include benzene, TPH, and chloride.[9] Meanwhile, this facility has been allowed to continue operating with its groundwater monitoring network not fully functional. This facility also appears to be located near many sensitive receptors. The map here shows that the 100-year floodplain seems to extend onsite, with homes located as close as 500 feet. At least two public supply wells (large blue droplets) appear to be located within a mile of the facility, and other wells (small blue droplets) even closer.

The same operator, McBride, has also forced the community of Paxton, TX to spend a small fortune fighting to convince the Commission that

[7] Ex. 4, McBride Waskom STF Facility RRC Inspection Reports (July) Figure – Snapshot of YSI salinity meter reading at McBride Waskom STF facility (2023). Note: meter shows "OVER" for salinity reading – upper limit for meter is 80 ppt or 80,000 ppm salinity (per YSI handheld salinity/conductivity/temp meter: Ex. 5 https://www.enviroequipment.com/product/ysi-30-conductivity-salinity-temperature-rental)

[8] As the inspection report describes it, "The brush limbs and vegetation on the spill path appears to be dea[d]."

[9] TCEQ Groundwater Contamination Viewer (Accessed October 31, 2023). https://tceq.maps.arcgis.com/apps/webappviewer/index.html?id=5a36690f56bc4f128588b19b092cbf91 Commission Shift has not found this map hosted on the Commission's own site, but it should be. As early as 2000, STRONGER has recommended that similar such information be published to the Commission's website for abandoned sites as well. Ex. 6 STRONGER Texas Review (2000 Guidelines 6.7.1) (stating that the "RRC should release to the public, perhaps via its web page, a periodically updated list presenting the location, extent of contamination, and status of remediation of abandoned sites").

another proposed site is no place for a permanent landfill.[10] The site, which "has two ponds and a wetland . . . [and a] creek [that] originates there and then meanders into the Sabine River," is located some 500 yards from the town's wells, is on top of the Carrizo-Wilcox Aquifer, and is just upstream from multiple private drinking water wells.[11] Yet as the Texas Tribune reported, McBride's application for this facility keeps being revived:

> Permit applications [under Rule 8] are typically approved unless challenged by a third party, such as the residents of Paxton, who have found that threats to public health must reach a high bar to compete against economic interests for the commission's sympathies.
>
> When the commission met last December, its technical permitting division rejected the Paxton project's permit for the second time in four years over concerns about groundwater contamination. But Commissioner Jim Wright, a former rodeo cowboy and landfill developer, wasn't ready to let the project die.
>
> "I myself have constructed safe landfills in similar conditions," Wright told the meeting in the Texas Capitol. "It can be done."
>
> Instead of issuing a final rejection, Wright suggested the commission provide the developer, McBride Operating LLC, with a list of edits and additions to the application and invite them to resubmit. The commission had already asked the firm to amend its application at least four times since 2019.

Fighting this application has cost community members hundreds of thousands of dollars in legal and expert fees,[12] and is a direct result of the Commission's rules, which do not have a definitive mechanism for the Commission to deny technically unsuitable applications. Instead, the rules allow an applicant to request a hearing on any denied application (no matter how flawed), which functionally shifts the burden to community members to prove that an application should be denied. And even if the hearings officer recommends denial, Commissioners can overrule the permit denial without providing any rationale, technical or otherwise. Community members are exhausted of being the ones who must protect Texas lands and waters from pollution, when they should be able to rely on the Commission to protect these resources. In conversation after conversation, Commission Shift has heard community members ask—will this rulemaking fix things? And unfortunately, based on the proposed draft, it does not appear so.

PA Prospect Application (San Augustine County). Another application that highlights the need for permitting reform at the Commission is the PA Prospect landfill application that was proposed---but ultimately denied---in San Augustine County.[13] The Montana-based PA Prospect Corporation

[10] Ex. 7 Baddour, Dylan. In East Texas, a town fights to keep an oilfield waste dump from opening near wetlands and water wells. (Jan. 30, 2023) (originally appeared in The Texas Tribune at https://www.texastribune.org/2023/01/30/east-texas-oilfield-dump-railroad-commission-paxton/).
[11] Id.
[12] Id.
[13] Ex 7.01, Huff, Jess. PA Prospect Corporation deemed 'administratively complete.' The Lufkin Daily News. (August 24, 2020) https://lufkindailynews.com/news/local/pa-prospect-corporation-deemed-administratively-complete/article_308f97fc-125c-5147-a70f-fbe771966f37.html; Ex. 7.02, Huff, Jess. Experts share concerns as

applied for a permit with the Texas Railroad Commission in hopes of building a 256.7-acre oil and gas waste landfill in the headwaters of Sam Rayburn Reservoir---straddling two of its tributaries. The application was filled with scientific flaws---in fact the geologist involved in the project was investigated by the Texas Board of Geoscientists for her work on this application, although not because the Commission recognized her errors. The applicant was allowed to amend its application one hundred times after it was sent to a hearing---which took three weeks. Even the hearings examiner found this practice of allowing excessive amendments to be prejudicial to protestants.[14]

Nonetheless, local community members had to spend hundreds of hours and tens of thousands of dollars to show what should have been apparent all along --- that the project would not protect human and environmental health. In the end, the project was denied, but only because the public had done the work that the applicant, Commission, and its rules failed to do, which included forcing the applicant to reckon with well-known principles of basic hydrogeology.[15] According to Commission staff, it took third-party information to alert the agency of problems with the application, even though the current permitting process does not typically have a conduit for the Commission to receive third-party information.[16] Despite the fact that the PA Prospect Application process shows how valuable information from third-parties can be, this proposed rule does nothing to fix this problem.

The PA Prospect Application teaches the importance of allowing the Commission easy access to third-party information during the application review process and the unreasonable and unfair burden that the current rules place on communities to help the Commission screen out unsuitable projects.

Blackhorn Environmental near Orange Grove, TX (Jim Wells County). Another site that highlights the importance of strengthening the human and environmental health protections in Rule 8 is Blackhorn Environmental in Jim Wells County. The problems at this disposal site have generated extensive media coverage.[17] Community members of Orange Grove suffered health issues such as

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decision on PA Prospect looms. The Lufkin Daily News. (May 1, 2021) https://lufkindailynews.com/news/local/experts-share-concerns-as-decision-on-pa-prospect-looms/article_f71c7bdd-7e71-51ed-b99f-f364aefe546b.html; Ex. 7.03 Examiners recommend denial of PA Prospect Application. The Lufkin Daily News. (March 21, 2022) https://lufkindailynews.com/news/local/examiners-recommend-denial-of-pa-prospect-application/article_61a7a8a8-38c3-5132-9aef-6c377a2f87e8.html

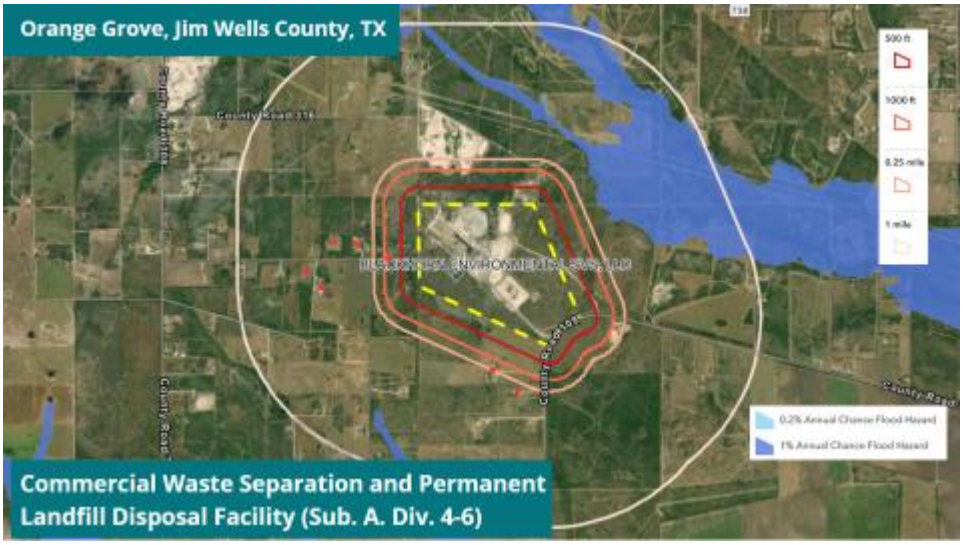
[14] "[I]t is prejudicial to a protesting party when the administratively complete permit and its volumes of supporting Application documents referred to the Hearings Division, is not the permit or Application that is presented in a hearing." This quote comes from the opinion of one of the hearing examiners tasked with reviewing this waste permit application proposed for San Augustine County, acknowledging how burdensome it is to the Commission and protestant when the facility's scope at the hearing was "ever-evolving." (OG-20-00004639) (PA Prospect in San Augustine County) at *44.

[15] Ex. 7.04 Declaration of Geoffrey Reeder.

[16] Ex. 7.02, Huff, Jess. Experts share concerns as decision on PA Prospect looms. The Lufkin Daily News. (May 1, 2021) https://lufkindailynews.com/news/local/experts-share-concerns-as-decision-on-pa-prospect-looms/article_f71c7bdd-7e71-51ed-b99f-f364aefe546b.html;

[17] E.g. Ex. 8, Bradshaw, Robin. TCEQ investigates Blackhorn Environmental Services in Orange Grove. Alice Echo-News Journal. (December 7, 2020) https://www.caller.com/story/news/2020/12/02/tceq-investigates-blackhorn-environmental-services-orange-grove/3798642001/; Ex. 9 Buch, Jason. For Texans, Fighting State-Regulated Oilfield Waste Dumps Can Be a Costly, Do-It-Yourself Effort. Public Health Watch. (August 15, 2023) https://publichealthwatch.org/2023/08/15/texas-oilfield-waste-dumps-railroad-commission/

nausea and headaches following the construction of the Blackhorn Environmental Services facility. Members of the community attempted to bring new concerns to the Commission regarding the facility before the commissioners approved the proposed order for renewal, but the commissioners chose not to hear their comments at the Open Meeting and decided to renew the permit anyway.[18] Facilities like Blackhorn show why oil and gas waste facilities should be setback from sensitive receptors, with no exceptions allowed.



Other community experiences involve the Commission's poor record of public outreach. As **La Salle County Judge Leodoro Martinez, III puts it**, the Railroad Commission should be responsible for educating communities when applications for oil and gas waste management facilities are proposed nearby. The burden should not be on communities or localities to wade through an application; the Commission and applicant should play an active role.

This could be through an in-person public meeting, similar to what the TCEQ hosts when sufficient interest has been shown in an application. TCEQ's public meetings enable the public to learn about the application, ask questions of the applicant and the TCEQ, and offer formal comments. No decision to approve or deny an application is made at a public meeting. Indeed, the option for a public meeting is part of the TCEQ's permitting process for hazardous waste and municipal waste landfills.[19] The Commission should hold a public meeting whenever an application is made for a permit under Subchapter A or B. A representative from the applicant and the Commission would be required to attend and address the public's questions.

[18] Railroad Commission of Texas. April 13, 2021 Open Meeting. Timestamp: 7:10. Retrieved from: https://www.adminmonitor.com/tx/rrc/open_meeting/20210413/

[19] THSC § 361.0791 (hazardous waste landfill); THSC § 361.0666 (municipal waste applications); see also THSC § 382.056(k) (air); TWC § 5.554 (Texas Pollutant Discharge Elimination System permits, UIC permits, and waste permits issued under THSC Chapter 361).

2. Commission Shift and its supporters stand to be affected if the final rules do not allow for sufficient public participation and are not protective of human health and the environment

Commission Shift's mission is to reform oil and gas oversight by building public support to hold the Railroad Commission of Texas accountable to its mission in a shifting energy landscape. The Commission's mission is to serve Texas through stewardship of natural resources and the environment, concern for personal and community safety, and support of enhanced development and economic vitality for the benefit of Texans. But too often, the Commission has promoted accelerated development of oil and gas over all other parts of its mission – to the detriment of natural resources and the environment, safety, and economic vitality. Too many aspects of this rulemaking continue in this vein, and as a result Commission Shift has expended significant resources in an effort to advocate for more balanced rules.

Commission Shift's work centers on its belief that the Commission's actions should be rooted in the following values:[20]

> Good Government. State agencies should be ethical, proactive, transparent, accessible, and accountable to the people and places they serve.
>
> The people of Texas. Oil and gas workers, farmers and ranchers, neighbors of oil and gas development, students of Texas' public schools, energy consumers, and the many others that are affected by the oil and gas industry in Texas deserve stability, safety, clean air, and clean water.
>
> Inclusive Decision Making. Landowners, mineral owners, and people from all socioeconomic backgrounds, languages, races, ethnicities, and geographies across Texas have a right to inform decisions that affect their lives.
>
> Generational responsibility. The choices we make today will impact our families for generations to come. Decision-makers have a responsibility to manage change and to plan for the future.

Commission Shift's vision is that the Railroad Commission of Texas will transform into the most innovative and influential oil and gas oversight agency in the world, but many of the proposed rule amendments would leave Texas stuck in the past. In this endeavor, Commission Shift has many supporters who stand to be affected if the final rules are approved as drafted. A few of these supporters are highlighted below.

Virginia Palacios, executive director of Commission Shift, is a land and mineral owner in her own right, with over a hundred of acres near Encinal, Texas. She would be interested in developing her mineral rights, but only if the oil and gas waste management rules were revised to be protective of human health and the environment and surface owner interests. She has seen firsthand how leases are insufficient to protect property, even when meticulously drafted. She worries that without strong rules, any oil and gas operations that she might allow onsite could leave her property and the

[20] These values can be found on Commission Shift's website at https://commissionshift.org/about/

environment impacted; that the waste would be managed in leaking pits; and that waste would be buried onsite, impairing future use of the property, harming human and environmental health.

Geoffrey Reeder is another concerned supporter of Commission Shift.[21] He owns property in East Texas and has had first-hand experience with the Commission's review process for applications, as he was a part of the local opposition to PA Prospect in San Augustine County (described above). The deficiencies in that process have not been remedied in the proposed rules, and he worries that if another project is proposed in his vicinity, the public again will be expected to carry the burden of defending human and environmental health. In addition, his direct experience with leasing out the mineral rights on his property has convinced him that neither the current nor proposed rules will protect the rights of surface owners like him nor their property from potential contamination from on-lease pits. He has been approached by others seeking to conduct additional drilling on his land but he is unwilling to jeopardize his property without surface owner and environmental protections from the waste that would be generated. He also is concerned about the proposal that would allow drill cuttings to be used as construction fill or road material, especially as the county roads in his area are virtually all unpaved and thus candidates for this material. For a more detailed description of his concerns, see Exhibit 7.04.

David Todd is another concerned supporter of Commission Shift.[22] He owns property that is only accessible by an unpaved gravel county road. He and his family recreate onsite and rely on groundwater for domestic use and for their livestock; a foreman oversees the cattle and hay operations on the property. Mr. Todd's concerns if this rule is finalized as proposed include exposure to improperly treated drill cuttings, which this proposed rule would allow to be used as construction fill or as road material on county roads like the one near him, which the county has discussed paving. For a more detailed description of his concerns, see Exhibit 9.01.

3. Communities have been shut out of the drafting process and denied anything resembling an equal seat at the table

Industry representatives and the Commission have been co-drafting these rules since at least 2022, but the general public, front-line communities, localities, and community-minded groups like Commission Shift have been excluded from these meetings and discussions. In fact, Commission Shift explicitly asked in August 2023 (and again in January 2024) to be included in any follow up meetings with the industry about the rule (and to be sent any additional drafts shared with industry); no invitations were forthcoming even though multiple meetings with industry were held in 2023 and at least two other full drafts exchanged (one of Subchapter A and one of Subchapter B). Only through Public Information Act requests has Commission Shift been able to learn that before public

[21] Mr. Reeder's declaration can be found at Exhibit 7.04.
[22] Mr. Todd's declaration can be found at Exhibit 9.01.

comment opened, dozens of conversations occurred between Industry representatives and the Commission over the last two years. Meetings were held both in-person and virtually, in small and large groups, and at least eight drafts were exchanged—four of Subchapter A and four of Subchapter B.[23] Industry and its representatives provided hundreds of pages of comments and many sessions of in-person feedback. Voices outside of industry were deliberately excluded.[24]

The public was finally first allowed to participate in this rulemaking through the informal public notice and public comment process that started October 1, 2023. However, the Commission's engagement of the public was minimal and only included one in-person meeting that was held in Austin far from any substantial oil and gas impacted communities and lasted about 30 minutes. The virtual meeting held the following day. Both public input meetings were offered during the work day and not in the evenings when the general public would be more likely to attend without missing work.

Conversely, in 2002—the last time major changes were contemplated to Rule 8—rule-making meetings were held throughout the state and input was received from a variety of stakeholders, not just industry.[25]

According to the 2022 STRONGER Guidelines for oil and gas regulations, an effective state program should include public participation as follows: [26]

> Where public input is sought, the agency should utilize communication methods that will most effectively reach affected communities. Effective communication should include creating short, plain-language summaries of proposed actions that are understandable by people with a variety of educational attainment and levels of English proficiency. **States should consider factors that may limit meaningful involvement of affected communities in public comment opportunities, such as non-English speaking populations, timing of meetings, and availability of internet access. When translation is required comment periods should be extended to allow adequate time for both translation and outreach to the population. States should interface with community groups in the affected community to inform and plan for translation needs.** States should also consider offering interpretation services for

[23] Many of these drafts were shared as word documents, which are easy to edit, copy and add track changes or comments to. In contrast, the drafts published in October 2023 on the Commission's website for the public to review were pdfs. Pdfs are much harder to edit, copy from, and compare, especially without a commercial subscription (which the public does not typically have), and when converted to a word document tend to not recognize that line numbers are separate features than text. No word document was posted publicly for comment for the 2024 rulemaking either.

[24] This was made clear throughout the process and explicitly acknowledged. Ex. 10 (2022 PIA Disclosure) "My instructions were to share with the associations, expecting the associations to selectively share with you and other consultants/lobbyists/members."

[25] The 2002 draft—which was similar in breadth to the current rulemaking but was ultimately was not adopted—was shaped by a series of workshops held for informal public comment, held in Midland, Wichita Falls, Houston, Kilgore, Austin, and Amarillo. "A total of 188 people attended, including 152 representing industry, six representing land and royalty owners, seven with groundwater conservation districts, and 23 who identified themselves as rep resenting 'other.'" 27 TexReg 4265. Comments were received from 120 persons, many who were not in attendance at the workshops. Id.

[26] STRONGER is an organization that publishes guidelines for state regulators as to the appropriate elements of a state oil and gas regulatory program. Ex. 11, 2022 STRONGER Guidelines at 26. For more background about STRONGER, see the History section of Commission Shift's comments.

> any hearings or public meetings about proposed permits or licenses, to make those meetings accessible to non-English speakers.
>
> The agency should consider methods to enhance the responsiveness of its public participation such as responding to comments and sharing how the program considered comments in its decision making.

At the September 19, 2023 RRC Open Meeting, Commission Shift executive director Virginia Palacios gave public input, informing the Commission of how impractical it would be for impacted Texans to attend the public hearings if they were held in Austin or virtually:[27]

> Reeves County, for example, has the highest number of commercial waste facilities out of any county in Texas, and is almost 7 hours from Austin. Reeves is also in the 90th percentile or higher for lack of access to broadband internet. It would be very difficult for folks in Reeves to attend the Austin public hearing or the virtual hearing.[28]

Language access is also an essential part of facilitating meaningful public participation and is in fact required under federal law for state agencies that receive federal funds.[29] In addition, the Commission, not Commission Shift, should be bearing the brunt of outreach to and engagement of community members, as the 2022 STRONGER Guidelines recommend:[30]

> States should use advisory groups of industry, government, and public representatives, or other similar mechanisms, to obtain input and feedback on the effectiveness of state programs for the regulation of E&P activities. Provision should be made for education or training as is appropriate to give such advisory groups a sound basis for providing input and feedback. **States should seek opportunities to partner with community groups to gather information on unique community needs and input. States should seek to foster positive relationships with such community groups to develop open lines of communication and improve the transparency and availability of data.** When community members serve on advisory groups in a purely volunteer capacity (i.e., are not paid by their employer for their participation), **states should explore providing stipends or participation incentives (i.e., gift cards) to compensate the community members for their time**.

The two hearings held on October 26 and 27, 2023 did little to encourage and cultivate meaningful public participation. The meetings were held in the morning and concluded well before noon rather than remaining open in case folks that could not take off work might find time to comment during their lunch break. In addition, the hearing officer's instructions were not translated although the Commission presentation was translated in Spanish. Commission staff's presentation overviewing the changes was extremely abbreviated and lasted less than ten minutes. Commission staff was not allowed to answer any questions that commentors and attendees might have had.

Oral comments at both the in-person and virtual public meetings were limited to 3 minutes per speaker even though very few people offered to speak and both meetings concluded in an hour or

[27] Railroad Commission of Texas. September 19, 2023 Open Meeting. Timestamp: 27:45. Retrieved from: https://www.adminmonitor.com/tx/rrc/open_meeting/20230919/
[28] Excerpt from written Public Input submitted to the commissioners at the Open Meeting.
[29] Specifically under Title VI of the Civil Rights Act of 1964.
[30] Ex. 11, 2022 STRONGER Guidelines at 27.

less. In fact, even operators commented that three minutes was not enough time to voice their concerns. The participants were only told they would be limited to three minutes at the meeting and not in advance. Recordings of the meetings were not made available to the public after the meetings concluded nor before the informal public comment deadline submittal.

Despite Commission Shift's requests that the Commission hold open public workshops even after the informal comment period ended (which to be clear, would still not have put the public on an even footing with industry), the Commission did not. It instead formally proposed this current draft for comment on August 15, 2024---although in actuality the draft was not available to the public online until a day later, on August 16. (Even though members of industry were given the draft on August 15.) Still, the Commission proposed a mere 45-day comment period as measured from the 15th---and even though official publication in the Texas Register would not occur until August 30th. When Commission Shift and others renewed the request for public workshops, additional comment opportunities, and an extension to the comment period to November 14th,[31] the Commission responded by only extending the comment deadline two weeks and did not schedule a single workshop or extra hearing. Predictably, not a single community member was able to attend the only in-person hearing on the rule, which was held on September 5th during the middle of the workday in Austin and a mere three weeks after the 313-page draft was posted online.

In sum, the Commission clearly has failed to meaningfully engage the public in this rulemaking up until this point, despite ample opportunity to do so.[32]

4. The need for updates to Rule 8 is long-standing as Rule 8 has not been seriously revised in forty years.

Statewide Rule 8 has been largely unchanged since 1983. Since that time the Commission has been failing to protect public health and the environment in front-line communities that have been subjected to pollution generated by oil and gas activities without consistent and meaningful public participation. To put this rule-making in context, Commission Shift provides the following abbreviated history of Rule 8, [33] including an aborted attempt to revise these rules in 2002:[34]

Prior to Rule 8. Rule 8 was first codified in 1976, but the Commission has been regulating pits since at least 1969, when it prohibited unauthorized use of saltwater disposal pits in a statewide

[31] Ex. 11.01 Commission Shift's Request for Extension of Comment Period and Additional Opportunities for Public Input on Proposed Changes to SWR8 / Chapter 4 ("Amend 3.8 and new/amended Chapter 4 waste management"). (August 30, 2024) https://www.rrc.texas.gov/media/knwbmrv1/comments-proposed-3-8-ch4-commissionshift.pdf Thirteen individuals and groups co-signed Commission Shift's request, and many more filed their own comments with the Commission requesting extensions of the comment period and additional opportunities for input.
[32] Ex. 12 Commission Shift's August 2023 Handout of Recommendation for Public Participation. This was shared with Commission staff at the August meeting.
[33] The commercial recycling rules found in Subchapter B have a shorter history, and were drafted largely in 2012.
[34] The Commission has acknowledged that the rewrite to Rule 8 is informed by the 2002 rule draft. Ex. 13 (PIA Request) (Cover Email).

order.[35] Piecemeal modifications to Rule 8 occurred in 1977 (regarding rules on salt-water hauling[36]); and in 1980 (regarding exemptions to the saltwater pit rule[37]).

Rule 8 is born. In 1983, major modifications were proposed, spurred in part by House Bill 2005, which was codified at TNRC Subchapter K (91.451 et seq). Supporters of the bill recognized the long-term threat of groundwater contamination, which could occur many years after the fact with the potential to render the water unusable "practically forever."[38] Those opposed were concerned that the bill wasn't strong enough. Even then, those opposed recognized that plastic liners "almost invariably leak," and wanted liners to be made of a truly impervious material. Opponents also wanted pit operators to post a bond that would be forfeited if the pits leaked saltwater into the ground. In addition, opponents recognized that the Commission even then did not have a good record of enforcing pollution-control laws and rules.[39] The House Natural Resources Committee had concluded in an interim report that "the [C]ommission ha[d] been guilty of lax and selective enforcement in cases of water pollution by the oil and gas industry."[40] At the same time there was a push in the Senate to give concurrent enforcement authority to TPWD and the Department of Water Resources (precursor to the Texas Water Commission and the Texas Water Development Board). That effort failed.[41] But nonetheless, by 1984, the bulk of Rule 8 as it appears today was adopted.[42]

Minor amendments are made after 1984. More amendments were proposed in 1985, most to dovetail with the addition of another rule about discharge to waters of the state.[43] When that new rule fell through, only a few amendments were made, including reasserting the scope of an applicant's duty to identify and notify nearby landowners of an application and not merely through publication.[44]

In December 1986, the RRC clarified the scope of oil and gas activities that would trigger its jurisdiction, including under Rule 8, by largely tracking language passed by the Legislature.[45] In January 1992, amendments were adopted to comply with statutory requirements related to the funding of an Oilfield Cleanup fund.[46]

When the first Texas Coastal Management Plan was adopted in 1994, changes to Rule 8 were required, largely in section (j).[47] Oil and gas waste haulers regulations were updated again in 1994.[48]

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[35] Committee Report on HB 2005, at 1 (May 6, 1983).
[36] 2 TexReg 359.
[37] 5 TexReg 3794.
[38] Committee Report on HB 2005, at 2.
[39] Id. at 3.
[40] Id.
[41] 68th SB 895
[42] 9 TexReg 1549.
[43] 10 TexReg 3044 (Aug. 13, 1985).
[44] 11 TexReg 948-49.
[45] 11 TexReg 5092 (citing House Bill 2358, 69th Legislature, 1985).
[46] 17 TexReg 321-22 (clarifying preamble).
[47] See 20 TexReg 2578-81 (proposed rule); see also 20 TexReg 8442-45 (adopted rule).
[48] 20 TexReg 3529-32.

Major changes to Rule 8 fail in 2002. In 1992, the RRC's programs were reviewed by stakeholders coordinated by the Interstate Oil and Gas Compact Commission (IOGCC) and funded by the EPA.[49] The Review Team's suggestions were published in 1993; some but not all were implemented by 2002. Changes proposed to Subchapter B in 2002 would have addressed the remaining recommendations.[50] However, the proposal was officially withdrawn by the RRC on November 19, 2002,[51] and the push to seriously reform Rule 8 in 2002 failed.[52]

The 2002 draft had been shaped by a series of workshops held for informal public comment, held in Midland, Wichita Falls, Houston, Kilgore, Austin, and Amarillo. "A total of 188 people attended, including 152 representing industry, six representing land and royalty owners, seven with groundwater conservation districts, and 23 who identified themselves as representing 'other.'"[53] Comments were received from 120 persons, many who were not in attendance at the workshops.[54]

According to the RRC then (as now), the 2002 rule proposal was generally consistent with existing practices. The proposed changes specifically intended to: clarify and strengthen requirements for the prevention of pollution of surface and subsurface waters; conform to the wording of rules to reflect current practices cutting costs for industry (automatically transferring a non-commercial pit from one operator to another with a P-4 change of filing; lengthening the term of a minor permit from 30 days to 60 days; eliminating the need for a minor permit when the activity is licensed by another entity); incorporating guidance into the rules; and responding to recommendations that arose out of the 1992 IOGCC state review:[55]

> For authorized pits, the Review Team Report included the following recommendations: (1) revise §3.8 to include requirements applicable to authorized pits based on specific geologic, topographic, hydrologic, or other conditions; (2) require prior notice of construction and use of authorized pits; (3) prohibit the use of unlined basic sediment pits for the disposal of oily wastes; (4) develop rules specifying site restrictions, prohibitions, construction notice requirements for the various types of authorized pits; and (5) amend §3.8 to define minimum construction standards for all rule-authorized pits, to include general operating standards for rule-authorized pits, and to add general pit closure standards for rule-authorized pits.
>
> For pit permits, the Review Team Report included the following recommendations: (1) amend §3.8 regulatory standards for permits to specify that: pit size should be sufficient to ensure adequate storage until closure, taking into account historical precipitation patterns; pit depth should be such that the bottom does not penetrate groundwater, or such that pit contents do not adversely impact groundwater or surface water; and berm

[49] 27 TexReg 4273. In 1999, the IOGCC created the State Review of Oil and Natural Gas Environmental Regulations, Inc. ("STRONGER") to revitalize and carry the state review program forward. STRONGER publishes guidelines for state regulators as to the appropriate elements of a state oil and gas regulatory program. Ex. 11 2022 STRONGER Guidelines at 7. https://www.strongerinc.org/wp-content/uploads/2022/07/2022-Edition-STRONGER-Guidelines.pdf
[50] Id.
[51] Ex. 6 STRONGER Texas Review at 9 (pdf 15)
[52] See 27 TexReg 4264 (proposed rule).
[53] 27 TexReg 4265.
[54] Id.
[55] 27 TexReg 4277.

> height, slope, and material should be such that the pit is structurally sound, and that pit integrity is not compromised by terrain or breached by heavy rains, winds, seepage or other natural forces; (2) impose a fixed term limit on all individual pit permits; (3) amend §3.8 to include specifications for site restrictions for various types of permitted waste management facilities, to include general operating standards for permitted pits, and to add general pit closure standards for permitted pits.
>
> For land treatment and road spreading, the Review Team Report included the following recommendations: (1) publish a guideline document for land treatment, including current "rules of thumb" standards and considering amendment of §3.8 to include minimum operational requirements for land treatment; and (2) adopt minimum regulatory requirements for road spreading and publishing guidelines for application.
>
> For commercial and large centralized facilities, the team recommended that the Commission: (1) continue to require construction, operating, and closure plans for commercial/centralized facilities (2) require a siting plan for these facilities; (3) amend rules to reflect the requirement that applicants provide written notice to adjacent landowners of permit applications for commercial/centralized facilities; (4) impose permit term limits for pits associated w/commercial/centralized facilities and municipal landfills; (5) specify, by rule, construction, maintenance, operation, and closure requirements for commercial facilities; and (6) review permits for commercial and centralized disposal facilities at least once every five years.

In 2002, the RRC also recognized that (as it is still):[56]

> Current §3.8 is silent on management of certain oil and gas wastes, such as sewage and storm water. ***Technically under the current rule an operator would be required to get a permit to dispose of such wastes***; however, the Commission has received very few applications for such permits. The proposed new rules authorize management of such wastes under certain conditions so that a permit is not required. To avoid duplication, the proposed new rules authorize disposal of sewage in accordance with regulations that already exist under the TNRCC or county health departments.

The RRC also recognized that “there is a clear legislative determination that ***interested persons***--not just ***affected persons***--are entitled to know the agency’s rationale for the originally proposed rule. Following receipt of comments, the agency is obliged to consider fully the legal, factual, and policy-related issues raised by the rule, especially in the comments; the agency is obligated to evaluate such data and arguments in order to decide whether the proposed rule will be adopted verbatim, modified, or rejected in its entirety. The agency must write in its final order adopting the rule a reasoned justification that openly and adequately explains the agency’s real reasons for the choices it makes.”[57]

In sum, Rule 8’s history shows the long-standing need of better regulations to protect Texas from the hazards of oil and gas waste management operations. The Commission has a unique opportunity to start building back public trust with this rulemaking that it should not squander.

[56] 27 TexReg 4277.
[57] 27 TexReg 4277-78 (emphasis in original).

PART 2 – SUMMARY OF FUNDAMENTAL FLAWS AND OVERARCHING THEMES

The breadth and intricacy of this rulemaking makes it extremely difficult for meaningful participation by public stakeholders, groundwater conservation districts, local entities, and community-based groups like Commission Shift who were shut out of much of the drafting process. Commission Shift appreciates that it was allowed to sit with Commission staff to review the rule after the informal comment period ended, but to its knowledge it was the only non-industry stakeholder group to have such an opportunity, and it was only granted that opportunity after being excluded from the two years of drafting that took place prior to October 2023.[58] Stakeholders should not need to beg to be invited to the table during a rulemaking---the Commission should have welcomed the input of community members, community groups, localities, groundwater conservation districts, and other stakeholders from the start, as it has done in past rulemakings.

But beyond the Commission's failure to allow for meaningful public participation, three additional fundamental flaws merit discussion before turning to specific comments on the rule language.

First, this rulemaking does not meet the Commission's statutory obligations to prevent pollution. The Commission has a statutory duty to "adopt and enforce rules and orders" . . . "[t]o ***prevent pollution*** of surface water or subsurface water in the state" Tex. Nat. Res. Code §91.101(a) (emphasis added). It has been given sole statutory responsibility "for the control and disposition of waste and the abatement and prevention of pollution of surface and subsurface water" related to oil and gas activities. Tex. Water Code § 26.131. In particular, the Commission has flouted these directives with its proposed rules for reserve and workover pits ("Schedule A pits") and its failure to protect groundwater at a variety of facilities through better siting standards, liners, groundwater investigations and monitoring---even as it has stated that the regulations established in Subchapter A and B are for the express purpose of "***protecting public health, public safety, and the environment***."[59] Revisions that have been included in this draft for other purposes—e.g., for the expediency of the regulated community—should take a back seat, as they often run counter to the purpose of this rule and the goal of preventing pollution.[60]

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[58] As a Permian Basin Petroleum Association spokesperson put it in comments sent to the Commission dated September 20, 2023, "given the vast change being proposed, it takes time and consideration by a wide range of operational divisions within our member's organizations to provide the prudent feedback that has been requested[.]" "[O]ur members . . . set aside a significant amount of time from their daily duties to work internally to provide this feedback and know that the Commission recognizes the amount of analysis that a proposal like this demands from operators." Ex. 14, PBPA Comments (September 20, 2023). In contrast, the public and all other groups were given only thirty days to digest and comment on the informal proposal. And for this formal period, the public was given only sixty days to review the substantial changes that were introduced.

[59] § 4.101(b).

[60] § 4.110 (72) Pollution--The alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any surface or subsurface water that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property, or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose. (Identical to Tex. Water Code 26.001(14)).

The Commission is also bound by statute to "adopt criteria for beneficial uses to ensure that a beneficial use of recycled drill cuttings . . . is at least as protective of public health, public safety, and the environment as the use of an equivalent product made without recycled drill cuttings."[61] This requires the Commission to make sure drill-cuttings products are safe, yet the proposed rules in Subchapter B Division 7 are not built on risk assessments nor require adequate testing. This also runs counter to the Commission's mandate to prevent pollution. In short, if this rule is finalized as proposed, the Commission will have acted in contravention of at least these statutory mandates.

Second, this rulemaking lacks a reasoned basis for its failure to protect human and environmental health. The proposal cites no references to support the rules that would jeopardize groundwater, surface water, and human and environmental health.[62] When similarly in-depth rules were proposed in 2002, the Commission was explicit in citing dozens of references to support its proposal.[63] Even in response to Public Information Acts requests, the Commission provided little field data, and no scientific studies, pointing largely to existing permits or existing guidance or other states' practices as justification for the rules.[64] While Commission Shift appreciates the information that was provided, the disclosed documents did not include a scientific justification as to why the pollution-prevention rules on Schedule A authorized pits had been gutted from the October 2023 to August 2024 rule drafts. Nor were records released that would justify the lack of human and environmental health protections related to the proposal in Subchapter B to allow beneficial use of drill cuttings in a variety of applications. Meanwhile, a Public Information Act request to the state highway agency revealed that more study into the potential hazards from this reuse should have been conducted before these rules were proposed.[65]

In contrast, many scientific studies support stronger protections for human health and the environment than the rules currently propose. As part of these comments, Commission Shift includes peer-reviewed studies showing how the proposed setbacks will fall short of protecting the public from adverse health effects linked to upstream oil and gas operations.[66] Other studies cited herein detail concerns about protecting wildlife from pits, which the proposed rules do not adequately address.[67] Commission Shift also offers an expert report regarding how the Commission has overlooked

[61] Tex. Nat. Res. Code § 123.0015 (c).
[62] See generally August 2024 Proposed Rules, Preamble.
[63] 27 TexReg 4282-83 (May 17, 2002) ("References Cited: The Commission relied on information in the following sources:" citing several dozen sources).
[64] Ex. 14.01 PIR Request #24-1775 and Responses. The only document that pointed to field data was of a NORM survey conducted from 1999-2000. Commission Shift had requested "[a]ll records (including scientific studies or otherwise) relied on by RRC to support its proposed changes to Chapter 4 (16 TAC Chapter 4) Subchapter A and Subchapter B." The Commission has withheld some documents based on assertions of privilege; the Attorney General's office review is not final. But the Commission confirmed that all other responsive records have been released. A second PIR (#24-1776) related to communications and drafts did not yield additional information.
[65] Ex. 14.02 TxDOT Public Information Act Request and Responses.
[66] These studies are discussed throughout Part 3, but in most depth in Commission Shift's comments on 4.150.
[67] These studies are discussed in Commission Shift's comments on 4.114 but apply to all pits.

environmental and health concerns when drafting its rules on reuse of drill cuttings.[68] Concerns raised in this report about the lack of sufficient analytical testing (for NORM and other constituents) apply not only to the reuse rules, but across the board to management of all oil and gas waste. In addition, Public Information Act requests obtained of communications between the Commission and industry show that many operators and industry supported stronger human and environmental health protections, but many of these suggestions were ultimately stripped from the August 2024 draft.[69]

Third, this proposal does not address fundamental flaws in the permitting process. As introduced above and discussed further in Part 3, the administrative permitting process---as it is conducted today and as these rules would continue to allow---shifts the burden to the public to prevent pollution and protect public and environmental health---in many ways, including that applicants can typically always request a hearing on a denied application, no matter the depth of deficiencies, and Commissioners can overrule staff and hearing examiners without providing a rationale. Until the Commission rewrites its procedural rules, the permitting process will continue to fail communities and the state.

As for specific feedback on the rule, Commission Shift has compiled a lengthy set of section-by-section comments, which is included herein as Part 3. To help the Commission navigate the comments in Part 3, Commission Shift overviews some of its top concerns here in Part 2.

In addition to incorporating the values of good governance, inclusive decision-making, and generational responsibility, the Commission's specific goals in this rulemaking should have been to: (1) better protect human & environmental health from waste & recycling operations; (2) protect communities from bad practices; and (3) improve the Commission & public's ability to enforce the rules. Commission Shift and its supporters are frustrated by what has and hasn't changed in the rulemaking process.[70] While Commission Shift is glad for some of the changes in the draft that it has noticed—e.g., that registration and data collection will finally be required for on-lease pits[71] and that the notice period is no longer a mere 15 days—much more should have been improved.

To this end, Commission Shift summarizes its suggestions in three key areas: public participation; suitable projects; and data access / enforcement:

[68] Ex. 14.03 Glass Report.
[69] Ex. 14.04 Documented Public Information Act Responses, Part 1 https://s3.documentcloud.org/documents/23245526/trrc_rule8docscomms_part1.pdf Ex. 14.05 Documented Public Information Act Responses Part 2https://s3.documentcloud.org/documents/23261389/trrc_rule8docscomms_part2.pdf
[70] Commission Shift has compiled community feedback in Exhibit 14.06. The record is also already rife with comments filed by concerned community members, landowners, and other groups.
[71] Like reserve pits, completion pits, mud pits, and produced water pits.

1. Suggestions re: Public Participation

1. **Require explicit surface landowner consent before a pit can be built and waste buried in it.** Landowners should get to approve the methods used to manage on-lease waste and onsite burial before it happens. This was in a previous draft but removed after industry pressure.[72]

2. **Create a more participatory permitting process,** with multiple notice periods, that allows for all interested persons to submit information to and ask questions of permitting staff before and during the permitting process.[73]

3. **Create an electronic notice list for all applications that anyone can sign up for.**

2. Suggestions re: Approving Suitable Projects

1. **Make the applicant, not communities, bear the burden of showing whether a project is protective of human or environmental health and safety.** Applicants should have the actual and financial responsibility to collect accurate information to prove that their projects will be protective. Under both the current and draft rules, it falls to landowners and communities to pay to prove when projects won't protect health and safety. Prohibiting modifications of an application once its set for a hearing would help, but the Commission also must demand that applicants provide more rigorous information when applying, must rigorously question the claims in the application, and must not allow Commissioners to overrule a proposal for decision without a reasoned, scientific, written explanation.

2. **Improve setbacks from sensitive sites and places.** As communities living next to oil and gas operations have reported from experience, negative effects from these facilities extend beyond the setbacks proposed. Many peer-reviewed studies show measurable health effects at a kilometer (3,281 ft) or more, depending on the density of operations. And because onsite operations can shift over time, setbacks should be measured from the property boundary, not from a pit or fenceline.[74] No exceptions should be available without public input. Applicants should be required to describe clear risk mitigation measures that meet specific criteria before they can qualify for an exception.

3. **Improve design, operating, and monitoring for all waste operations.**

- Groundwater investigations to 100 feet and monitoring should be required more often with fewer exceptions—once polluted, groundwater is basically impossible to clean up.[75]
- Liner requirements (when, what, and how to install) are still too lax, and for Schedule A pits, are basically non-existent.[76] The rule would let pits that hold drilling muds, cuttings, or completions fluids avoid the permit process & not install a true liner even if groundwater exists just below the pit.

[72] Compare Ex. 15, Excerpt of May 2023 Subchapter A Draft (§ 4.111) (highlights in original) with Ex. 16, Permian Basin Petroleum Association Comments (June 6, 2023) at 2; with proposed § 4.111.
[73] Comments on 4.125 include more detail, but this applies to all permits, including the processes contemplated in at least to sections 4.125, 4.134, 4.135, and 4.204, 4.207, 4.212, 4.230, 4.246, 4.262, 4.278.
[74] This applies at least to 4.150, 4.219, 4.256, 4.272.
[75] This applies at least to 4.114 & 4.115, 4.133, 4.241, 4.257, 4.273, 4.289.
[76] This applies at least to 4.114, 4.115, 4.119, 4.128, 4.151, 4.152.

- Double lined pits are allowed to leak 1,000 gallons/day/acre or more, which is too much.[77] This is 365,000 gal/year/acre, equivalent to nearly 40 tanker trucks of waste per year.
- More sampling should be required, by third-party labs, for all potential contaminants in the waste, including NORM.[78] As proposed, this rule would leave thousands of acres of waste in on-lease pits, with no testing to confirm that it is not harmful & won't harm property, waters, or wildlife. Clean-up of contamination should be required. The rule generally fails to test to ecological and health-based limits even though the public and wildlife can be harmed from this waste.

4. **Don't allow a broad swath of exceptions, especially without public input.** Section 4.109 (and 4.205) would allow exceptions for anything other than financial security, notice, and sampling & analysis if the Commission finds the alternative is at least as protective of health and environment: i.e., siting, applications, design, construction, operation, closure, reporting, pilot programs, water protection, and waste hauling rules. Yet the rules don't allow for public input in these decisions. All operations seeking exceptions should go to hearing where any interested person should be allowed to participate and provide relevant information. The rule should vastly narrow allowable exceptions.

3. Suggestions re: Data Access and Enforcement

1. **Give the public access to all data collected.** All data related to pits, waste, and waste hauling collected by operators according to rule requirements should be submitted to the Commission and made part of the public record rather than kept on-site and made available only upon request. These types of data are in the public interest and should be available in full and text-searchable online. Without access to these types of data in a timely manner, neither the Commission nor the public can assess whether operators are protecting public health and the environment and whether the rules are sufficiently enforced by the Commission.

2. **Create institutional memory of on-site & nearby applications.** All application files—including public comments—should be kept online and searchable, easily accessible by the public and applicants so similar proposals aren't made repeatedly in areas that the Commission has already deemed unsuitable. Applicants should review this data and analyze it in their applications.[79]

3. **Improve enforcement and apply meaningful penalties.** Communities largely agree—the existing rules aren't well enforced; operators view penalties as a cost of doing business and Commission staff isn't empowered to immediately shut down operations if there's a violation. The draft doesn't fix these problems. The penalty section should strongly commit the Commission to vigorous, transparent, and speedy enforcement of the new rules. The remaining rules should be drafted to provide no wiggle room for bad actors to escape liability.

[77] This applies at least to 4.151,4.152, 4.266, 4.275, 4.282, 4.291.
[78] This applies at least to 4.114, 4.133, 4.241, 4.257, 4.273, 4.289.
[79] This applies at least to 4.124, 4.212, 4.230, 4.246, 4.262, 4.278, 4.302.

PART 3 — SECTION-BY-SECTION COMMENTS

Commission Shift provides the following section-by-section comments on the draft revisions to Subchapters A and B. These line-item edits should be read in context with its comments in Parts 1 and 2. Commission Shift welcomes a dialogue with the Commission as any questions or concerns arise during the Commission's review of these comments, just as industry has been allowed to dialogue with the Commission for at least the past three years in the drafting of these rules. Commission Shift reserves the right to alter, refine, and expand its position from those stated herein as it obtains more information about the proposed changes and their impact on communities and environmental health. If the Commission reverts to proposals similar to its October 2023 informal draft, Commission Shift reserves the right to rely on its previously filed comments on that draft.[80]

Subchapter A

1. DIVISION 1

§4.101. Prevention of Pollution, Page 39 of Proposed Rules

Commission Shift agrees in general with the principle in 4.101(a) that "No person conducting activities subject to regulation by the Railroad Commission of Texas may cause or allow pollution of surface or subsurface water in the state." However, the 2024 proposed rules do not implement this overarching imperative. The rules lack sufficient safeguards to ensure pollution is prevented before it happens. Indeed, unless revised these proposed rules will allow pollution.

As an initial matter, Commission Shift notes that 4.101 has changed from the informal proposal, including by identifying the statutes from which the Commission derives its authority to regulate, and the wastes that it will regulate under Subchapter A:

> (1) Texas Natural Resources Code Title 3, Subtitle B; (oil and gas wastes) TNRC 91.101(a) ("To prevent pollution of surface water or subsurface water in the state, the commission shall adopt and enforce rules and orders and may issue permits")
>
> (2) Texas Natural Resources Code Title 3, Subtitle D, Chapters 121 ("Ownership And Stewardship Of Anthropogenic Carbon Dioxide"); 122 ("Treatment And Recycling For Beneficial Use Of Fluid Oil And Gas Waste"); 123 ("Treatment And Recycling For Beneficial Use Of Drill Cuttings");
>
> (3) Texas Natural Resources Code Title 5 ("Geothermal Energy and Associated Resources"[81]);

[80] See Ex. 16.01 Commission Shift Comments on October 2023 Rule 8 & Subchapter B Informal Draft (Nov. 2, 2023).
[81] TNRC 141.003(4) "Geothermal energy and associated resources" means: (A) products of geothermal processes, embracing indigenous steam, hot water and hot brines, and geopressured water; (B) steam and other gasses, hot water and hot brines resulting from water, gas, or other fluids artificially introduced into geothermal formations; (C) heat or other associated energy found in geothermal formations; and (D) any by-product derived from them".

(4) Texas Health and Safety Code Chapter 382, Subchapter K (“Offshore Geologic Storage of Carbon Dioxide”); and

(5) Texas Water Code Chapters 26 (“Water Quality Control), 27 (Injection Wells) and 29 (“Oil and Gas Waste Haulers”).

Together these statutes identify many potential wastes and pollutants that must be accounted for and reiterate the Commission’s duty to adopt rules that prevent pollution or harm to public health, public safety, and the environment. Because once something is polluted, it is expensive and sometimes impossible to clean it up again. It also often falls to the landowner or state to pay for cleanup, e.g., when responsible parties lack funds or evade contributing.

To that end Texas has a voluntary cleanup program for properties that have been contaminated. “Contamination” broadly includes wastes and pollutants, incorporating the definition of “pollution” from Chapter 27 in the Water Code:

> Tex. Nat. Res. Code Subchapter O (“Railroad Commission Voluntary Cleanup Program”) 91.651(1) "Contaminant" includes a waste, pollutant, or substance regulated by, or that results from an activity under the jurisdiction of, the commission under this chapter, Chapter 141 of this code, or Chapter 27, Water Code.
>
> Texas Water Code 27.002. "Pollution" means the alteration of the physical, chemical, or biological quality of, or the contamination of, water that makes it harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose.[82]

These definitions related to remediation of polluted sites shows the breadth of protections that the Commission must consider when adopting rules --- the Commission must assure that the activities it authorizes by rule (e.g., under Division 3) or creates a permit process for (e.g., under Division 4 – 9) will prevent pollution in all its forms (physical, chemical, biological) and consider not just humans, but animals, vegetation, property, and the usefulness and public enjoyment of surface and subsurface waters. This would include direct contamination (e.g., discharge into water) as well as indirect (e.g., seepage through soil into water). For this reason, the prohibition of pollution in 4.101 should explicitly include pollution to land as well.

Section c has also changed from the October 2023 version, and now states:

> Other wastes described in subsection (b) of this section are included when this subchapter refers to oil and gas waste(s) and may be managed in accordance with the provisions of this subchapter at facilities authorized under this subchapter provided the wastes are nonhazardous and chemically and physically similar to oil and gas wastes.

Commission Shift interprets this to mean that wastes associated with geothermal and carbon sequestration activities may be disposed of under this subchapter. It does not appear that the Commission has contemplated whether wastes from geothermal and carbon sequestration activities

[82] The Commission has incorporated this definition of “Pollution” in these proposed rules at 4.110(72).

are appropriate for management under the oil and gas waste rules. The Commission should give examples of the type and quantity of waste it expects to be governed as "other wastes" under this provision, how it will judge "similarity," and consider whether the waste must be compatible in other ways, including reactivity, biologically and thermally. This does not appear to have been considered in this rulemaking; Commission Shift suggests a separate rulemaking should be conducted to assess these issues.

Commission Shift also notes that the language of 4.101(a) is already found in current rule 3.8(b), and despite its seemingly strong tone requiring the protection of ***all*** surface or subsurface water in the state,[83] it has not been sufficient to protect the health and environmental safety of Texans and the environment, as discussed above. Thus, Commission Shift urges the Commission to better enforce the policies of prohibiting pollution that are espoused in this section. Commission Shift suggests adding a section (d) asserting the agency's commitment to investigations and enforcement: "The Commission shall enforce these rules to prevent pollution, including by promptly and thoroughly investigating alleged violations of these rules." This would recognize the Commission's statutory mandate in TNRC 91.101(a) that ***"[t]o prevent pollution of surface water or subsurface water in the state, the commission shall adopt and enforce rules and orders***" relating to oil and gas and associate wastes.

§4.102. Responsibility for Oil and Gas Wastes, Page 40

Commission Shift disagrees that "process knowledge" is sufficient to characterize wastes, as §4.102(a)(1) and §4.102(a)(3) would allow. Process knowledge does not rely on laboratory analysis, but presumes what pollutants will be in a waste based on where the waste came from and what it may have been mixed with. However, unexpected contaminants can exist downhole, and additional contaminants can be introduced to the waste stream as it is transferred from generator to receiver and beyond, either deliberately or inadvertently. Process knowledge also does not identify constituent levels, i.e., the quantity of contaminant that is present in the waste. Especially with the proliferation of horizontal drilling (a practice not widely conducted when these rules were last amended four decades ago) through formations contaminated with higher levels of NORM than in vertical wells, process knowledge is inadequate to make an accurate determination if a waste is hazardous.[84] Allowing process knowledge to suffice opens the door to decisions based on outdated,

[83] 4.101(a) "No person conducting activities subject to regulation by the Railroad Commission of Texas may cause or allow pollution of surface or subsurface water in the state." This includes both drinking water aquifers and any other subsurface waters, no matter if "percolating, perched or otherwise." § 4.110(84).

[84] Commission Shift is not alone in its concerns on horizontal drilling. As Milestone explained in its comments filed in this rulemaking on September 25, 2024:
Horizontal, shale drilling generates exponentially more waste than shallow, conventional drilling. Horizontal wellbore lengths are much longer and require different, more complex fluids. The fluids used in horizontal drilling contain oil-based muds and chemical fracking fluids. On average, a vertical well generates between 2,000 and 5,000 barrels of

faulty, incomplete, or inappropriately attributed knowledge. It also does not lend itself to a regulator (or anyone else) being able to confirm the assumptions made by the generator when basing its decision on process knowledge.

It is imperative that laboratory analyses—and not process knowledge—be used when waste is generated at or will be transferred to a commercial facility (or between facilities)[85] and when determining if a waste is hazardous.[86] The treatment and disposal mechanisms that will suffice for any given waste stream depend on what's in the waste (and in what quantities). Accurate knowledge of the composition of the waste and the concentrations of pollutants of concern is thus essential. If the waste stream is contaminated, a receiver may not be legally allowed to accept such waste. The waste may also pose serious hazards for nearby residents, drinking water supplies, and the environment. The Commission should identify a specific list of parameters that the waste must be tested for at a minimum, and the generator should have an obligation to test for any additional constituents that are likely in that waste stream. All laboratory testing should be conducted by an accredited third-party lab, as described in § 4.124(e)(3)(A).

As for subsections (b) – (d), Commission Shift agrees that it should be the duty of persons in the waste management business to confirm that the receivers and carriers of waste have obtained the proper authority to manage waste. Using an unauthorized service, whether knowingly, recklessly or negligently should cause liability to attach. But this section does not go far enough in protecting communities from improperly handled waste of which examples abound, especially in East Texas where lax regulations attract out-of-state waste from Louisiana and New Mexico. For example, all of the subsections in 4.102(e) are from current rule 3.8(d)(5), which have been inadequate to protect communities. Commission Shift urges the Commission to use this rulemaking to go beyond the business-as-usual regulations and create real incentives for operators to use only properly permitted entities.

As for §4.102(f),[87] Commission Shift notes that the Commission altered language from the October 2023 version that a person "who plans to utilize" the services of a carrier is under a duty to

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waste. By comparison, on average, just one horizontal well generates between 8,000 and 16,000 barrels of waste, with multiple wells using one large reserve pit. This data is not controverted and can be validated by the quarterly reports submitted to the Railroad Commission by commercial disposal facility operators.

[85] In other words, §4.102(a)(2) should be rewritten to say: "Laboratory analysis of waste ~~may~~ shall be required for waste generated at a commercial facility, as that term is defined in §4.110 of this title, or when waste is transferred from one commercial facility to another."

[86] In other words, §4.102(a)(3) should be rewritten to say: "The generator of an oil and gas waste that is not exempt from regulation under Subtitle C of the federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 USC §6901, et seq. as described in 40 CFR §261.4(b), shall determine if such waste is a hazardous oil and gas waste by ~~applying process knowledge of the hazard characteristics of the waste in light of the materials or processes used or~~ by conducting laboratory analysis of ~~testing~~ the waste."

[87] §4.102(e) states: "Any person who plans to utilize the services of a carrier or receiver is under a duty to determine that the carrier or receiver holds the appropriate authority from the Commission to manage or transport oil and gas wastes."

investigate, as opposed to “a person who utilizes” such services. The Commission should confirm in writing that this is not a loophole operators could exploit to avoid investigating whether a carrier has a permit or not. Subsection (f)(2) should also include negligence liability: A generator should be liable for improper disposal if the generator was negligent in failing to recognize that the carrier or receiver was likely to improperly dispose of wastes and negligently failed to take reasonable steps to prevent improper disposal.

§4.103. Prohibited Waste Management Methods, Page 41

Commission Shift seeks clarification as to why 4.103(b) was modified from the version proposed in October 2023. The version in October 2023 prohibited “[t]he discharge of oil and gas wastes, geothermal resource waters, or other mineralized waters” unless certain exceptions applied. The newly proposed version removes reference to wastes other than oil and gas, prohibiting only “discharge of oil and gas waste into any surface water defined under 4.110” unless certain exceptions apply. But Subchapter A applies to the prevention of pollution by any substance under the Commission’s jurisdiction, as 4.101(b) explains.

The Commission must clarify why the language of 4.103(b) was changed and confirm that it applies to everything under the Commission’s jurisdiction, which would include wastes associated with geothermal resources and carbon dioxide utilization and sequestration operations. In other words, no person should be able to manage these substances (with or without a pit) without a permit or as authorized by 4.111, 3.98, or 3.9. See 4.103(a); 4.103(d); 4.103(f).

§4.104. Coordination Between the Commission and Other Regulatory Agencies, Page 42

Commission Shift supports the retention of § 4.104(b) in the new draft, which is also in current 3.8, and prohibits the operation of a facility before it has all required permits. However, section (b) should also require the applicant to forward a copy of any additional required authority to the Commission before the receipt of waste. This way the Commission can better direct concerned community members to the proper regulatory authority if and when complaints arise. Commission Shift also urges the Commission to be more proactive in determining jurisdiction and coordinating with the TCEQ.

§4.105. Federal Regulations Adopted by Reference, Page 42

Commission Shift notes that this section has been deleted from the October 2023 proposal, which previously stated:

> The Commission adopts by reference the following provisions, effective [insert effective date of rulemaking]: 40 Code of Federal Regulations (CFR) Parts 279 and 280 as those provisions apply to underground tanks otherwise classified by the Commission as pits. The Commission has not been granted primacy over these

programs. The federal regulations adopted by reference can be reviewed by submitting a request to the Technical Permitting Section.

Commission Shift requests clarification as to why this section has been deleted. In addition, the Commission is urged to clarify the difference between an underground tank that it would not have primacy over with an underground tank that would otherwise be classified by the Commission as a pit, or explain why establishing a distinction is no longer necessary.

§4.107. Penalties, Page 42

The Commission has largely copied existing Rule 3.107 into 4.107. The Commission should clarify what will happen to Rule 107[88] and take this opportunity to revise the language in 4.107 to address the enforcement problems that communities keep experiencing.

As an initial matter, the fact is that while voluntary corrective action **can be** an effective component of the enforcement action, that is not always so, thus the language used in (a) should be "can be an effective component" but not "is an effective component."

Commission Shift is heartened that the second-to-last sentence of (b) has been modified to reserve its right to automatically enforce against violators, which the version in October 2023 appeared to foreclose. Had the Commission maintained the language in the October 2023, Commission Shift would continue to be concerned that it might have hindered the Commission's ability to enforce its rules, penalizing good actors over bad actors. This Commission should never foreclose its ability to automatically enforce its rules. In addition, the Commission should confirm that its changes to the last sentence of (b) preserve its authority to legally enforce against operations even if violations have been addressed. For example, the Commission should retain its ability to refer any violations, including those that are egregious or deliberate or contrary to public and environmental health & safety directly to legal enforcement, and to be able to seek penalties that would disincentivize future violations (even if the current ones had been corrected). While some minor violations (e.g., lack of signage) might be suitable for voluntary correction, other violations are not. The Commission should clarify that the Commission reserves the right to immediately pursue legal action or any other means necessary to enforce its rules and protect the public.

Commission Shift notes that missing from the penalty factors are hazards to the environment (compare with 4.107(d)(4)). The Commission is vested with prevention of pollution, which includes impairment of property, impacts on wildlife, and vegetation, regardless of whether health and safety of the public is at issue. The Commission should update these factors accordingly or clarify in that these impacts are implicit in the factors proposed --- it is within the Commission's authority to add

[88] Because Rule 107 contains penalties for rules other than 3.8, Commission Shift assumes --- but requests confirmation --- that this rule will remain in force for all but 3.8.

"any other factor the commission considers relevant" when assessing penalties.[89] Commission Shift agrees that both the history of the operator and the facility should be factored in when calculating penalties. (See 4.107(d) By looking at both entities, Commission Shift hopes that fewer bad actor operators will be allowed to evade penalties via a simple name change while continuing to operate poorly.

As for the penalty amounts in general, Commission Shift notes in dismay that many are not even adjusted for inflation since 2012 when Rule 3.107 was initially adopted. For example, violations related to Schedule A pit operations (salt water reserve pits) remain set at a minimum of $2,500 base penalty plus $0.75 per square feet. This is identical to the penalty in 2012, which has proven insufficient in deterring bad actors (as commentors on the 2012 version pointed out as well). Accounting for inflation ***only***, the penalty for such a violation in 2024 would be $3,416 base plus $1/square foot.[90] The Commission should increase the minimum penalties beyond inflation to protect good operators and public and environmental health and safety.[91] The penalties should be set at levels that clearly exceed the savings operators achieve through non-compliance.

This is particularly important because penalties fund the Commission's oil field cleanup fund,[92] which is well understood to lack sufficient funds to address all of the oil and gas related contamination that winds up being the responsibility of the state.[93] Especially if the rules are adopted as proposed (e.g., Section 4.114's rules on Schedule A pits with insufficient surface and subsurface water protections), the Commission will need even more money to clean up the waste that's been left on the public's shoulders.

And increasing the penalties to an amount that is indeed punitive and a deterrent is appropriate. The Commission found as such when establishing Rule 3.107 in 2012. It found that costs to businesses were not relevant as part of the analysis because any increased costs would be incurred "only if the operator is in violation of Railroad Commission rules, and therefore can [compliance costs] be viewed an avoidable cost." The Commission concluded:[94]

> The Commission has also determined that a regulatory flexibility analysis is not required because an operator will incur costs for administrative penalties only if the operator violates Commission rules, and therefore ***the penalty amounts can be viewed as an avoidable cost***. Further, the Commission has determined that ***administering the statutory provisions*** related to penalties for violations of Texas

[89] See e.g., Tex. Nat. Res. Code Ann. § 81.0531(d)(6).
[90] As calculated using CPI Inflation Calculator, comparing August 2012 to August 2024. https://data.bls.gov/cgi-bin/cpicalc.pl?cost1=0.75&year1=201208&year2=202408
[91] While Commission Shift is aware of some statutory maximums on the total penalty amount per violation per day, it appears to be within the Commission's authority to increase the minimum penalty guidelines as needed to be both punitive and a force for deterrence.
[92] See e.g., Tex. Nat. Res. Code Ann. § 81.0531(e).
[93] Ex. 16.02 Commission Shift' 2021 Report: Unplugged and Abandoned. A ProPublica analysis in 2024 Oil industry profits don't pay for cleanup (Feb. 26, 2024) explains how the oil field clean-up fund is woefully inadequate to address the projected needs.
[94] Ex. 16.03. Proposed Rule 3.107 (2012) (2012 TX REG TEXT 284373).

> Natural Resources Code, Chapter 113, and the Commission's oil and gas rules, ***requires that the penalty amounts imposed be punitive***. Minimizing the adverse impacts on small businesses and micro-businesses of administrative penalties assessed for violations of the statute or Commission rules is not consistent with ensuring the health, safety, and environmental and economic welfare of the state.

Commission Shift also suggests adding the following violations to Table 1 to encourage compliance if these violations would not already be covered by the proposal:

- 16 TAC 4.110: Failure to register authorized pit within the time limits set by the Commission
- 16 TAC Division 3: Failure to construct authorized pits in accordance with the rules
- 16 TAC Division 3: Failure to close authorized pits in accordance with the rules (including flare pits and basic sediment pits)
- 16 TAC Division 10 (4.194(b)): Failure to report discrepancies in waste hauling operations
- 16 TAC Division 10 (4.194 & 4.195): Failure to maintain records for a period of at least three years, including for out of state waste
- Subchapter B: 16 TAC 4.301 & 4.302: Failure to comply with the terms of this Division, including for sampling, testing, and monitoring

In sum Commission Shift urges the Commission to revise 4.107 such that more violations result in penalties that are deterrents and punitive, and urges the Commission to assess these penalties in a transparent, consistent manner that deters violations.

§4.108. Electronic Filing Requirements, Page 45

All filed documents should be made publicly available and searchable through the Commission's public-facing electronic database (e.g., including monthly quarterly, semi-annual, and annual reports as described in 4.130).

All of the documents that operators are required to retain on request should be instead filed automatically and made available to the public, including as stated in (a non-exhaustive list):

4.111 (closure compliance for operations authorized by rule),

4.112 (distilled water sampling proof),

4.111 (compliance documentation for authorized pits; closure documentation),

4.115 (pit liner integrity for a variety of authorized pits),

4.130 (waste reporting for permitted facilities),

4.142 (commercial spill and stormwater plans),

4.172 (reclamation plant operation)

4.194 (waste profile, manifest, and other documentation).

Making these documents publicly available lets the public help monitor the compliance at these facilities and inspires confidence that good-actor facilities are being responsibly run. It also dovetails with recommendations made over two decades ago in 2000 by the interdisciplinary review board

STRONGER.[95] As such, Commission Shifts request that each of these sections listed above be edited to require that these documents be timely filed with the Commission and uploaded to the public-facing electronic database.

§4.109. Exceptions, Page 45

Commission Shift objects strongly to §4.109. Exceptions to water-protection rules aren't contemplated in the current version of 16 TAC § 3.8 and shouldn't be allowed in the new rules. Exceptions are a dangerous loophole and will allow existing facilities to continue operating even if evidence exists that public and environmental health is being put at risk. Charging an exception fee does not address the problems with the lack of meaningful participation in reviewing exceptions. The public should be automatically allowed to weigh in when exceptions are requested—any application that includes a request for exception should automatically be set for hearing, and the deadline to protest should be waived—any person with relevant information should be allowed to present that information at the hearing.[96] This would not be a novel regulatory practice---New Mexico's oil and gas waste rules requires notice be sent of a request for exception to potentially affected persons, including surface owners, cities, and federal agencies managing land within a half-mile of the facility, as well as county commissioners.[97]

As written in subsection a, an applicant can request an exception for anything other than financial security, notice, and sampling and analysis.[98] This means that an applicant can receive an exception on things like (a non-exhaustive list): applications, siting, design & construction, operation, monitoring, closure, reporting, all of the miscellaneous permits (Division 9), all of the waste transportation rules (Division 10); and all of the surface water protection requirements (Division 11). Exceptions to setback regulations can weaken well-siting requirements and diminish the public health protections for communities and other sensitive receptors; they should not be granted without public input.

Subsection (c) gives a 1-year grace period for permitted facilities, as it states that:

> until [insert one year after effective date of rulemaking] the director may grant special exceptions solely for the purpose of issuing permits for facilities and waste management units that were authorized pursuant to §3.8 of this title (relating to Water

[95] "The review team encourages RRC to diligently pursue efforts to upgrade its information technology to allow the district offices to routinely share information with management and the public." Ex. 6 STRONGER Texas Review, 2003 (citing 2000 Guidelines 4.2.8.3, 8.2).
[96] And under no circumstances should operators or any other person be able to apply for exceptions outside of a permitting process and outside of a forum that allows the public to weigh in.
[97] 19.15.17.15(B) NMAC.
[98] The financial security requirements for produced water pits should not be eligible for an exemption: as such 4.109(a)(1) must be modified to include 4.115, which is not currently included.

Protection) prior to [insert the effective date of rulemaking] but that are no longer authorized pursuant to this subchapter.

The Commission should confirm that § 4.109 combined with § 4.122 means that after one year, the conditions in every permit that comes up for renewal, transfer, or amendment will have to conform to these new rules.

Commission Shift also has concerns about subsection (e), which limits when a hearing is granted. A hearing should automatically be held whenever a permit application is deemed complete (including amendments, transfers, and renewals) and at a bare minimum, should be automatic whenever an exception is requested. It should not just be for rejections of exceptions, and anyone should be able to request one, not just the applicant or permittee.[99] The public has a stake in exceptions and must be allowed to weigh in as to whether the requested alternative is "at least equivalent in the protection of public health and safety, and the environment."

2. DIVISION 2: DEFINITIONS

§4.110. Definitions, Page 46

Commission Shift expresses concern about the following definitions:

(1) 25-year, 24-hour rainfall event

Commission Shift appreciates the modification of this definition from the October 2023 version that would have allowed Technical Permitting to define these rainfall events based on any source other than the National Oceanic and Atmospheric Administration. NOAA is the only source known to Commission Shift that regularly updates its data as opposed to other outdated methods like TP-40.[100]

(2) 100-year flood

Commission Shift objects to the vague language in this definition. The Commission should not invent a vague definition that might be subject to debate by applicants or operators.[101] The Commission should use a standard definition. The definition in §4.110(2) should be revised to remove debate over what constitutes "a significantly long period":

[99] The 2022 STRONGER Guidelines urges that "The right to appeal or seek administrative and/or judicial review of agency action ***should be available to any person*** having an interest which is or may be adversely affected, or who is aggrieved by any such action." Ex. 11 2022 STRONGER Guidelines at 23.
[100] For an explanation of why NOAA's Atlas 14 is more appropriate than other outdated methods like TP-40, see Ex. 17 Under Water & Unaware. (June 1, 2022) https://www.citizen.org/article/under-water-unaware/
[101] This definition differs even from the one now proposed to be stricken from Subchapter B, which stated: "a 100-year flood . . . is a flood that has a one percent or greater chance of occurring in any given year." § 4.204(1).

> A flood that has a 1.0% or greater chance of occurring in any given year or a flood of a magnitude equaled or exceeded once in 100 years on the average ~~over a significantly long period~~.

(3) 100-year flood plain;

Commission Shift agrees that soils maps are not appropriate ways to determine the location of a floodplain and appreciates that it has been removed from this definition.

> 100-year flood plain--The lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood, as determined from maps or other data from the U.S. Army Corps of Engineers or the Federal Emergency Management Agency (FEMA).

However, Commission Shift suggests that FEMA should be the primary authority on flood plain data and its data should be the preferred method of determining the 100-year flood plain. As written, the Corps has been placed on equal footing with FEMA. If FEMA data is not available, an acceptable alternative method could be a flood zone analysis done by a professional engineer with FEMA-approved software for flood mapping, which may include Corps software.[102] To capture the importance of FEMA data, the definition in §4.110(3) could be revised to state that a 100-year flood plain is:

> 100-year flood plain--The lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, that are inundated by the 100-year flood, as determined from maps or other data from ~~the U.S. Army Corps of Engineers or~~ the Federal Emergency Management Agency (FEMA) <u>or a flood zone analysis done by a professional engineer with FEMA-approved software for flood mapping.</u>

(4) action leakage rate:

Commission Shift proposes the modified definition that the Action Leakage Rate is “the calculated volume of waste liquid that has bypassed the primary liner into the leak detection layer at a rate of gallons per acre per day that if exceeded indicates <u>severe</u> failure of the primary liner <u>and triggers the requirement to find the cause(s) of the failure and repair the liner</u>.” The addition of a modifier like “severe” addresses the fact all liners will leak due to manufacturing defects, but leakage beyond that---i.e. severe failure---would be due to a larger number and/or size of holes in the primary liner (beyond the expected manufacturing defects), improper installation of the liner causing leakage around welds and folds, or other damage that would allow fluids to bypass the primary liner and enter the leak detection zone. Problematically, when the leak detection zone becomes ‘full’ then the hydrostatic pressure on the secondary liner increases dramatically and leakage will continue past the double-liner system into the subsurface. Operators must be required to address these liner problems as soon as possible to prevent subsurface contamination.

[102] FEMA identifies HEC-RAS as such software from the US Army Corps of Engineers, which incorporates watershed and topography data.

(8) affected person

The definition of affected person is ambiguous and difficult for the public to understand whether they fall within this definition. It has happened in the past that a nearby resident has spent significant time, energy, and money in protesting an application before ultimately being told that they do not have affected-persons status. The Commission should eliminate this guesswork and define affected person to explicitly include ***at a minimum*** all persons within one mile of the property boundary on which the authorized or permitted activity takes place, whether they own property or simply live there. The definition in §4.110(8) should be revised to state that an affected person is:

> A person who, as a result of the activity sought to be permitted, has suffered or may suffer actual injury or economic damage other than as a member of the general public or a competitor. Affected persons include at a minimum those surface owners, groundwater conservation districts, and **residents** within one mile of the property boundary on which the activity takes place.

(9) *Alluvium and Quaternary sand and gravel*

This definition is never used elsewhere in the rules. It was in the October 2023 draft as part of the restrictions on the locations of certain on-lease pits: Section 4.115(2)(A) would have allowed reserve pits or mud circulation pits to be constructed in alluvium or Quaternary sand and gravel. Commission Shift contends that no pit should be constructed in such strata, even with a liner. The presence of alluvium or Quaternary sand and gravel are known to be associated with surface water systems and thus indicate that the area is in a potential floodplain of a surface water system. It also is a highly permeable soil type that may be hydrogeologically connected to nearby surface waters. Waste that leaks out could migrate both unpredictably and much faster than waste leaked into soils with lower permeability and thus pose an unacceptably greater risk to both surface and subsurface water quality. If this term is retained in the rules, it should be made clear that no pit should be built in this soil type.

(10) *aquifer*

Commission Shift does not have explicit feedback on this definition at the moment, but notes that the Commission's directive is to protect all subsurface water, not simply aquifers "capable of yielding significant quantities of groundwater." Shallow water bearing zones that won't give sufficient quantities of groundwater still merit protection.[103] In the current draft, the term aquifer is used in only one other location in Subchapter A and relies on the Texas Water Board definition. Commission Shift requests that the Commission reiterate in its rulemaking that ***all*** subsurface water—whether it is located in an aquifer or not—will be protected equally.

(12) authorized--An activity that is permitted or allowed by a rule.

[103] Such zones can also be hydrologically connected to surface water and/or water bearing formations at depth via infiltration.

Commission Shift requests that the Commission scrutinize whether this new definition will lead to additional confusion. It was not in the October 2023 draft. The Commission is attempting to define what can be a term of art with other terms of art and thus should tread very carefully when drafting definitions. For example, “permitted” could mean “allowed” in the lay sense, or in the technical sense: i.e. something that is allowed only if a permit document is issued by the agency first, after individualized review and public participation. “Authorized” could mean authorized by permit document or authorized after mere registration, with no permit document required to be issued. “Permitted by rule” (which is used in the authorized pit definition) could be interpreted as a process with minimal review and no permit documentation required---or it could mean anything that a rule allows a person to do. Further complicating matters, the proposed definition for “authorized” includes the modifier “by a rule”, but it is not clear whether that modifier attaches only to “allowed” or also to “permitted,” which could change the meaning. Without fully understanding the Commission’s intent, Commission Shift declines to offer a different definition but strongly urges the Commission to review all instances where the terms “authorized,” “permitted” and “allowed” are used and to confirm they are used consistently and as intended. This is also relevant to the definition of stormwater, discussed in more detail below.

(22) “commercial facility”

Throughout this rulemaking, the Commission has discussed and proposed to define “commercial facility” a number of different ways, with varying pushback from operators and industry (members of the public and community groups were not given a voice in those discussions). It now proposes the following definition for commercial facility, which Commission Shift still has concerns about:

> A facility permitted under Division 4 of this subchapter (relating to Requirements for All Permitted Waste Management Operations), whose owner or operator receives compensation from others for the management of oil field fluids or oil and gas wastes and whose primary business purpose is to provide these services for compensation.

It is important to have a sufficiently broad definition of commercial facility, because the proposed regulations impose stricter standards, permitting and financial security requirements on facilities defined to be “commercial.”[104] Stricter standards for commercial facilities makes sense—the conventional understanding of a commercial facility is a larger operation that handles more waste and operates for much longer when compared to a non-commercial facility. In other words, commercial facilities are typically understood to be larger, riskier, with higher traffic and with potentially some portion or all of the waste stored in-place for a longer period or in perpetuity, depending on closure restrictions. However, none of the definitions of “commercial facilities” that

[104] The commercial definition also affects what facilities can be built in sensitive commercial areas: as proposed, 4.197(a)(1) only prohibits “commercial” disposal pits from being built in coastal natural resource areas. Non-commercial disposal pits, pits holding waste for anything other than “permeant interment,” and every other waste disposal facility is not prohibited by rule.

have been proposed over the last two years incorporated any such factors. And this draft instead refocuses the concept of "commercial" to those facilities whose "primary business purpose" is to manage oil field fluids or oil and gas wastes. This gives operators a loophole in which to argue that their "primary business" purpose is not managing these wastes, even if it is 49% of the purpose of their business or if these services are large-volume and lucrative but just one aspect of a diverse portfolio. A narrow definition of commercial will not meet the regulations' stated purpose of "protecting public health, public safety, and the environment"[105]—commercial facilities should not be defined from the perspective of who is bringing the waste and how, but should focus on the inherent risks and hazards associated with the facility.

While an improvement on previous proposals, the proposed definition is still out-of-step with how at least one neighboring state defines commercial facilities: Louisiana defines a commercial facility as "a storage, treatment and/or disposal facility which receives, treats, reclaims, stores and/or disposes of oil and gas waste for a fee or other consideration." 43 La. Admin. Code Pt XIX, § 501.[106] The RRC could harmonize Louisiana's definition with the terminology used in Texas to be "a facility that manages oil and gas wastes for a fee or other consideration."

One of Commission Shift's concerns with the definition proposed in October 2023 was an exemption for facilities that managed waste from third-parties who wholly owned the facility's operator, which appeared to be designed to preferentially benefit vertically integrated operators at the expense of small businesses.[107] That language has been omitted from the August 2024 draft (along with other problematic restrictions about transportation methods), but Commission Shift seeks Commission clarification that the revised language would close this loophole. Commission Shift's concerns were that the definition of commercial should not create a new definition to "third-parties" and should include facilities whose operators receive compensation from entities that wholly own the operator of the facility.[108] As the October 2023 draft was written, if the facility is a wholly-owned subsidiary of the generator (i.e. if the generator is the facility's parent), it would not be a commercial facility. Corporate entities sometimes choose to form subsidiaries to protect assets and mitigate liability. Subsidiaries are typically treated as separate entities when it comes to holding them

[105] § 4.101(b). Nor does it align with the Commission's statutory mandates.
[106] The full definition is: "Commercial Facility--a legally permitted E and P Waste storage, treatment and/or disposal facility which receives, treats, reclaims, stores, and/or disposes of E and P Waste for a fee or other consideration. For purposes of this definition, Department of Environmental Quality (DEQ) permitted facilities, as defined by LAC 33:V and VII, which are authorized to receive E and P Waste, are not covered by this definition. However, such facilities must comply with the reporting requirements of § 545.K herein if E and P Waste is accepted."
[107] See October 2023 Proposal: "October 2023: A facility permitted under this chapter, whose operator receives compensation from third parties for the management of oil and gas wastes, whose primary business purpose is to provide such services for compensation, and receives oil and gas wastes by truck. In this paragraph, a third party does not include an entity that wholly owns the operator of the facility permitted under this chapter."
[108] Nowhere else in the Commission's current rules is "commercial facility" defined so narrowly as it was proposed to be defined in October 2023.

responsible for each other's actions and protecting the parent company from the action of its subsidiaries. The October 2023 proposed definition for commercial facility would blur wholly-owned subsidiaries back into their parents, creating a loophole for facilities to not fall within the commercial definition (and the elevated protections for communities the rules provide) as long as they are accepting mostly their parent company's wastes. In other areas of the law, this sort of preferential treatment is not allowed.[109]

A subsidiary relationship between a receiver and third party is possible. For example, Waste Connections reports owning R360 Environmental Solutions as a subsidiary and operating waste treatment and disposal facilities, one of which is in Stanton, Texas.[110] Such a large operator as Waste Connections is clearly a commercial entity engaged in commercial activities at a commercial facility (by any conventional and logical definition of the term); large commercial facilities should not fall outside the definition of a commercial simply because their operators are vertically integrated and own the facilities where they dispose of waste.[111] The Commission should clarify that operators with corporate relationships like Waste Connections and R360 would be treated as commercial facilities.

The Commission should also disclose how many facilities it would expect would not be considered commercial just because the operator of the facility wholly owns the wells where the waste comes from---even though those wells are considered separate entities with respect to taxes, royalties, liability, etc. For the sake of public trust and transparency, the Commission should also disclose why the definition of commercial was rewritten so many times, and which companies, operators, and owners stand to benefit.[112]

The October 2022 draft of these rules proposed a simple, bright-line definition of commercial:

> "Commercial facility--A facility whose owner or operator receives compensation from others for the receipt, handling, storage, treatment, reclamation, recycling, or disposal of oil field fluids or oil and gas wastes." [113]

Commission Shift supports a similar definition, but one that clarifies that once a facility qualifies as commercial, ***every*** waste management unit in that facility must be addressed and included in the

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[109] E.g., the corporate veil between a subsidiary and its parent protects the two entities from liability except under very narrow circumstances.

[110] Ex. 18 Waste Connections Sustainability Report (2022) at 27. https://cdn.wasteconnections.com/resources/documents/sustainability/2022/Waste+Connections+2022+Sustainability+Report.pdf. See also Ex. 19, Allan Gerlat. *Waste Connections to Buy Oil Field Waste Company for $1.3 Billion* (Sept. 17, 2012) https://www.waste360.com/mergers-and-acquisitions/waste-connections-buy-oil-field-waste-company-13-billion

[111] Ex. 20, 2022 SEC Filing at 8. ("As of December 31, 2021, we owned or operated 71 MSW landfills, 12 E&P waste landfills, which only accept E&P waste and 14 non-MSW landfills, which only accept construction and demolition, industrial and other non-putrescible waste. Eight of our MSW landfills also received E&P waste during 2021***. We generally own landfills to achieve vertical integration in markets where the economic and regulatory environments make landfill ownership attractive***.") (emphasis added) https://www.sec.gov/Archives/edgar/data/1318220/000155837023001404/wcn-20221231x10k.htm

[112] Small companies that are not vertically integrated would bear a larger regulatory burden than their larger competitors.

[113] Ex. 22, October 2022 Subchapter A draft, (excerpt).

permit. In other words, pits that might otherwise be permitted-by-rule under Division 3 (for example if they were located at the drill site) should not be allowed to be permitted by rule if they are part of a commercial facility. It is too confusing for the public and regulators to have both permitted and "authorized" activities at the same property and could tempt bad operators to use "authorized" operations to circumvent the notice that goes along with permitting (and subsequent review). Therefore the definition in §4.110(21) should be revised to state that a commercial facility is:

> A facility whose owner or operator receives compensation from others for the management of oil and gas wastes.[114] All waste management units on the same property as a commercial facility must be permitted. No such waste management unit may be authorized through Division 3 of this subchapter.

(#) Construction Quality Control (CQC)

Commission Shift suggests that the Commission consider defining a new term "Construction Quality Control (CQC)." CQC refers to the quality control systems used to ensure that a construction project (such as the installation of a liner) is properly performed. Many liner installers already have QA/QC practices to ensure their work is quality and complies with applicable regulations. The TCEQ also already regularly collects this information from operators to ensure that the liners for municipal waste landfills are installed correctly.[115] The Commission should consider modifying TCEQ's liner CQC form for waste pit operations and requiring operators to submit this form as part of the information collected when pits are constructed. Commission Shift proposed the following definition for construction quality control:[116]

> Construction Quality Control (CQC) - A planned system of inspections that is used to directly monitor and control the quality of a construction project. Construction quality control is normally performed by the geosynthetics installer and is necessary to achieve quality in the constructed or installed system. Construction quality control (CQC) refers to measures taken by the installer or contractor to determine compliance with the requirements for materials and workmanship as stated in the plans and specifications for the project.

CQC plans should be required for all permitted operations, at a minimum. A permitted operation should not be allowed to operate until a CQC form has been received and reviewed by the Commission.

(25) contact stormwater; (64) *non-contact stormwater;* and (88) *stormwater*

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[114] This language is substantively identical to the language proposed to the Commission in October 2022 before industry pushback, except the phrase "receipt, handling, storage, treatment, reclamation, recycling, or disposal of oil field fluids or" has been replaced with "management of," to accommodate the revisions in the October 2023 draft.
[115] Ex. 23 Municipal Solid Waste Facility Geomembrane/Geosynthetic Liner Evaluation Report. (TCEQ) https://www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/10070.docx (describing how "This liner evaluation report is required to document that the liner was constructed as designed in accordance with the issued registration or permit and meets the TCEQ regulatory requirements prior to unit operation. This report is to be supplemented with those quality-assurance/quality-control (QA/QC) tests as detailed in the liner quality control plan (LQCP) and shall be the basis of documentation of the quality control and acceptance of the constructed liner.").
[116] This definition can be found in Ex. 24 Field Integrity Evaluation of Geomembrane Seams (and Sheet) Using Destructive and/or Nondestructive Testing (2013) at 4 https://geosynthetic-institute.org/grispecs/gm29.pdf

As an initial matter, Commission Shift agrees that the Commission should have a means of protecting the public and environment from any water that has come into contact with any amount oil and gas waste (or areas used to contain such waste), ***wherever*** that waste has been staged --- if it has been staged in an authorized pit (e.g., under Division 3), in a permitted area (e.g., under Division 4-8) or in an area that is neither authorized nor permitted to manage waste, yet nonetheless is intended to contain or contains waste. Commission Shift requests clarity from the Commission that stormwater that comes into contact with any of the above-mentioned areas would be considered contact stormwater.

In the alternative, Commission Shift offers the following revised definitions, which is intended to fully capture all of those scenarios:

> (25) Contact stormwater--Stormwater that has come into contact with oil and gas wastes or with areas that are permitted or authorized to contain oil and gas wastes, regardless of whether oil and gas waste is currently being contained in the area. See also “Non-contact stormwater” and “Stormwater.”
>
> (64) Non-contact stormwater--Stormwater that~~, by design or direction,~~ has not come into contact with oil and gas wastes nor with ~~areas containing oil or gas wastes or~~ any areas that are permitted or authorized to contain oil and gas wastes, regardless of whether oil and gas waste is currently being contained in the area. See also “Contact stormwater” and “Stormwater.”

The Commission should ensure that whatever definition is used for these terms, contact stormwater should include stormwater that has come in contact with any oil and gas waste that has been tracked throughout the facility and is no longer in an authorized or permitted waste management facility.

(28) dewater

Commission Shift requests that the definition of “free liquids” be incorporated into this term.

(39) facility

Commission Shift appreciates that the Commission has clarified that oil and gas facilities include locations with no permitted operations at all (i.e., locations with only authorized operations authorized under Division 3), which was not so clearly conveyed in the definition proposed in October 2023.

> Facility--A site that shares a common area, common access, and a common purpose where oil field fluids or oil and gas wastes are managed. It may include one or more waste management units, may include permitted or authorized activities, and may be designated as either commercial or non-commercial.

(40) freeboard

Freeboard for pits should be at least two feet ***plus*** the 25-year, 24-hour rainfall event. Commission Shift identified this concern in the October 2023 comments, which the Commission appears to agree with for all Schedule B pits, permitted pits, landfarms, and commercial fluid

recycling.[117] But whereas in the October 2023 version the Commission applied this logic to all authorized pits;[118] that requirement has been removed for all Schedule A pits. Indeed, the rules do not appear to require any freeboard at all for any commercial solid recycling pit (see Subchapter B Divisions 2-4) or any Schedule A pit (4.114).

To prevent pollution, these pits must be required to have a freeboard of at least two feet ***plus*** the 25-year, 24-hour rainfall event. It is especially important to do so for Schedule A pits, which do not go through a permitting process (unlike Subchapter B Division 2-4 facilities). Three of the five types of Schedule A pits should contain ***only*** liquids: 4.114(1)(C),(D)&(E): fresh water makeup pits, fresh mining water pits, and water condensate pits. The other two authorized pits ("Reserve pits and mud circulation pits" and "Completion/workover pits" may also be saturated with fluids), yet the proposal sets no freeboard requirement. Nor is there a prohibition on stormwater entering these pits, as there is for produced water pits (see 4.115(f)(3)). These failures contradict the Commission's duty under TNRC 91.101(a) to adopt rules to prevent pollution of surface and subsurface water, as the contents of Schedule A pits are at risk for overflowing without a freeboard requirement.

Freeboard that includes the 25-year, 24-hour rainfall event is important because water isn't static—especially during storms—wind and wave effects can cause waste spills, so liquids should never be allowed to approach the lid of containers, sumps or pits. Freeboard is important not only to keep contaminants contained but to mitigate flooding or washing contaminants outside the pit further downgradient. In addition, the rules for permitted operations allow delay before contact stormwater need be collected and removed, running the risk that additional water will build up in the pit during that time.[119] The definition in §4.110(40) could be revised to state that freeboard is:

> The vertical distance between the top of a pit or berm and the highest point of the contents of the pit or berm, <u>which shall be two feet plus the distance needed to contain the 25-year, 24-hour rainfall event.</u>

(45) geomembrane

The definition for geomembrane has changed from the October 2023 draft.

[117] See § 4.151(b)(2) ("Freeboard. Unless otherwise required by permit or rule, the permittee shall maintain all pits such that each pit maintains a freeboard of at least two feet <u>plus the capacity to contain the volume of precipitation from a 25-year, 24-hour rainfall event</u>."); §§ 4.161(b)(3) & 4.162(b)(2)(C)(modified from the 2023 version to now include the 24-hour, 25-year flood in the rules on landfarm construction)

[118] See October 2023's § 4.114(c)(2) ("An authorized pit shall be large enough to ensure adequate storage capacity to maintain two feet of freeboard and to contain:

(A) the volume of material to be managed; and

(B) the volume of precipitation from a 25-year, 24-hour rainfall event.")

[119] § 4.128(b)(4) requires stormwater to be collected "within 24 hours of ***accessibility***," which may not be possible for several days during sever weather events. It is therefore imperative that the Commission require sufficient freeboard on all waste management units.

> Geomembrane--An effectively impermeable polymeric sheet material that is impervious to liquid and gas if it maintains its integrity and is used as an integral part of an engineered structure designed to limit the movement of liquid or gas in a system.

It is now defined as “effectively” impermeable. Commission Shift understands that certain standards, like ASTM D4439-00 (2002) use similar language (“essentially impermeable”)[120] and seeks assurance that the Commission will not allow operators to use the phrase “effectively impermeable” as a loophole for using subpar geomembranes, especially in authorized applications that do not have the oversight of Commission permitting. Commission Shift also suggests requiring by definition that geomembranes are also “compatible with the wastes contained.”

(47) “*groundwater”*

The proposed rules define groundwater as “[s]ubsurface water in a zone of saturation.” This was not previously defined in Rule 8. The Commission should confirm that the definition of groundwater includes any water under the surface of the ground, both aquifers and any subsurface water, regardless of quantity and quality.[121] As the Commission recognized in its 2002 proposed rewrite of Rule 8: [122]

> The Commission determined that the statutory authority for the rule and subchapter requires protection of "surface and subsurface water" and does not distinguish between classes of water. The Commission believes that it must use the most protective term in a general rule for statewide application.

(54) landtreating

The proposed definition of landtreating lacks the key component of the treatment process: that microbes are used to treat the waste. Landtreating is a waste management practice in which oil-based drilling fluids, oil impacted soils, and oil and gas wastes are mixed with or tilled into a specially prepared soil profile to encourage microbial degradation of oil, grease, or other organic wastes in such a manner (e.g., minimum treatment depth, aerobic conditions, and nutrients) that the hydrocarbons will be destroyed and the waste will not migrate from the landtreatment cell. The Commission’s definition should reflect these aspects of landtreating.

(55) *Leak detection system*

It appears that the Commission agreed with Commission Shift’s comments on the October 2023 draft that the prior proposed definition opened the door to leak detection systems being located other

[120] See e.g., https://www.sciencedirect.com/topics/materials-science/geomembrane (indicating that ASTM D4439-00 defines a geomembrane is “an essentially impermeable membrane used with foundation, soil, rock earth or any other geotechnical engineering-related material as an integral part of a man-made project, structure or system”).
[121] E.g., congruent with TCEQ RULE § 297.1 (“(22) Groundwater--Water under the surface of the ground other than underflow of a stream and underground streams, whatever may be the geologic structure in which it is standing or moving.”) and the definitions in other states, like Oklahoma’s 785:30-1-2 ("Groundwater" means fresh and marginal water under the surface of the earth regardless of the geologic structure in which it is standing or moving outside the cut bank of any definite stream. [82:1020.1(1)]).
[122] 27 TexReg 4282.

than below a pit. If the Commission reverts to the prior definition, Commission Shift would emphasize its October 2023 comments.

(58) *"Natural gas or natural gas liquids processing plant"*

"Natural gas or natural gas liquids processing plant" is a new definition from current SWR8 and has been revised during drafting. It now also includes plants whose "primary function" includes "the production of pipeline-quality gas for transportation by a natural gas transmission pipeline." This term is only cited in delineating the activities that the Commission regulates, and is not included in similar language found in 16 TAC 3.30(b)(1)(A)(iv).[123] Commission Shift requests clarity on why this definition has changed and whether this changes who regulates these plants.

(XX) *"non-commercial fluid recycling" (74) produced water recycling; (75) produced water recycling facility; (76) produced water recycling pit*

The term "non-commercial fluid recycling" was proposed for definition in the October 2023 rules as 4.110(6), but no longer exists in the 2024 proposal. The Commission explains the change as follows:[124]

> Under the current version of §3.8, some produced water recycling pits are classified as non-commercial fluid recycling pits and are considered authorized pits. However, the current definition of non-commercial includes several conditions that lead to confusion and create an overly complex regulatory scheme. The proposed changes classify as produced water recycling pits all pits used to manage produced water and other aqueous fluid wastes produced from a wellbore during oil and gas exploration and production activities. The intent of the proposed changes is to eliminate confusion and treat pits with similar waste management activities and contents the same.
>
> . . .
>
> [P]roposed §4.112 allows recycling without a permit in certain instances. Produced water recycling is authorized if treated fluid is recycled for use in drilling operations, completion operations, hydraulic fracturing operations, or as another type of oilfield fluid to be used in the wellbore of an oil, gas, geothermal, or service well; produced water recycling pits are operated in accordance with §§4.113 and 4.115; and recycling is limited to oil and gas waste.

However, this proposal could be clearer as to when produced water recycling pits would be regulated under Subchapter A's Division 4 permitting scheme or Subchapter B's commercial fluid recycling rules in Division 5 and 6, which require a permit issued by the Commission to operate and notice of the application (4.270, 4.286), among other differences. The limitations in 4.112(a) suggests that only produced water that is recycled down the wellbore would be authorized; any other recycled use would instead require a permit---but the Commission should confirm that this is the intent. The Commission should also clarify whether operations that comingle produced water from multiple wells or leases could be authorized under Division 3. Would only exploration and production

[123] Nor do these rules propose changes to this section of 16 TAC 3.30.
[124] Preamble at 8:28-9:4 & 7:21-25.

operators be allowed to operate a produced water recycling pit without a permit or would water midstream service providers also evade the permitting process?[125] Many of these produced water pits exceed 500,000 bbl, which according to the Commission is the average size in the Permian Basin.[126] Two 800,000 bbl pits are shown here (note the passenger pickup trucks for scale):[127]

Produced water pits are hazardous to human health, wildlife, the environment---human health effects alone can extend one kilometer from upstream oil and gas waste operations.[128] Especially with pits of this size, communities should have the opportunity to participate through at least a notice and comment period---i.e. through a permit process. These pits should not qualify as authorized pits.

Commission Shift also seeks clarification as to the term "produced water recycling facility" and if it would require an operator to seek a permit when produced water from two separate wells or leases is co-mingled and stored for future drilling. (Commission Shift notes that the term "produced water recycling facility" is only used once in Subchapter A and B --- only in its definition.)

(67) *"operator"*

Commission Shift notes that "operator" is being defined for the first time—operator is not defined in the current SWR8. The definition, revised from October 2023:

> A person, acting for itself or as an agent for others, designated to the Railroad Commission of Texas as the person with responsibility for complying with the Commission's rules and regulations in any acts subject to the Commission's jurisdiction regarding the permitting, physical operation, closure, and post-closure activities of a facility regulated under this chapter, or such person's authorized representative.

Commission Shift suggests that the list of activities "permitting, physical operation, closure, and post-closure" be broader, e.g., to include construction, maintenance, and management activities, or that the Commission confirm this is the intent with the proposed language. The definition of operator

[125] See Preamble at 4:14-17.
[126] See Preamble at 34:9-18.
[127] Ex. 24.01. Excerpt of Pollock, Stonnie L. Water Usage in the Permian Basin: Drilling and Fracturing without Fresh Water. AAPG Global Super Basin Conference (January 2019) at 28.
[128] Ex. 24.02. Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making (June 21, 2024) Report prepared for the California Geologic Energy Management Division (CalGEM), at ES-2.
https://www.conservation.ca.gov/calgem/Documents/Public%20Health%20Panel%20Final%20Report_20240621.pdf

should be broad so as to not allow anyone acting as an operator to escape liability for bad acts impacting things under the Commission's jurisdiction.

(78) public area

Commission Shift agrees that there should be setbacks from public areas and appreciates that the Commission has recognized this in importing this definition from 16 TAC 3.36 (hydrogen sulfide rules). Commission Shift assumes this would also include day cares---if it does not, they should be included.

> Public area--A dwelling, place of business, church, school, hospital, school bus stop, government building, a public road, all or any portion of a park, city, town, village, or other similar area that can expect to be populated.

(XX) Small sump

Commission Shift notes that small sumps (<500 gallons) are no longer described in the rules. (Compare with October 2023, 4.110(80)). Previous drafts established rules on small sumps and treated them as authorized activities under proposed Division 7. Commission Shift understands that this traces back to guidance developed for the original Statewide Rule 8 in 1984,[129] and that the Commission may be considering continuing to regulate such sumps through guidance documents only. The public should be allowed to participate and give feedback in the drafting of this and any other guidance related to the rule. Sumps are waste management units that should be permitted. And the volumetric capacity of the sump is not the only factor to consider when assessing potential adverse impacts to surface and subsurface waters: it is the volume of flow, the flow rate, and the ability to shut off that flow that should be considered with respect to potential for pollution due to overflows/spills as a result of equipment malfunction or blockage. Unless properly managed, they can and have been sources of contamination, as feedback from communities shows. The October 2023 rule would have required a freeboard of at least one foot, but community feedback strongly suggests that a single foot of freeboard on a sump is insufficient to prevent spills; sumps have been a source of contamination, especially during storm events. Sumps should be required to have an automatic sump pump that maintains the level of liquid below the freeboard height.

(97) *wetland*

Commission Shift suggest that the Commission include in this definition the proper way to assess whether a wetland is in fact a wetland—by using National Wetlands Inventory (NWI) maps or through an onsite wetlands determination. Applicants and operators should be required to assume that wetlands are present when indicated on NWI maps, unless an onsite determination shows otherwise. The definition in §4.110(93) should be revised to state that a wetland is:

> Wetland--An area including a swamp, marsh, bog, prairie pothole, or similar area having a predominance of hydric soils that are inundated or saturated by surface or

[129] Ex. 24.03 (Questions and Answers Concerning Rule 8) (3d Edition) (Nov. 15, 1984) at 4-5 (Question 10).

groundwater at a frequency and duration sufficient to support and that under normal circumstances supports the growth and regeneration of hydrophytic vegetation. The term “hydric soil” means soil that, in its undrained condition, is saturated, flooded, or ponded long enough during a growing season to develop an anaerobic condition that supports the growth and regeneration of hydrophytic vegetation. The term “hydrophytic vegetation” means a plant growing in water or a substrate that is at least periodically deficient in oxygen during a growing season as a result of excessive water content. The term “wetland” does not include irrigated acreage used as farmland; a man-made wetland of less than one acre; or a man-made wetland for which construction or creation commenced on or after August 28, 1989, and which was not constructed with wetland creation as a stated objective, including but not limited to an impoundment made for the purpose of soil and water conservation which has been approved or requested by soil and water conservation districts (Texas Water Code §11.502.). Wetlands are to be presumed present onsite if so indicated by an NWI map, unless an onsite wetlands determination by a wetlands expert concludes otherwise.

3. DIVISION 3 OPERATIONS AUTHORIZED BY RULE

Commission Shift reiterates its position that once a waste management unit in a facility requires a permit, ***every*** waste management unit on the facility should be described in and covered by the permit. In other words, pits and sumps that might otherwise be permitted-by-rule under Division 3 (for example if they were located at the drill site) should not be allowed to be permitted by rule if they are part of a permitted facility. It is too confusing for the public and regulators to have both permitted and “authorized” activities at the same property and could tempt bad operators to use “authorized” operations to circumvent the notice that goes along with permitting (and subsequent review). Compliance and enforcement personnel should be able to rely on one document when reviewing a facility.

Commission Shift also objects in general to the substantial rewrites to Division 3 as compared to previous drafts, including the shocking lack of regulations for what has been introduced as “Schedule A” pits. This will violate the Commission’s statutory duty to “adopt and enforce rules and orders” . . . “[t]o prevent pollution of surface water or subsurface water in the state” Tex. Nat. Res. Code §91.101(a) and it represents the Commission’s abdication of its statutory responsibility “for the control and disposition of waste and the abatement and prevention of pollution of surface and subsurface water” related to oil and gas activities. Tex. Water Code §26.131.

Finally, in the event that the Commission reverts to its the language it proposed in October 2023 for authorized pits, Commission Shift reasserts the concerns it raised regarding that proposal.[130]

§4.111. Authorized Disposal Methods for Certain Wastes, Page 58

In a previous draft of this rule, the Commission proposed requiring explicit surface owner consent prior to disposal authorized by rule (i.e., without a permit). That language has been removed in this

[130] See Ex. 16.01 Commission Shift Comments on Rule 8 and Subchapter B (Nov. 2, 2023).

draft, after some members of industry objected.[131] The Commission was right to have included that language initially and should not bow to operator pressure to have that language removed. Landowners,[132] bankers,[133] and even other members of industry have supported adding that language back in, pointing out that Texas is one of the *only* states that does not require landowner permission prior to disposal.[134] The Commission should add it back in as subsection(a) as follows:

> §4.111 (a) Surface owner informed consent. All authorized disposal requires the written consent of the surface owner of the property on which the disposal will occur. Without surface owner consent, oil and gas waste shall be removed from the property and disposed of in an authorized manner.
>
> (1) The operator shall inform the surface owner in writing that disposal authorized under this section may not necessarily meet the requirements of TCEQ's Texas Risk Reduction Program (30 Texas Administrative Code Chapter 350) regarding protective concentration levels for residential or commercial land use, or other land use restrictions.
>
> (2) The operator shall inform the surface owner in writing of the type and quantity of waste to be disposed of onsite and the duration during which disposal will occur.[135]
>
> ~~(2)~~ (3) The operator shall obtain written consent from the surface owner authorizing disposal on the property.

Commission Shift is concerned that constituents beyond BTEX may be present in water condensate, and thus urges the Commission to test additional parameters beyond those in Figure 16 TAC §4.111(a) (Page 251). Water condensate may also have other residual chemicals from hydraulic fracturing, fracturing flowback, completion and stimulation liquids, and other formation liquids that could end up in the water condensate. In addition, the fact that this waste is often land applied on

[131] Compare Ex. 15, Excerpt of May 2023 Subchapter A Draft (§ 4.111) (highlights in original) with Ex. 16, Permian Basin Petroleum Association Comments (June 6, 2023) at 2; with proposed § 4.111.
[132] E.g., as Commission Shift supporter Mr. Reeder points out (see Exhibit 7.04), the lack of surface owner protections make mineral owners like him unwilling to allow development on his property as it imperils his health, property value, surface water, subsurface water, and use and enjoyment of the property; See also e.g., Comments of Z&T Cattle Company (September 2024) https://www.rrc.texas.gov/media/ptop3jwm/comments-3-8-ch4-kiehne.pdf
[133] The Agriculture & Rural Affairs Committee of the Texas Bankers Association supports landowner consent prior to waste disposal and has further stated that "if these unlined pits are on property mortgaged to lending institutions . . . it could also devalue the property and expose the institution to being responsible for cleanup if there is pollution discovered in the future." Comments of Interbank (September 2024) https://www.rrc.texas.gov/media/3udjazyd/comments-3-8-ch4-texasbankersassoc.pdf
[134] Ex. 26 Milestone Comments (2023) at 1. Commercial disposal operator Milestone explains: "Reserve pits are often large, de facto mini-landfills capable of storing hundreds to thousands of barrels of waste (see Figure 1). Texas landowners should be afforded the right to decide whether their land is used for this purpose because permanent disposal includes potential financial, environmental, and health risks for the landowner. Therefore, obtaining consent prior to permanent burial not only protects the landowner, it also protects the operator, the Railroad Commission, and ultimately Texas taxpayers from bearing the burden of future financial liability and remediation costs."; See also Ex. 26.01 Milestone Comments (Sept. 2024) https://www.rrc.texas.gov/media/d4ca1vqd/comments-3-8-ch4-milestone.pdf
[135] This aligns with the notifications required in Louisiana, which include: a detailed explanation of the method(s) used to generate the waste material, including types and volumes of the additives used, amounts of waste material generated…and written approval from the surface owner of the property where the processed material is to be applied, and any other pertinent information required by the Commissioner. La. Admin. Code title 43 § XIX-313(G).

agricultural lands makes testing for constituents that can cause adverse effects on crops[136] and livestock[137] all that more important. Testing for TPHs as well as BTEX should be required at a minimum. Operators should also be required to test for the traditional suite of general water quality parameters including: pH, Electrical Conductivity, Total Dissolved Solids (measure of salinity), Chlorides, Volatile Organic Compounds (VOCs), and Total nitrogen.[138] Testing for hazardous compounds should include: BTEX, PAHs[139] and NORM.[140]

Commission Shift appreciates that Subsection (a)(5) has been revised from the October 2023 version to prohibit operators from allowing water condensate to spread to adjoining properties.[141] Commission Shift understands that with this change, such an activity would not be authorized, and

[136] Ex. 27, Application of Water-base Drilling Mud to Winter Wheat: Impact of Application Timing on Yield and Soil Properties. https://extension.okstate.edu/fact-sheets/application-of-water-base-drilling-mud-to-winter-wheat-impact-of-application-timing-on-yield-and-soil-properties.html (describing how the application of water based mud to winter wheat fields resulted in high electrical conductivity in the top soil at a level detrimental to most plants, including their germination rates. Contamination rates only decrease after 6 inches of rainfall—rates much higher than those in much of the state). See also Ex. 28 https://twon.tamu.edu/wp-content/uploads/sites/3/2021/06/irrigation-water-quality-standards-and-salinity-management-strategies-1.pdf (explaining how soils with high levels of total salinity can simulate drought conditions for the root zone even if the soil appears to have plenty of moisture)

[137] West Texas in particular has a significant population of dairy cows, which can be adversely affected by the contaminants in water condensate. See Ex. 29 Interpreting Drinking Water Tests for Dairy Cows https://extension.psu.edu/interpreting-drinking-water-tests-for-dairy-cows "Levels above 3,000 mg/L are more likely to cause poor tasting water that may result in reduced water intake and milk production again depending on the exact pollutants causing the high TDS concentration. Overall, water with a TDS above 1,000 mg/L has the potential to cause livestock problems[.]" . . . "Chlorides above 250 mg/L can impart a salty taste to water which could result in reduced water intake and milk production . . . High chlorides should also be considered when formulating diets to prevent an excess which could be detrimental to rumen function . . . Sulfate concentrations below 1,000 mg/L are generally thought to be safe for adult animals but some authors have suggested limits as low as 500 mg/L."

[138] Monitoring for TDS, Chlorides, VOCs and Total nitrogen identifies what else is in the water condensate that might adversely impact crops and livestock (besides being a potential threat to shallow groundwater).

[139] According to the EPA, PAHs can constitute 20 to 60 percent of diesel fuel, which has not been prohibited as an additive to hydraulic fracturing fluid, making it a possible contaminant of water condensate. See Ex. 30 EPA Study at 5-6. https://www.epa.gov/sites/default/files/2015-05/documents/revised_dfhf_guid_816r14001.pdf; see also RRC Hydraulic Fracturing website. https://www.rrc.texas.gov/about-us/faqs/oil-gas-faq/hydraulic-fracturing-faqs/ ("Commission regulations do not prohibit the use of diesel fuel in hydraulic fracturing activities. Such use would not be a violation of Commission rules, unless the operator caused or allowed pollution during such use, of which there is no evidence.") Diesel fuel may also be used a component in drilling muds—another source of contamination for water condensate. Ex. 30 EPA Study at 7.

[140] The Commission has recognized that NORM can be a problem in produced waters and natural gas if it gets concentrated, as condensate does. https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/norm-waste/ (""Because the levels are typically low, **NORM in produced waters and natural gas is not a problem in Texas unless it becomes concentrated**. Through temperature and pressure changes that occur during oil and gas production operations, Radium 226 and 228 found in produced waters may co-precipitate with barium sulfate scale in well tubulars and surface equipment. Concentrations of Radium 226 and 228 may also occur in sludge that accumulates in oilfield pits and tanks. These solids become sources of oil and gas NORM waste**. In gas processing activities, NORM generally occurs as radon gas in the natural gas stream. Radon decays to Lead-210, then to Bismuth-210, Polonium-210, and finally to stable Lead-206.** Radon decay elements occur as a film on the inner surface of inlet lines, treating units, pumps, and valves principally associated with propylene, ethane, and propane processing streams.") See also EPA TENORM https://www.epa.gov/radiation/tenorm-oil-and-gas-production-wastes (explaining how an API industry-wide survey showed that "TENORM radioactivity levels tend to be highest in water handling equipment," at an average level "about five times background.")

[141] Compare with October 2023 Draft 4.111(a)(5) ("the water condensate is applied to the ground surface in such a manner that it will not leave the boundaries of the property~~; or, if it is applied such that it will leave the property and enter an adjoining property, the operator has obtained written permission from the surface owner of the adjoining property~~;") (emphasis added).

would require a permit and thus adjoining surface owner consent. The Commission—and therefore operators—have a duty to be proactive in preventing pollution, as the Commission recognized in 1984:[142]

> Whether or not an activity actually causes pollution can only be determined after the pollution has occurred. The commission has the duty to prevent pollution, and therefore must regulate activities which might result in pollution.

Subsection b. Commission Shift appreciates that the Commission clarified that disposal of inert oil and gas wastes by any method that may present other health and safety hazards is expressly prohibited.

Subsection c. Subsection (c) raises a concern Commission Shift has articulated throughout this rulemaking. Subsection (c) uses the chloride concentration of a waste as a proxy for toxicity and potential harm to groundwater and the environment.[143] However, drinking water is regulated using total dissolved solids, which captures the chloride content but also other dissolved ions.[144] Even electrical conductivity is another proxy that would capture additional constituents of concern to human, animals, and the environment.[145] (And indeed, the May 2023 draft of Subchapter A used electrical conductivity instead of chloride).[146] Commission Shift requests that the Commission explains why it believes that chloride content is the appropriate proxy for regulation of oil and gas waste; Commission Shift suggests that both chloride and electric conductivity limits be set on waste.

Testing the waste for total dissolved solids, electric conductivity, and TPH prior to landfarming is necessary to understand how the waste will interact with the soil and any future vegetation grown there. For example, crop yield can be adversely impacted by high TDS in soils and NRCS provides a guide on crop yield loss per increase in electrical conductivity.[147] It also makes sense because the rule requires testing after the waste has been land applied. Testing before would catch unexpected exceedances of contaminants before they have been mixed into the ground creating a potential liability and requiring remediation.[148] The Commission should also specify how the post-landfarming sample is collected, that it be analyzed by an accredited third-party lab, and the results shared with the surface owner. As is, the rules do not require this documentation to be proactively shared or

[142] 9 TexReg 1550 (March 16, 1984) (rejecting the suggestion that the Commission regulate only activities that affirmatively cause pollution).
[143] It is also used as a proxy in § 4.115(b),(d), § 4.162 and in Figures 16 TAC § 4.114(f) and (g).
[144] The Texas Water Development Board defines water quality based on total dissolved solids. https://www.twdb.texas.gov/innovativewater/desal/faq.asp#title-02
[145] Electrical of conductivity of less than 4 mmhos/cm could be a more appropriate threshold.
[146] Ex. 15 May Draft at 79 (Figure §4.114(e)(1)(D)) (copying Louisiana regulations).
[147] Ex. 30.01 NRCS National Engineering Handbook Part 651 Chapter 6 - Role of Plants Figure 6-2 Effect of soil salinity on growth of field crops. https://efotg.sc.egov.usda.gov/references/Delete/2016-8-13/AWMFH_Chapter_6_Role_of_Plants_in_Waste_Man.pdf
[148] Testing afterwards must be done properly to determine whether there was indeed bioremediation of the waste or if the waste simply has leached deeper than the sample depth.

even retained in case the Commission requests them (compare with 4.111(d)(4), duty to maintain closure documents for at least three years).

Also in subsection (c), Commission Shift objects to the idea that the District Director could approve a slope greater than 3% for landfarming. Larger slopes are associated with higher surface water drainage and potential for sheet flow rather than infiltration. Steeper slopes are found along stream beds and thus should be avoided. Leaving this decision up to the Districts removes transparency from the process and makes it more difficult to track whether such decisions were appropriate to avoid pollution and protect human and environmental health. Section (c)(3) should be revised as follows:

> the slope of the area to be landfarmed is three percent or less, or any greater slope is approved in writing by the District Director;

Subsection d and e of the October 2023 draft have been revised when compared to the 2024 proposed version, which ends with a new subsection (d). Those subsections established rules for "other drilling fluid" and completion and workover pit wastes, defining the wastes that could be buried in place.[149] The 2024 proposal only has a single subsection (d) for "Other oil and gas wastes." The Commission should clarify whether this new section is intended to apply to all of the wastes that would have been regulated under (d) and (e) of the 2023 proposal, or if some of the wastes listed in the 2023 proposal would no longer qualify for burial in an unauthorized pit. In addition, Commission Shift understands that some waste streams and containers that would have been regulated under Division 3 (like hydrostatic test water and small sumps) are no longer included in the 2024 draft. Commission Shift requests confirmation that operators seeking to dispose of hydrostatic test water or use a small sump would need a permit. If the Commission is contemplating creating a permitting process through guidance, Commission Shift would like to be involved and have an equal seat at the table as any other stakeholder / industry.

Subsection d. As for subsection(d) as proposed, it appears that almost any solid or fluid waste from well drilling, completion and workover would be eligible for burial in a reserve pit or completion/workover pit, with no regard for the toxicity or hazard in the waste. As is further explained below, this is unacceptable. It flouts Texas Natural Resources Code, §91.101(a), which ***requires*** the Commission to adopt rules to prevent pollution of surface waste and subsurface water. [150] It leaves

[149] See October 2023 Draft ("(d) Other drilling fluid. A person may, without a permit, dispose of the following oil and gas wastes by burial in an authorized pit . . . . water-based drilling fluid which had a chloride concentration in excess of 3,000 mg/liter but which has been dewatered; drill cuttings, sands, and silts obtained while using oil-based drilling fluids or water-based drilling fluids with a chloride concentration in excess of 3,000 mg/liter; and those drilling fluids and wastes allowed to be landfarmed without a permit[.]; . . . (e) A person may, without a permit, dispose of in an authorized pit specified in §4.113 of this title the following materials: solids from spent completion fluids, workover fluids, drilling fluid, silt, debris, water, brine, paraffin, and the materials cleaned out of the well bore of a well being completed, worked over, or plugged, and reservoir fluids removed during wellbore cleanup.").

[150] "[T]he commission shall adopt and enforce rules and orders". . . "[t]o prevent pollution of surface water or subsurface water in the state."

communities and Texas vulnerable because “the Railroad Commission of Texas is solely responsible for the control and disposition of waste and the abatement and prevention of pollution of surface and subsurface water resulting from: activities associated with the exploration, development, and production of oil or gas or geothermal resources.” Texas Water Code, §26.131.

In addition, the proposed rule regarding documentation retention for authorized pits (d)(4) falls far short of the suggestions made by STRONGER (2022) that records on pits should be permanently maintained by the agency, not held by the operator for only three years:[151]

> Agency records should be permanently maintained for any required analytical data taken, sites used, and types and quantities of waste disposed. Site locations should be located on plat maps.

All construction, sampling, and closure documents should be shared with the surface owner as well.

§4.112. Authorized Recycling. Page 60

The Commission should be clearer as to when produced water recycling pits would be regulated under Subchapter B’s commercial fluid recycling rules in Division 5 and 6, which require a permit issued by the Commission to operate and notice of the application (4.270, 4.286), among other differences. If on-lease produced water recycling pits (i.e., those that recycle water only during exploration and production of ***that*** lease’s well) are the only ones that can be authorized under Subchapter A Division 3, the Commission should clarify as much. The rule should prohibit pooling of produced water from multiple leases without a permit. Such activity would likely involve larger volumes, flow rates, truck traffic, and infrastructure that should go through a permitting process with opportunity for notice and public input, as larger operations bring a larger potential for pollution of surface and subsurface water and the environment in general.

In May 2023, the Commission proposed requiring that operators “register[] the location of buried pipelines connecting non-commercial fluid recycling pits within 30 days of the pipelines entering service after the Director has established a registration system.”[152] Given that these pipelines can also be sources of pollution, the Commission and future operators should at a minimum be advised of their location, just as authorized pits will now be required to be registered. Commission Shift supports adding this registration requirement back in.

Also removed from this section of the May 2023 draft was the requirement that “Fluid recycling pits that do not meet the definition of non-commercial fluid recycling pits and are not commercial pits shall be permitted pursuant to Divisions 4 and 6 of this subchapter.”[153] Although the Commission no

[151] Ex. 11 STRONGER (2022) at 45 (explaining how this requirement should “apply to waste disposal at or near E&P sites”---i.e. authorized pits).
[152] Ex. 15 May draft at 20.
[153] Ex. 15 May draft at 20 (4.112(b)(2)).

longer uses the term “non-commercial fluid recycling pits” in this proposal, the concern remains as to when produced water pits would need a permit, either under Divisions 4 and 6 of Subchapter A or under Divisions 5 & 6 of Subchapter B. The Commission should also clarify how 4.184 (“Permitted Recycling”), which describes non-commercial recycling not otherwise authorized by Subchapter A fits in, and when it would be triggered. (see Commission Shift’s comments on Division 9, below).

§4.113. Authorized Pits. Page 61

Subsection a. Commission Shift reiterates its opinion that no authorized pits should be allowed on the same property as a commercial facility—all waste management units described in § 4.113(a) should be permitted. This could be achieved by modifying (a) as follows and including back in the last sentence from the October 2023, which retains the Commission’s discretion in adding additional guidelines:

> (a) Unless such waste management units are located on the same property as a commercial facility, a~~A~~n operator may, without a permit, maintain or use reserve pits, mud circulation pit, completion/workover pit, fresh makeup water pit, fresh mining water pit, water condensate pit if the pit complies with this division. If such waste management units are located on the same property as a permitted facility, they must be permitted. Authorized pits may be subject to certain additional containment guidelines at the Director’s discretion based on factors such as the characteristics of the pit location.

Subsection b. A pit should never be built in the 100-year floodplain. This is legacy language from the forty-year-old Rule 8. This subsection would allow District Directors[154] to approve pits within the 100-year floodplain if it can be shown that the pit contents will be confined at all times, but with no details as to what that showing will require. Because the rules allow permanent burial of waste in place, it is impossible to show that the pit contents will be confined into the future, and not disturbed accidentally or by act of nature at some point in the future. Pits line the Brazos River that have eroded into the river as it has shifted course over the years, as the following photographs courtesy of Lower Brazos Riverwatch show. Even if they were not in the floodplain then, their contents are now part of the river.

[154] At the bare minimum, District Directors should not have this discretion. Technical Permitting in Austin should review such a request.

Figure (above). *Well casing and other oil and gas activities that have become exposed by erosion along the Brazos River. Note the dark staining around abandoned infrastructure and well casing near the ground surface, and former waste pit (pale white sediment) eroded into the river at the bottom of the photograph, creating potential hazards to human and environmental health. Courtesy of Lower Brazos Riverwatch.*

Figure (above). *Another waste pit (pale sediment) that has become exposed through erosion along the Brazos River, creating hazards for human and environmental health. Courtesy of Lower Brazos Riverwatch.*

Even while the pit is operation, neither the operator nor the Commission can guarantee that the contents will be confined: berms fail, storm events exceed expectations, etc. To suggest otherwise is contrary to commonsense and direct experience. If the Commission persists in including this

language that will risk pollution, such a request should be subject to permitting, in which affected persons nearby (and in the flood plain) could participate in a hearing. As drafted, there does not appear that the public would be allowed to participate in a hearing in the event the Commission denied the operator's request to build in a floodplain.

Subsection c. Commission Shift also understands that this proposed rule would allow the vast majority of pits that were authorized under the forty-year-old Rule 8 to be grandfathered in and not need to comply with these new rules (except for rules on closure, see (c)(4)). This runs counter to the idea that this rule will improve environmental and human health. Subsection (c) should be modified to require that all authorized pits—not just the ones that cause pollution—must become compliant with the new rules or be closed:

> An authorized pit that was constructed pursuant to and compliant with §3.8 of this title (relating to Water Protection) as that rule existed prior to July 1, 2025, is authorized to continue to operate subject to the following:
>
> (1) Authorized pits ~~that cause pollution~~ shall be brought into compliance <u>with this subchapter</u> or closed according to this division.
>
> (2) By [insert one year after the effective date of this rulemaking], basic sediment pits, flare pits, water condensate pits, and other unpermitted pits not authorized by this section shall be: (A) permitted according to this subchapter; or (B) closed according to this division.
>
> (3) At the time of closure, authorized pits shall be closed according to this division.

For an initial matter, if a pit isn't monitored---as hardly any authorized under current Rule 8 are---it can be difficult to determine if a pit causes pollution under the old Rule 8. "Pollution" includes contamination of subsurface water, which many of these pits conveniently have no way of observing since no groundwater monitoring was required. (You often don't find what you don't look for.) Even still, by analyzing the state's groundwater protection report, the Texas Tribune found six active cases of groundwater contamination caused by waste pits and one case caused by a commercial waste facility. [155] And EPA has documented since the 1980s that unlined reserve pits leak---sometimes even "after closure when dewatered drilling mud begins to leach into the surrounding soil."[156] And in

[155]. Ex. 30.02 Pskowski, Martha. Texas proposes first new rules for oilfield waste in 40 years. Texas Tribune. (Sept. 9, 2024) https://www.texastribune.org/2024/09/09/texas-oil-gas-waste-rules-railroad-commission/ (And "[a]ccording to the commission's online database, the agency issued 712 violations of water contamination rules since 2015. The commission did not provide clarification about how many of these violations occurred at waste pits."). See also Ex. 30.03 Excerpt of Joint Groundwater Monitoring and Contamination Report (May 2023). https://www.tceq.texas.gov/downloads/groundwater/publications/joint-groundwater-monitoring-and-contamination-report-2022-sfr-56-22.pdf See also Ex. 26.01 Milestone Comments (Sept. 2024) https://www.rrc.texas.gov/media/d4ca1vqd/comments-3-8-ch4-milestone.pdf (examining Commission records and identifying 715 surface or groundwater pollution violations across all Commission oil and gas districts since 2015).

[156] Ex. 30.04 Excerpt of Management of Wastes from the Exploration, Development, and Production of Crude Oil, Natural Gas, and Geothermal Energy (Volume 1 of 3) (EPA) Study (1987) https://archive.epa.gov/epawaste/nonhaz/industrial/special/web/pdf/530sw88003a.pdf at 180 (IV-52) (describing chlorides, sodium, barium, chromium, and arsenic as potential pollutants, and describing one case that private landowners won against an operator after their water well was polluted from chloride and barium leaching from an unlined reserve pit); at 173 (IV-45) (linking an unlined reserve pit to chloride contamination in a livestock well 200 feet

any event, under TNRC 91.101(a) Commission has a duty to adopt rules that prevent pollution --- the best way to prevent pollution from these unmonitored Rule 8 pits is to have them closed and the waste disposed of in a manner that will not cause pollution in the future.

In addition, “pits not authorized by this section” --- such as “basic sediment pits, flare pits, and other unpermitted pits” that are described in 4.113(c)(2) should not be allowed to be closed under Division 3 rules, and certainly not under the proposed Schedule A closure requirements, which do not require testing of wastes and allow burial in place.[157] The material in these pits should be tested, removed, and the site remediated to background. Flare pits can contain concentrated hydrocarbons; basic sediment pits are concentrated sediment from tank bottoms, well-known to concentrate contaminants and radioactivity.

Flare pits are particularly worrisome sources of contaminants. As defined in current Rule 8(a)(8), this is a “[p]it which contains a flare and which is used for temporary storage of liquid hydrocarbons which are sent to the flare during equipment malfunction but which are not burned. A flare pit is used in conjunction with a gasoline plant, natural gas processing plant, pressure maintenance or repressurizing plant, tank battery, or a well.” Flare pits at natural gas processing plants in particular may contain pigging waste and natural gas condensates. This could include higher chain hydrocarbons and pipe scale contaminated with accumulated NORM, as well as other contaminants.

The Commission has decided that flare pits and basic sediment pits should not be authorized in the first place --- legacy pits of this type should not be allowed to remain as potential sources of surface and subsurface water pollution. According to the preamble to these rules, there should be few pits that would need to be closed, so the cumulative burden to clean these legacy sites properly should not fall on many.[158] The Commission should require these pits to be cleaned up fully, with the waste disposed of, not buried onsite.

The Commission should also clarify that a pit originally authorized under the prior Rule 8 would need to comply with the updated rules if it was redesignated to be a different pit type, as contemplated in 4.113(e)(5). Otherwise, a loophole might exist in that an operator could continue to redesignate pit types based on the prior Rule 8 as long as the footprint of the pit pre-dated the rule updates.

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away); at 157-58 (IV-29-30) (describing contamination found in wells screened at 300-500 feet bgs and downgradient of a commercial disposal pit that was within range to percolate into water-bearing sandy soil); at 141-42 (IV-13-14) (describing how a dairy operation was forced to close because of contamination from an unlined reserve pit).

[157] 4.113(c)(2): “By July 1, 2026, basic sediment pits, flare pits, and other unpermitted pits not authorized by this section shall be: (A) permitted according to this subchapter; or (B) closed according to this division.”

[158] See Preamble at 33:29-30 (“The Commission understands that flare pits are rarely used, and in many cases portable containers are used in lieu of basic sediment pits.”)

Subsection d. Commission Shift is also concerned that subsection (d) does not require immediate action by an operator in the event of a release. Commission Shift urges the Commission to incorporate the language used in Division 10 as follows:[159]

> (c) In the event of an unauthorized release of oil and gas waste, treated fluid, or other substances from any pit authorized by this section, the operator shall take immediate corrective action and any measures necessary to stop or control the release and report the release to the District Office within 24 hours of discovery of the release.

Subsection e. Commission Shift supports the creation of a registration system for all authorized pits (as in 4.113(e)) and encourages the Commission not to delay in establishing such a publicly accessible registration system.[160] Commission Shift appreciates that there is now a date-certain by which the Commission will establish such a registration system. The public should be granted access to the registration system by that time. Neither the Commission nor the public should have to wait until July 2027 for such a system (see (e)(1)(B)).

Commission Shift also urges the Commission to require pits be registered within 30 days of the registration system becoming available—registration simply requires the operator to report data that it should already have. Allowing a full year to elapse before registration is required is excessive. As such, Commission Shift recommends that § 4.114(a)(5)(B) be amended as follows:

> (e)(3) Authorized pits existing on July 1, 2025 shall be registered or closed within 30 days ~~one year~~.

The registration should also ask operators to include the following information, all of which should be readily available to operators. These additional requests could be appended to § 4.113(e)(4) as follows:

> (F) the history of the pit: when it was constructed, if and when it has changed type (as envisioned by § 4.113(e)(5);
>
> (G) the construction methods, including as-built diagrams, liner materials, and leak detection systems (if any);
>
> (H) the compliance inspection frequency; and
>
> (I) how closure sampling will be conducted (e.g., background vs. regulatory limits set).

The expected depth to groundwater (D) should also include a source of this information; e.g., site specific investigations, depth to water in nearby wells, etc.

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[159] Compare with § 4.196(b)(7) "Immediate corrective action shall be taken in all cases where pollution has occurred. An operator responsible for the pollution shall remove immediately such oil, oil field waste, or other pollution materials from the waters and the shoreline where it is found. Such removal operations will be at the expense of the responsible operator." The Commission should also reiterate that all other responsibilities in (b)(7) apply to operators of authorized pits.

[160] Commission Shift understands that the Commission's guidance states that authorized pits must be registered with the appropriate RRC District Office, but does not see evidence of a registry online. https://www.rrc.texas.gov/media/rouciyfm/section_j.pdf#page=18 "Authorized pits, listed under SWR 8(d)(4), do not require an individual permit, but must be registered with the appropriate RRC District Office."

The Commission should also consider proscribing limits on the size of authorized pits, not just collect the pit dimension and capacity. Best practices for pit design ensure that maintenance and closure equipment will never need to be staged inside the pit, where it could damage the pit liner, yet there is no rule prohibiting operators from building pits longer and wider. Synthetic and natural liners are seldom designed to or able to maintain structural integrity with the weight of equipment, and even a dropped wrench or workman's boot can often puncture synthetic liner, rendering it no longer protection against subsurface water and soil contamination. All parts of the pit should be accessible by an excavator or other equipment that is staged outside the pit at all times so that solids can be removed from the pits without equipment inside the pit that could damage liners. The proposed rules do not include any such limitation for Schedule A pits, and insufficient protections for Schedule B pits. Section 4.113 is a place where the Commission could add such construction guidelines in, since they would apply to all authorized pits.

Likewise, the Commission should consider adding limitations on the depth of pits. The deeper the waste that is in a pit, greater the hydraulic head, and the more quickly waste can travel through holes in a liner (if there is one). This greater flow can also cause leaks to expand, compounding the problem. Because hydraulic head acts similarly for solid and liquid wastes, the Commission could and should establish by rule in 4.113 a limitation that applies to both Schedule A and Schedule B pits. These limits on pit dimension would help prevent pollution.

Subsection (e)(5) should also clarify that redesignation of a pit will require notifying the Commission and reregistration. The October 2023 draft envisioned notification going to the District Director; even if so, the operator should also be required to reregister so it can be publicly available.[161]

§4.114. Schedule A Authorized Pits, Page 62

The rules proposed for "Schedule A" pits in particular violate the Commission's statutory duties, including to "adopt and enforce rules and orders" . . . "[t]o prevent pollution of surface water or subsurface water in the state" Tex. Nat. Res. Code §91.101(a) and it represents the Commission's abdication of its statutory responsibility "for the control and disposition of waste and the abatement and prevention of pollution of surface and subsurface water" related to oil and gas activities. Tex. Water Code §26.131.

It also ignores 1999 guidance that was summarized by the Commission in its 2002 proposed revisions of the rules that was never finalized:[162]

> For authorized pits, the Review Team Report included the following recommendations: (1) revise §3.8 to include requirements applicable to authorized pits based on specific

[161] Compare with October 2023 4.114(a)(6).
[162] 27 TexReg 4277.

> geologic, topographic, hydrologic, or other conditions; (2) require prior notice of construction and use of authorized pits; (3) prohibit the use of unlined basic sediment pits for the disposal of oily wastes; (4) develop rules specifying site restrictions, prohibitions, construction notice requirements for the various types of authorized pits; and (5) amend §3.8 to define minimum construction standards for all rule-authorized pits, to include general operating standards for rule-authorized pits, and to add general pit closure standards for rule-authorized pits.

It contradicts much of the conclusions of the 2002 rulemaking rationale for these pits. The 2002 rulemaking also was explicit in citing the references the Commission relied on as for the basis for its rules.[163] The 2024 proposal does not even have a References section---in other words, the Commission lacks a rational and scientific basis for allowing Schedule A pits to imperil surface and subsurface groundwater and the environment as proposed. In short, the Commission must set more protective rules for Schedule A pits. The following highlights many of the major deficiencies.

Subsection 1. As proposed in subsection 1:

> Schedule A pits include reserve pits, mud circulation pits, completion/workover pits, freshwater makeup pits, fresh mining water pits, and water condensate pits.

As an initial matter, the Commission should not create confusion by using the word “include” to describe Schedule A pits. The list should be complete, not invite operators to shoehorn other types of pits into this definition and these lax requirements. This list also makes clear that authorized pits could contain almost any sort of oil and gas waste created during exploration and production, including oil-based fluids, cuttings, test fluids, completions and workover fluids. This means the pit will contain known contaminants (added to the well), some of which are proprietary, as well as unknown quantities and types of contaminants from the well bore, including NORM. And as drafted, operators would be allowed to bury most of the waste onsite, permanently, which industry estimates would lead to 70-80% of all drilling waste being disposed onsite in unlined, unmonitored pits.[164] These practices and pollutants put the environment and human health at risk without proper precautions, which these rules do not provide.

Subsection 2. Although subsection 2 purportedly sets construction standards for Schedule A pits, the reality is there are hardly any construction standards for these pits in these proposed rules. This reverses course from the 2023 proposal---and even from the Commission’s 2002 proposal, at a time before horizontal drilling took off and the additives and naturally occurring contaminants were less diverse and less concentrated than those involving hydraulic fracturing and horizontal exploration. The currently proposed rules would allow:

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[163] 27 TexReg 4282-83 (May 17, 2002) (“References Cited: The Commission relied on information in the following sources:” citing several dozen sources).

[164] See e.g., Ex. 30.05 Informal Comments of Brad Zarin, former executive in the oilfield waste treatment, recycling, and disposal industry (estimated 75% onsite disposal). https://www.rrc.texas.gov/media/y5ljvh1s/comments-ch4-informal-draft-zarin.pdf Industry experts also report small mud circulation pits in the Permian exceed 1 acre, with larger pits easily exceeding 3-4 acres. https://www.rrc.texas.gov/media/krwpimw0/comments-3-8-ch4-rio.pdf

- **Pits to be at the brim even before and during a 24-hour rainfall event.** This fails to protect surface water. In the October 2023 proposal, 2 feet of freeboard plus 25 year 24-hour rainfall storage was required.[165] Even in 2002, the Commission proposed all authorized pits must include two feet of freeboard, plus rainfall.[166]
- **Stormwater can enter pits.** There is nothing to stop operators from directing stormwater into a Schedule A pit for dilution or any other reason, even though such a prohibition was added in the October 2023 version.[167] Even in 2002, the Commission's rule would have prohibited stormwater from entering these pits.[168]
- **Pits can now be located as close to groundwater as an operator wants.** This fails to protect subsurface water. In the October 2023 proposal, the bottom of pits would have been required to be 20 feet above the top of subsurface water.[169] Even in 2002, the bottom of a reserve pit could be no closer to groundwater than 20 feet, with limited exceptions.[170] As the Commission recognized in 2002: [171]

> Groundwater is the most likely resource to experience a pollution problem from unlined pits. The Commission's experience has been that the cost of remediating contaminated groundwater is either extremely high or technically impracticable in most cases. Although pollution incidents attributable to authorized pits are relatively undocumented, reserve and workover pits are numerous and widespread, and the liquid portion of the pit contents is high in chlorides and TPH. Further, the Commission is handling numerous cases involving pollution attributable to other types of pits. Thus, the increasingly precious nature of groundwater, the direct pollution threat contaminants in pits pose to groundwater, the large number of authorized pits, the high cost or impossibility of cleanup, and the documented history of groundwater contamination attributable to other pits have all been factors in the Commission's decision to propose rules implementing more specific standards for authorized pit operation and closure.

Even New Mexico, which the Commission has looked to for these rules, prohibits temporary pits if groundwater is closer than 25 feet for low-chloride wastes and 50 feet for high-chloride wastes.[172] The Commission provides no reasoned explanation from departing from its 2002 assessment, and indeed it cannot.

- **Pits only need to be "lined" if within 50 feet of groundwater, and liner is not defined.** Where groundwater is greater than 50 feet, pits do not have to be lined at all, not even a compacted soil liner. This would allow an operator to just dig a hole in sand and let the waste

[165] October 2023 Proposal 4.114(c)(2).
[166] 27 TexReg 4289.
[167] See 4.114(c)(4).
[168] 27 TexReg 4289.
[169] October 2023 Proposal: 4.114(c)(3).
[170] Ex. 14.06 Documented Public Information Act Responses Part 2. At 2338 (Figure 16 TAC 4.118(c)) https://s3.documentcloud.org/documents/23261389/trrc_rule8docscomms_part2.pdf.
[171] 27 TexReg 4280.
[172] 19.15.17.10 NMAC.

seep down. And without groundwater monitoring wells---or sampling prior to closure---there would be little trace of this pollution. Bad actor operators might even be incentivized to use this tactic, as less pit space would be needed to store this "disappearing" waste, and less expense in disposal costs. The October 2023 proposal proposed more protective rules, similar to the level of detail that now only applies to Schedule B pits.[173] Even in 2002, the Commission's proposed rules gave specifics on liner strength and installation and required its integrity to be tested, see, e.g.:[174]

> A liner constructed of natural materials shall be constructed of a minimum of two feet of compacted clay, placed in six inch lifts, or an effective equivalent thickness of any other compacted material that has a hydraulic conductivity of 1.0 x 10-7 centimeters per second or less. Where such a liner is installed, the person shall perform appropriate testing to ensure compliance with these standards and shall maintain copies of the results of the tests for the life of the pit.

In comparison, the rules simply provide a hydraulic conductivity. This is not the same as specifying thickness, or construction methods, or monitoring: none of those requirements found in 4.115 (Schedule B pits) would appear to apply here. The Commission must make such construction methods applicable to both pit types.

- **Even if a liner is required, there are no installation guidelines or requirement to monitor the liner and it can be torn or compromised during operation, maintenance, and closure of the pit.** In the October 2023 proposal, equipment that could be expected to puncture or compromise the liner was prohibited from being used or placed in the pit.[175] Again, Schedule B pits must meet some of these requirements, but it is completely missing from Schedule A.
- **There are no setbacks for pits.** The current draft removed setbacks for these pits, even those proposed in the October 2023 version.[176] Commission Shift has even ascertained that during the drafting process for these rules, industry groups also supported setbacks from surface water (150 ft); from public water wells (500 ft); from domestic water wells (150 ft). To remove these setbacks goes against industry recommendations, science, and good sense and puts surface and subsurface water at risk of pollution. Even in 2002, the Commission proposed prohibiting these pits within 150 feet of any public water supply or any domestic

[173] See October 2023 Proposal 4.114(c)(5) & (6).
[174] 27 TexReg 4289.
[175] See October 2023 Proposal 4.114(d).
[176] October 2023 Proposal: 4.114(b) "[N]o authorized pit shall be located: (1) on a barrier island or a beach; (2) within 300 feet of surface water; (3) within 500 feet of any public water system well or intake; (4) within 300 feet of or any domestic water well or irrigation water well, other than a well that supplies water for drilling or workover operations for which the pit is authorized; or (5) within a 100-year flood plain." Commission Shift reiterates that no exception should be granted to these setbacks; exceptions do no allow for public notice, review or participation, and these setbacks are necessary to prevent pollution.

water well, or irrigation water well.[177] As discussed in more detail in Commission Shift's comments on 4.150, health effects from oil and gas upstream operations---including at the well pad---can be felt within a kilometer or more of these operations. Peer-reviewed health studies "consistently show increased potential for exposure to air pollution and noise, as well as increased risk for several adverse health outcomes in populations living within and beyond 1 kilometer (km) of oil and gas well sites."[178] Risks within this radius include cancer, perinatal risks, and respiratory problems.

Subsection 3 (Closure). The Schedule A rules again fail to prevent pollution because waste is never tested yet allowed to be buried onsite in locations and with construction practices that leave subsurface water, surface water, and the environment at risk.

- **No testing or treatment required, even for oil-based mud or known high chloride areas.** Even in 2002, operators would have been required to test for TPH, pH, and benzene prior to disposal in a pit with no liner or a compromised liner.[179] With the shale gas revolution and additional contaminants of concern, more testing is needed prior to allowing burial onsite, and an operator should be prohibited from burying the waste if certain concentrations are exceeded, even if consent to burial is given. The most protective of surface owner land and waters would be to require clean up to background, where background is uncontaminated soils, not soils contaminated by prior oil and gas or other industrial activities.

Also not mentioned in these rules are protections for **wildlife, domesticated animals, and birds.[180]** These concerns apply to all pits --- Schedule A, Schedule B, and permitted. Pits are a known danger for birds and wildlife, yet the Commission is not proposing to update Rule 22 or add

[177] To be clear, 150 feet is insufficient setback, but it shows even before the advent of horizontal drilling and the shale gas revolution and dirtier oil and gas waste, the Commission understood setbacks were necessary to prevent pollution. Ex. 14.06 Documented Public Information Act Responses Part 2. At 2333. https://s3.documentcloud.org/documents/23261389/trrc_rule8docscomms_part2.pdf.

[178] Ex. 24.02 Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making (June 21, 2024) Report prepared for the California Geologic Energy Management Division (CalGEM), at ES-2. https://www.conservation.ca.gov/calgem/Documents/Public%20Health%20Panel%20Final%20Report_20240621.pdf This public health study examined more than 72 peer-reviewed epidemiological studies conducted across the United States and Canada and found that "[t]his body of evidence consistently indicates that human populations residing closer to upstream oil and gas development experience a greater risk of decreased respiratory function and adverse perinatal outcomes compared to those living farther away. Additionally, higher density of upstream oil and gas development in the vicinity of residences is associated with greater respiratory and perinatal health risks compared to lower density of oil and gas development. Finally, higher production volume of oil and gas is associated with increased risk of adverse respiratory and perinatal health impacts."). Eleven of these studies even specifically focused on Texas: 8 on perinatal health, 2 on respiratory outcomes, 1 on cancer; other studies included Texas as part of their datasets.

[179] PIR 2336.

[180] Tex. Water Code 26.001 (14) "Pollution" means the alteration of the physical, thermal, chemical, or biological quality of, or the contamination of, any water in the state that renders the water harmful, detrimental, or injurious to humans, animal life, vegetation, or property or to public health, safety, or welfare, or impairs the usefulness or the public enjoyment of the water for any lawful or reasonable purpose

additional rules to protect other animals from these pits. STRONGER (2022) Guidelines for pits state that netting is the method that is preferred:[181]

> Requirements for fencing, netting, and caging, or any other method to secure a pit, should be set by area or statewide regulations, as necessary, to protect the public, domestic animals, and/or wildlife. Netting of a pit is recommended as the preferred method to protect wildlife.

This reflects the recommendations from the U.S. Fish and Wildlife Service, which has stated that:[182]

> Solutions to preventing bird mortality in oil pits and evaporation ponds are fairly simple and straightforward and are being implemented by many oil operators. Closed containment systems reduce the amount of drilling waste produced, require little to no maintenance, and can be moved from site to site, potentially reducing operator costs. These systems are the safest method to prevent bird exposure to oil and other hazardous chemicals and can eliminate soil contamination and remediation expense.
>
> If a closed containment system is not used, pits and ponds less than 1 acre can be netted or fenced to prevent bird access. However, netting is only a viable practice if it is properly constructed and maintained.
>
> All open-top containers should be covered to prevent entrapment, and any oil or waste fluid spill or leak should be cleaned up immediately.

If the closed loop containment systems are not used, netting should be of a sufficiently small net size, made of photodegradation-resistant material, and suspended sufficiently high above the pit surface (e.g., five feet). In general, audible bird deterrents and flagging are less recommended. The following summarizes additional studies explaining the risks from pits to birds and other wildlife:

- **Oil field wastewater disposal facilities cause bird mortality[183]**

Hydraulic fracturing fluids are sometimes disposed of in commercial and centralized oilfield wastewater disposal facilities (COWDFs). Birds are attracted to these large ponds, which can potentially cause wildlife mortality. Field inspections in Wyoming found 269 bird carcasses – most commonly grebes and waterfowl. Sodium toxicity and surfactants – which are found in hydraulic fracturing fluids – were suspected to be the cause of death at three of the inspected COWDFs.

- **Documented mortality in oil pits numbers thousands of birds of 172 species[184]**

From 1995-2005, USFWS found a minimum of 2060 individual birds were identified from remains recovered from oil pits, representing 172 species from 44 families.

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[181] Ex. 11 STRONGER (2022) at 42.
[182] Ex. 30.06 Incidental Take Beneficial Practices: Oil Pits and Produced Water. U.S. Fish and Wildlife Service. (Jan 14, 2022) https://www.fws.gov/story/2022-01/incidental-take-beneficial-practices-oil-pits-and-produced-water; See also Ex. 30.07 Migratory Bird Mortality in Oilfield Wastewater Disposal Facilities. USFWS. (May 2009). https://eplanning.blm.gov/public_projects/nepa/66551/143342/176145/N15_WWP_AppS_USFWS_2009.pdf
[183] Ex. 30.08 Ramirez, P. Jr. (2010). Bird Mortality in Oil Field Wastewater Disposal Facilities. Environmental Management 46(5): 820-6.
[184] Ex. 30.09 Trail, P. (2006). Avian mortality at oil pits in the United States: a review of the problem and efforts for its solution. Environmental Management 38: 532-544.

- **Wildlife mortality in reserve pits is related to oil and gas drilling[185]**

This report, produced by the US Fish and Wildlife Service, analyzes risks to migratory birds from reserve pits, which are commonly used for the disposal of drilling muds and well cuttings in oil and gas fields. The pits contain many toxic chemicals used to drill wells, along with the oil residue. Many species of birds are attracted to the insects stuck in the pits, and become entrapped within the sticky substance, which then attracts larger predators. Additionally, the chemicals in the pit decrease surface tension of water, and so waterfowl will begin to experience hypothermia as water is able to penetrate through the feathers and coat their skin. Birds that do escape usually suffer from health and reproductive issues from oil exposure. Mortality can be high; in one example, 77 bird carcasses were recovered from a reserve pit in Carbon County, Wyoming between the months of July and September 2008. The report recommends the elimination of open reserve pits and the use of closed-loop drilling, down-hole disposal of drill cuttings, and implementation of fences and screening around existing reserve pits to prevent wildlife and cattle from venturing into the steep pits.

- **Exposure of birds to oilfield brine discharges increased the presence of petroleum hydrocarbons in the birds' stomach tenfold[186]**

A study of the effects of oilfield brine on western sandpipers in Texas showed "total aromatic petroleum hydrocarbon concentration in stomach contents of birds collected at the discharge site was over tenfold greater than at the reference site." The study also found chronic exposure to petroleum hydrocarbons based on petroleum aromatic hydrocarbon concentrations in food items, carcass aliphatic contaminant burdens, and reduced liver weight of sandpipers collected at the oilfield discharge site.

- **Coalbed methane extraction, which commonly utilizes hydraulic fracturing, is linked to an increased risk of West Nile Virus to threatened greater sage-grouse [187]**

The survival rate of the greater sage-grouse in Wyoming has declined by 25% in recent years. Coalbed methane development in the area causes large volumes of water to be discharged and impounded during gas extraction, which creates aquatic habitats that can support mosquito development. There was a 75% increase in potential habitat for mosquito larvae due to an increase in small discharge ponds in this region. The mosquito *Culex tarsalis,* which is found in the area, spreads West Nile Virus to susceptible species. This implies the Greater Sage-grouse is at increased risk of exposure to West Nile Virus due to coalbed methane development.

[185] Ex. 30.10 Ramirez, P. Jr. (2009) Reserve Pit Management: Risks to Migratory Birds. U.S. Fish and Wildlife Service Region 6: Environmental Contaminants Program.
[186] Ex. 30.11 Rattner, B.A., J.L. Capizzi, K.A. King, L.J. LeCaptain, M.J. Melancon. (1995). Exposure and Effects of oilfield brine discharges on Western Sandpipers (*Califris mauri)* in Nuecs Bay, Texas. Bull. Environ. Contam. Toxicol. 54: 683-689
[187] Ex. 30.12 Zou, L., S.N. Miller, and E.T. Schmidtmann. (2006). Mosquito Larval Habitat Mapping Using Remote Sensing and GIS: Implications of Coalbed Methane Development and West Nile Virus. J Med Entomol 43(5): 1034-41.

- **Tailings ponds from open pit bitumen extraction causes avian mortality[188]**

A study of annual avian mortality in the tailings ponds of the Athabasca tar sands region in northeastern Alberta, Canada, showed and estimated annual mortality rate in the range of 458 to over 5,000 birds a year.

Commission Shift recommends that the Commission incorporate wildlife protections directly in Subchapters A and B. Companies that fail to protect wildlife from pits can be liable under state and federal law.[189]

§4.115. Schedule B Authorized Pits, Page 65

The Commission's 2024 proposal introduces the concept of "Schedule B" pits, which are defined as produced water pits. While Commission Shift agrees that such pits should require financial security, and notes that the Commission has calculated expected costs to operators in the preamble, it does not appear that the Commission has considered whether the financial security requested will be sufficient to cover the clean-up costs and remediation related activities needed if such a pit results in pollution.[190]

Subsection e.

Commission Shift strenuously objects to the idea that operators can request exceptions of setbacks. As proposed, the public would have no notice or opportunity to participate in the review of exceptions requested by authorized pits and no guidelines have been given as to what information the Commission would consider when deciding whether an exception to a setback is appropriate. Commission Shift fears that exceptions would be routinely granted, with no system in place to monitor whether such an exception ultimately caused pollution or endangered human and environmental health. Especially since the District Directors, and not Technical Permitting staff in Austin that make this decision, where there might be some centralization and tracking of this information across districts. Subsection e should be revised to prohibit exceptions for authorized pits. As for the setbacks proposed in this section, Commission Shift has largely consolidated its comments on setbacks to its discussion of § 4.150. Commission Shift does note that the Commission now proposes a 500 foot setback from public areas; which is better than previous proposals but will still leave communities within the one kilometer (3,280 ft) radius of facilities that

[188] Ex. 30.13 Timoney K.P. and R.A. Ronconi. (2010). Annual Bird Mortality in the Bitumen Tailings Ponds in Northeastern Alberta, Canada. Wilson Journal of Ornithology 122: 569-576.
[189] See, e.g., Ex. 30.14 Oil companies charged in bird deaths. (August 26, 2011) https://www.dl-online.com/news/oil-companies-charged-in-bird-deaths
[190] The oil field clean-up fund is woefully deficient compared to the remediation that is needed. See, e.g., Ex. 30.15. Olalde, M. and Bowlin, N. Oil industry profits don't pay for cleanup. (Feb. 26, 2024) https://www.hcn.org/articles/oil-industry-profits-dont-pay-for-cleanup/

multiple health studies have shown will increase health risks (for more on these risks see Commission Shift comments on 4.150).[191]

Subsection f. There does not appear to be any limitation on where a produced water pit could be placed with respect to groundwater. There also appears to be no limitation on soil type. This jeopardizes subsurface water quality because even though all produced water pits are to be lined, all liners leak. The Commission should look to TCEQ guidance on hazardous waste landfills when determining acceptable distances to groundwater. If not, Commission Shift suggests that a minimum of 20 feet be required between the pit bottom and subsurface water, and groundwater monitoring be required when subsurface water exists within 100 feet.

Commission Shift also notes that the instructions on constructing natural liners do not mention ensuring that the lifts are properly joined together such that there are no preferential pathways for leaks at the interconnections. Wherever it allows for natural liners, the Commission should add language specifying the need to ensure each lift is properly seated to avoid such failure routes and in additional require operators to request and retain the QA/QC documentation provided by liner installers for at least three years after the pit has been closed.[192] Liner installers that do not already have QA/QC procedures should be directed to the Commission's CQC forms or those used by TCEQ for liner installation.[193] QA/QC documentation should also be required and retained whenever synthetic liners are used; the Commission could modify (E) as follows:[194]

> (E) A synthetic liner shall meet the following requirements, and the operator shall maintain documentation demonstrating these requirements have been met. The operator shall maintain these records for at least three years from the date of closure and provide copies of these records to the Commission upon request:

Commission Shift has additional feedback on the synthetic liner requirements found in § 4.115(f)(5)(E). As an initial matter, it is difficult for the public to provide meaningful feedback on the ASTM methods cited in this section (and elsewhere throughout the rule) because ASTM methods are often behind a paywall online. The Commission should have provided the public a summary of the important aspects of each ASTM Method during the formal comment period so that the public is not at a disadvantage when providing comments.

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[191] Ex. 24.02 Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making (June 21, 2024) Report prepared for the California Geologic Energy Management Division (CalGEM),

[192] Many liner installers already have internal QA/QC procedures as well. E.g., Ex. 31 GeoChem. Field Installation Quality Assurance Manual. https://www.geocheminc.com/pdf/GeoCHEM-Field-Installation-QC.pdf;

[193] Ex. 23 Municipal Solid Waste Facility Geomembrane/Geosynthetic Liner Evaluation Report. https://www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/10070.docx (describing how "This liner evaluation report is required to document that the liner was constructed as designed in accordance with the issued registration or permit and meets the TCEQ regulatory requirements prior to unit operation. This report is to be supplemented with those quality-assurance/quality-control (QA/QC) tests as detailed in the liner quality control plan (LQCP) and shall be the basis of documentation of the quality control and acceptance of the constructed liner.").

[194] This language is intended to mirror the language the Commission has already proposed in this rulemaking.

Commission Shift was able to identify some publicly available information about ASTM D882, which is referenced in § 4.115(f)(5)(E)(iv). ASTM D882 is only to be used for liners less than 1 mm (40 mil) thick; for thicker liners, ASTM D638 is recommended.[195] The Commission should use ASTM D638 and also confirm that it has set a minimum thickness for authorized pit liners to be 40 mil:[196]

> (iv) A synthetic liner shall have a breaking strength of 40 pounds per inch using test method ASTM D882 or ASTM D638, as appropriate.

As it did in the comments above on Schedule B pits, Commission Shift again suggests that the Commission set standards for pit size, including restrictions that ensure operating equipment will not need to go onto the liner, as doing so could significantly damage the liner integrity. The larger the surface area of a pit, the less effective a leak detection system will be; a leak detection system relies on having an evenly sloped surface where all accumulated liquids drain to the sampling point(s), with no uneven areas where liquid may pool and be missed. As part of the leak detection system, operators should be required to meter the incoming flow rate to the pit and use it as a mass-balance check that no leaks have been missed (i.e., compare the incoming volumes against any volumes leaving the pit, accounting for precipitation and evaporation). The mass balance calculations should be reported to the Commission to verify the lack of leaks and should be required for permitted pits as well.

The Commission should also consider setting a standard for maximum head allowed in a pit; this would help prevent pollution to subsurface water as it would slow the progress of leaks through the liners. A maximum flow rate into the pit would help avoid scouring and damage of the liner at the inflow location. Construction standards should also require protections for wildlife and birds, as described in the comments on 4.114.

Subsection g. As to assuring that the liner maintains its integrity, there are companies in Texas that are able to inspect the integrity of a liner in-situ, as well as several ASTM standards explaining how geomembrane integrity can be monitored. The Commission should confirm that those methods will be required and create a form and guidelines that operators use to keep track of pit liner integrity. If liner integrity is to be inspected by periodically emptying the pit and making visual inspections,

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[195] Ex. 32 ASTM D882. Standard Test Method for Tensile Properties of Thin Plastic Sheeting. https://www.micomlab.com/micom-testing/astm-d882/ ("ASTM D882 is used to measure tensile properties including ultimate tensile strength, yield strength, elongation, tensile energy to break and tensile modulus of elasticity of thin plastic sheeting and films. The samples are cut in strips that minimally have to be eight times longer than wide. No dumbbell shape is cut for materials of that thickness. Cut samples need to be free of nicks and other cutting defects since they will have an important impact on the test results variation. The samples are tested in specific conditions of pre-treatment, sample orientation, temperature, humidity, and rate of pulling. ASTM D882 can be used for testing materials thinner than 1mm in thickness. Thicker materials should be tested using ASTM D638.")

[196] The Commission should consider including a table similar to ones offered by USDA and other agencies one so that operators know how thick a liner needs to be depending on the material it is made of (HDPE, LLDPE, PVC, etc). See Ex. 33 Natural Resources Conservation Service. Conservation Practice Standard. Pond Sealing Or Lining, Geomembrane Or Geosynthetic Clay Liner. https://efotg.sc.egov.usda.gov/api/CPSFile/84/521_TX_CPS_Pond_Sealing_or_Lining%2c_Geomembrane_or_Geosynthetic_Clay_Liner_2018 at 1-2 (specifying thickness based on liner type).

operators should be required to photograph all actual and potential failure points and include that in the documentation. Commission Shift suggests that Commission set a monthly frequency for these inspections to take place.[197] Commission Shift also urges the Commission to require similar monitoring of the liners in Schedule A pits; neither of these subsections appear to include any liner monitoring requirement, even though the potential for pollution exists.

Action leakage rates.

Section 4.115(g) raises an issue that applies anywhere in the rules synthetic liners are discussed. This section discusses rules applicable only to non-commercial fluid recycling pits and proposes that it is acceptable for a pit built with a synthetic liner to leak 1,000 gallons per acre per day or more, if the calculated action leakage rate is larger.

Commission Shift requests that the Commission explain why such a high leakage rate is allowed through a synthetic liner, which when properly installed should not leak. The Commission has not offered any justification for setting the allowable leakage rate so high. The leakage rate for any given pit will vary based on the pit's design and the amount of liquid in the pit, and very likely may be less than 1000 gallons/acre/day. At a minimum the rules should set the leakage rate to be the ***lower*** of the default rate or the calculated rate. As is, 1000 gal/acre/day equate to 365,000 gal/year/acre or 42 gallons an hour per acre.[198] Many impoundments exceed one acre, and all of this volume must be captured and pumped out of the leak detection zone in a timely manner leaving little room for mistakes or power outages.

Commission Shift appreciates that monitoring of the leak detection system will now be required daily, as opposed to the October 2023 proposal which would have required only monthly monitoring.[199] A leaking pit that is in intermittent use may be able to pass a monthly test, even though it in fact leaks at an excessive rate any time the pit is full.[200] The Commission should also specify the methods used for monitoring and how the "water passing through the primary liner" would be measured. Simply dividing by the number of days between measurements does not take into consideration the days that the pit is not in use—nor in the case of a leak on the inside berms, when the liquid level is below the portion of the liner that is damaged. The rules should reflect the

[197] Annual monitoring is not frequent enough to protect human health and the environment, and the Commission should require more frequent inspections.
[198] Or 13.4 inches per year, exceeding rainfall rates in much of West Texas.
[199] It is not unreasonable to require more frequent monitoring than monthly. Non-commercial fluid recycling pits are often used at the well pad while the well is actively being worked on. Personnel are already onsite everyday conducting operations and frequent monitoring, like that required for permitted pits, is appropriate and will better protect human and environmental health.
[200] E.g., a pit that leaks 2,000 gallons/acre/day when full could pass a monthly monitoring inspection if it is empty more than half the month.

purpose of an action leakage rate, which is to determine if the liner is damaged and to trigger plans for locating and repairing the damage before the pit is put back into use.

Subsection i and j. Commission Shift appreciates that confirmation sampling for closure no longer mixes sidewall samples with pit bottom samples as was envisioned in the closure plan in the October 2023 version. If the pit had leaked, the bottom would be expected to be more contaminated than sidewalls (since the pit may not always have been full). Thus, confirmation sampling should sample the pit floor separate from sidewalls. The rules should also encourage operators to sample from obvious hotspots---as drafted an operator could avoid those areas entirely.[201]

Commission Shift is also concerned whether true background can be determined, given the density and intensity of drilling in Texas. Because of the drilling density in Texas, clean up standard should be set to specific protective levels, not a site background that might already be contaminated. Commission Shift joins operators like Milestone[202] in requesting this change: normally, “background concentrations” means native soil, in its naturally occurring state. However, as currently drafted, “background concentrations” could also include soil that has been highly contaminated by prior waste disposal (or spills) because there are no prescribed concentration limits associated with “background concentrations” and because there is no definition of “background concentrations”. Therefore, an operator could permanently bury new waste at the highly contaminated levels because those highly contaminated levels are the “background concentrations”. This would result in an increased likelihood of pollution to groundwater, which is antithetical to the purpose of New Chapter 4, Subchapter A. TCEQ has identified Texas-specific median background concentrations for metals.[203] The Commission should have considered using these concentrations for cleanup, instead of allowing site background or cleanup to the levels in 16 TAC 4.115(i), which are in many circumstances higher than the Texas-specific median background concentrations used by TCEQ (compare lead of 200 mg/kg (RRC proposal) with 15 mg/kg (TCEQ background)). To allow operators to choose between clean-up to background versus the inflated values in 4.115(i) risks human and environmental health---virtually no operator would be expected to do better than 4.115(i). (Background should also be the basis for cleanup for other contaminants, including NORM.)[204]

If background sampling is allowed, at a minimum a certified professional (e.g., a professional geologist) should be involved in closure in order to ensure that background levels are calculated correctly and are truly representative of a native background, not previously contaminated soil.

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[201] New Mexico’s pit closure rules require targeted sampling of potential hotspots: the operator must “include any obvious stained or wet soils, or other evidence of contamination.” 19.15.17.13 NMAC.
[202] Ex. 26 (Milestone comments) at 2-3.
[203] See Ex. 33.01 16 TAC 350.51(m).
[204] See Ex. 14.03 Glass Report at 8 (pdf 12) (opining that “the Commission should presume soil background for combined Radium 226 and Radium 228 to be 2pCi/g, as the default value used by other significant gas producing states such as Ohio”).

Commission Shift also requests that the Commission explain how an operator would comply with the requirement in (j)(4) that allows burial-in-place of waste if "the operator demonstrates the liner is intact ***and*** maintains the liner intact." Commission Shift is aware of in-situ testing methods that could be used to test the integrity of a synthetic liner[205]—the Commission should clarify if this is what is envisioned. Additionally, the Commission should also explain how the operator will ensure that the liner is maintained intact (or that leaks do not overwhelm the leak detection system). For example, the rule does not address liner damage due to vehicular traffic over the closed pit that would put pressure on the buried liner and cause liner failure. Commission Shift recommends that the Commission require at post-closure monitoring program of at least 10 years if the waste is left in place so that operators ensure that no leaks develop after the waste has settled and after the pit has had the opportunity to weather a wide range of weather events. (Although thirty years of monitoring is typical for TCEQ landfills.)[206] Increased post-closure monitoring should be required for both authorized and permitted facilities.

Commission Shift also strenuously objects to the theory that "dilution is the solution to pollution" that was proposed in the October 2023 version that would allow clean soils to be mixed with wastes in authorized pits in order to lower the concentration of pollutants.[207]

Commission Shift understands that this was struck from the current proposal only because operators no longer need to remove waste in Schedule A pits. It is nonetheless an irresponsible practice. Commission Shift expects operators and industry to argue that the dilution prohibition applies only to what is legally defined to be hazardous waste. Even if dilution is technically not prohibited, it is widely irresponsible policy to allow clean soils of Texas to become polluted in this manner. The Commission should unequivocally prohibit operators from using soils or other materials

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[205] Synthetic liner testing with electrodes is a service offered by liner companies in Texas. *E.g.*, TRI Environmental (offices in Austin) https://tri-environmental.com/electrical-leak-location-services/; Mustang Extreme Environmental Services (offices in the Permian Basin) https://mustangextreme.com/about/our-history/ (stating that as of 2019 Mustang Extreme Environmental Services installed over 1.0 billion square feet of liner) (note that Commission Shift is not necessarily endorsing the quality of service provide by these companies). There are also ASTM standards for using electrical methods for locating leaks in geomembranes that the Commission could explore adopting. E.g., ASTM Standard D6747 (2004), "Standard Guide for Selection of Techniques for Electrical Detection of Potential Leak Paths in Geomembranes," https://www.astm.org/d6747-21.html; ASTM D7007-16 "Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earthen Materials." https://www.astm.org/d7007-16.html; ASTM D8265-21 (2021), "Standard Practices for Electrical Methods for Mapping Leaks in Installed Geomembranes" https://www.astm.org/d8265-21.html; ASTM D7002-22 (2022), Standard Practice for Electrical Leak Location on Exposed Geomembranes Using the Water Puddle Method. https://www.astm.org/d7002-22.html See also Ex. 34 2000 Nosko and Touze Geomembrane liner failure Modelling of its Influence on Contaminant Transfer. https://www.researchgate.net/publication/258000268_Geomembrane_liner_failure_modelling_of_its_influence_on_contaminant_transfer (describing damage detection systems, noting how "the majority of damage were caused by stones within the protection layer and heavy equipment" and that "most failures were located within flat areas").

[206] Hazardous waste landfills and Class 1 and Class 2 nonhazardous landfills typically require a monitoring period of **30 years**. TCEQ Draft Technical Guideline No. 10 at 4-5 (Revised Dec. 7, 2017) https://www.tceq.texas.gov/downloads/permitting/waste-permits/ihw/docs/tg10.pdf

[207] See October 2023 Proposed § 4.114(g)(2).

to lower the concentration of pit contents. If the contents of a pit are too polluted, then the wastes should not be buried in an authorized pit—they should be disposed of in a permitted landfill.

As for closure procedures, Commission Shift suggests that the Commission provide additional guidance as to the maximum slopes allowed at the former pit site and consider incorporating its existing guidance on revegetation and erosion controls from its surface mining rules.

Groundwater monitoring requirements.

Subsection k. There are several improvements that can be made to subsection (k), which describes groundwater monitoring requirements for produced water recycling pits. Commission Shift is opposed to the leniency on groundwater monitoring introduced in subsections (k)(1)-(3),[208] and the fact that these requirements would no longer apply to all authorized pits. This section was stronger (and less open to multiple interpretations) in a previous version of this rulemaking that Commission Shift obtained through a Public Information Act request—Ground water monitoring requirements for authorized pits were relaxed after the Permian Basin Petroleum Association sent its complaints to the Commission.[209] Commission Shift urges the Commission to return to the language in the May draft which would require monitoring wells be installed for **all** authorized pits that do not have a leak detection system. That language, which Commission Shift supports to replace parts (1) – (4) subsection k, is:[210]

> (k) Groundwater monitoring requirements for authorized pits.
>
> (1) Groundwater monitoring is required for authorized pits that do not have a **double synthetic liner with a operational** leak detection system.
>
> (2) An authorized pit with an active life of more than one year shall have at least three groundwater monitoring wells, at least two of which are installed in a **hydrologic** downgradient location and one of which is installed in an **hydrologic** upgradient location relative to the pit.
>
> (3) An authorized pit with an active life of less than one year shall have at least one groundwater monitoring well that is installed downgradient to the pit.
>
> (4) Groundwater monitoring wells shall be sited, installed, and constructed according to §4.131 of this title (relating to Monitoring Standards).

As for subsection (k)(5), Commission Shift is generally encouraged by the level of specificity required in the well construction. It should be made clearer though that static water level should be

[208] Additional specific problems include that Commission has not defined what acceptable “readily available public information” may be used to determine if groundwater is likely to be present within 100 feet of ground surface. Applicants should review local water well permits and driller's logs in the immediate vicinity, the presence of groundwater management areas, USGS, and survey nearby residents. In addition, the absence of any water wells within 100 feet does not show that there is not any groundwater within 100 feet—subsurface water of smaller quantities and quality may still be present near the surface.

[209] Compare Ex. 15, Excerpt of May 2023 Subchapter A Draft (§ 4.114(f)) (highlights in original) with Ex. 16, Permian Basin Petroleum Association Comments (June 6, 2023) at 2; with proposed § 4.114(k).

[210] Bold is additional language that Commission Shift believes would add clarity.

measured during every sampling event and a potentiometric surface map created for every event: as is, the retention requirements set in (k)(5)(J)(iv)-(v) do not clarify this information must be developed for each and every sampling event—compare this to the language in (vi), which does specify record retention of reports and chains of custody "from each groundwater sampling event." All of the data developed and required to be retained in (J) should also be made publicly available contemporaneously—in particular, the results from each sampling event should be filed electronically with the Commission and made publicly available online promptly after each sampling event. Without concurrently sharing this information with the Commission and public, the operator is the only one reviewing whether "potential pollution" is indicated (the standard in (k)(8)). Just as the Commission requires that operators use independent labs to conduct the sampling analysis (see section 4.124(e)(3)), an independent reviewer should be the one assessing if pollution has potentially occurred—not the operator itself. The sample collection itself should also be conducted by independent samplers neither owned nor operated by the pit operator. This is already recognized practice in Louisiana.[211]

Commission Shift also urges the Commission to modify (k)(5)(A) to require continuous collection of soil samples, not simply "periodic." Periodic soil sampling skips over whole intervals of the subsurface—areas where subsurface water may be present. It is impossible for operators to identify "the shallowest groundwater zone" (as required by (k)(5)(C)) and to ensure that they are not "caus[ing] or allow[ing] pollution of surface or subsurface waters in the state" without collecting the soil samples that would indicate the presence of subsurface waters. A desktop review of TWDB and TCEQ does not suffice. As such, § 4.114(k)(5)(A) should be modified as follows:

> (5) The following is required for each soil boring or groundwater monitoring well drilled.
>
> (A) The drilling method shall allow for ~~periodic or~~ continuous collection of soil samples for field screening and soil characterization in order to adequately characterize site stratigraphy, presence of mottled subsurface materials, and groundwater bearing zones.

Subsection (k)(7) should also be amended to include sampling for any additional parameter that the Director deems necessary, including BTEX (not just benzene). Commission Shift also supports amending (k)(6) to allow for sampling on a more frequent schedule than only quarterly, if the Director deems it necessary (e.g., in the event of suspected pollution or other problems). The Commission included such language in 4.131(b)(4)(D), which should be incorporated into 4.115(k)(8) with the following modifications:

> If any of the parameters identified in paragraph (7) of this subsection indicate potential pollution, or the potential failure of the liner system: (A) the operator shall notify the ~~District~~ Director by phone or email within 24 hours of receiving the analytical results;

[211] "Sampling and testing must be performed by an independent professional consultant and third-party laboratory." 43 La. Admin. Code Pt XIX, 517

~~and~~ (B) the ~~District~~ Director will determine whether additional remediation, monitoring, or other actions are required; and (C) in the meantime, the operator shall be prohibited from accepting additional waste at the pit until the pit no longer is a source of potential pollution.

Protection of groundwater is not prohibitively expensive.

Commission Shift is aware that some operators object to groundwater investigations and monitoring because of perceived cost. Prevention of pollution of subsurface groundwater is a statutory duty, and a cost of doing business.

The Commission currently does not have groundwater monitoring data for all of the pits that it regulates---meaning it cannot know for sure whether it has been successful at preventing the pollution of groundwater. It has, however, investigated the ways waste can be minimized, and other methods of protecting groundwater than in-ground pits.[212] Closed-loop systems are one way to better protect groundwater without requiring monitoring wells because they rely on removable tanks as opposed to earthen pits. This is not a novel technology for Texas.[213] Indeed, the Commission's website has a published case study, showing that a small, independent operator drilling shallow, vertical wells, saved approximately $10,000 per well by using a closed loop drilling system, which eliminated the need for a reserve pit.[214] Closed-loop systems also avoid the risk that environmental remediation is needed and the risk of litigation over contamination.

Waste management operator Milestone has reported similar findings. According to Milestone:[215]

> For most smaller drilling operations, closed-loop drilling is cost-neutral or a moderate savings to the operator.
>
> For larger drilling operations, the utilization of proper waste management practices (including closed loop drilling systems) constitutes less than 2% of the total spend for a well. In other words, the cost to protect groundwater and the environment is negligible and not determinative for larger operators.

If operators decline to use closed-loop systems to manage waste, then they should confirm with investigations, monitoring, and robust liners that pollution of subsurface water is prevented. According to the Commission's estimates in the proposed rule, the cost of one monitoring well is

[212] See e.g., RRC Waste Minimization Program. https://www.rrc.texas.gov/oil-and-gas/publications-and-notices/publications/waste-minimization-program/

[213] Ex. 34.01 Closed-Loop Systems Provide Win-Win Benefits In Horizontal Shale Plays. ("The upfront costs of implementing a closed-loop system typically are offset by reduced hauling and disposal costs. Additionally, the overall efficiency of drilling operations may improve with closed-loop systems and trim costs further. State-of-the-art solids control equipment also makes closed-loop systems better for drilling operations. Not only does this equipment effectively separate drilling solids from drilling fluid, but it also ensures that the fluid can be reused in the drilling process, reducing the need for constant disposal and fresh makeup fluid.") https://www.aogr.com/magazine/editors-choice/closed-loop-systems-provide-win-win-benefits; See also Ex. 34.02 Pit-less in the Permian (2016) https://pboilandgasmagazine.com/pit-less-in-the-permian/

[214] Ex. 34.03 Closed Loop Drilling Fluid System (RRC) https://www.rrc.texas.gov/oil-and-gas/publications-and-notices/publications/waste-minimization-program/waste-minimization-case-histories/closed-loop-drilling-fluid-system/

[215] Ex. 26.01 Milestone Comments (September 2024) https://www.rrc.texas.gov/media/d4ca1vqd/comments-3-8-ch4-milestone.pdf.

$15,000 (the Commission does not explain the source of this estimate). In comparison, drilling & completion cost per well in the Eagle Ford in 2011 ranged from $5.5 to $9.5 million,[216] with comparable values for the Permian in 2016.[217] Large produced-water facilities can range to $35 million. In all of these scenarios---and even if costs are less---groundwater monitoring is a fraction of the initial capital investment.[218] Additionally, if the cost of deployment can be spread out between several groundwater monitoring wells at a site, then the cost of groundwater monitoring would be some amount less than the number of wells times $15,000.

Another benefit of monitoring groundwater is the significant amount of new data that would be generated, which has its own economic value. This data could then be analyzed to determine whether the proposed pit rule liner requirements are protecting groundwater that can or could be used as private/public drinking water sources, crop irrigation, livestock water, and many commercial/industrial uses.

4. DIVISION 4 REQUIREMENTS FOR ALL PERMITTED WASTE MANAGEMENT OPERATIONS

§4.121. Permit Term. Page 75

Commission Shift urges the Commission to make clear in its rulemaking that when permits that have been grandfathered in through subsection (b) come up for renewal or modification, the Commission shall review and update all permit conditions to ensure each facility is in full compliance with the new rules ***and*** that the public will be included in the process. The Commission should require renewal applications be filed with sufficient time such that there is not a question of an application still being pending when the original permit is set to expire; the 60 days contemplated in 4.122(b) is likely not enough. This would incentivize renewal applicants to file robust, complete applications at the start, not to play out the clock on an expiring permit and prolonging the process by asking for repeat amendments during the permitting process. Thus, Commission Shift objects to the proposed language in (c), which was added after the October 2023 draft:

> (c) A permit shall remain in effect while a renewal application that was filed in a timely manner is pending review and evaluation by the Commission.

If permits issued prior to this rulemaking are to remain in effect, the Commission should give itself leeway---as it does in Subchapter B---to consider revisions on a case-by-case basis. The following

[216] Ex. 34.04 Costs for Drilling the Eagle Ford (Rigzone) (2011) https://www.rigzone.com/news/oil_gas/a/108179/costs_for_drilling_the_eagle_ford/
[217] Ex. 34.05 Excerpt of Trends in U.S. Oil and Natural Gas Upstream Costs. US Energy Information Administration (2016) https://www.eia.gov/analysis/studies/drilling/pdf/upstream.pdf ("Total capital costs per well in the onshore regions considered in the study from $4.9 million to $8.3 million.")
[218] Ex. 34.06 A Simple Model for Pricing and Trading Produced Water in the Permian Basin. Texas Water Intelligence (2016). https://texaswaterintelligence.com/2016/08/17/a-simple-model-for-pricing-and-trading-produced-water-in-the-permian-basin/

language from 4.202(g) should be added to 4.102(b): "[T]he Director may consider the operational, monitoring, and closure requirements on a case-by-case basis."

§4.122. Permit Renewals, Transfers, and Amendments. Page 76

Commission Shift is concerned that this section as drafted will still not allow for robust and meaningful public participation in transfers and amendments to permits. Flaws include the fact that notice is not guaranteed during amendment applications—it is left to the Commission's discretion based a guidance document not subject to notice-and-comment rulemaking, and one that the public and other non-industry voices will likely not be allowed to help create (if the history of public participation on this rulemaking). A bright-line requirement for notice removes ambiguity for operators, the Commission, and the public and encourages transparency. Also troubling is that § 4.122 (c) (transfers) is silent as to notice for transfer applications, even though a transfer application is more than just a name and address change---it changes who is financially responsible for maintaining, operating, and closing the facility in a way that prevents pollution (and who will pay if pollution does occur). In short, the proposed language is insufficient to safeguard the public and allow for meaningful participation: notice should automatically be required for all renewals, transfers, and amendments. Such language could be added to section a.[219]

In addition, the Commission should make clear that it will require all renewals, transfers, and amendments comply with the rules in effect at the time a request is received. The Commission should consider rewriting this 4.122(a) to include this mandatory language as follows:

> (a) Compliance with rules in effect at the time of permit renewals, transfers, or amendments. To ensure compliance with the rules in effect at the time of a request to renew, transfer, or amend a permit, the Commission may review and revise permit conditions when it receives the request so that all permit conditions shall comply with the rules in effect at the time the permit renewal, transfer, or amendment is granted.

Finally, Commission Shift agrees that both a facility and a records inspection is essential before an amendment is approved under (d)(4) ("The permit shall not be renewed unless the facility is compliant with Commission rules and permit conditions, as verified by a facility and records inspection.") The information reviewed (not just a list of documents) and relied upon to make the judgment of compliance should be copied and attached to the inspection report and then uploaded to the Commission's electronic public-facing database as well.

As for transfers (4.122(c)), Commission Shift urges the Commission to establish strong rules that would prevent transfers between substantially similar entities in order to obscure a history of rule violations. The rules should have a compliance history element that would prevent bad actors from

[219] For example, by appending the following sentence to § 4.122(a): "All permit renewals, transfers, and amendments applications are subject to the notice requirements of §4.125 and §4.141 of this title (relating to Notice and Opportunity to Protest)."

cleaning their record with new company names and histories; transfer applications should require that the applicant identify all former and related entities owned by the same operator or group of individuals and should take an applicant's compliance history into account. The Commission should prevent an owner of a non-compliant facility purchasing that facility using a new 'clean' LLC by requiring applicants to identify all related entities in an application.[220]

In addition, the Commission should explore limiting transfers until only after a facility has been constructed according to the permitted specifications.[221] It is the original applicant, not a transferee, who certifies that an application is "true, correct, and complete to the best of my knowledge," 4.124(c), and not all operators have the same compliance history and experience operating facilities. Especially if the only opportunity for public involvement is at the application stage, the public should be able to rely on the assumption that the original applicant will be the one constructing the facility. The Commission has allowed transfers prior to construction in the past, including the Hohn Facility in DeWitt County, a facility that has caused reoccurring pollution concerns for neighbors.[222] Commission Shift thus respectfully requests that the Commission confirm that the rules prohibit transfer before construction, as 4.122(c)(6) implies:

> 4.122(c)(6) The permit shall not be transferred unless the facility is compliant with Commission rules and permit conditions, as verified by a facility and records inspection.

§4.123. Permit Modification, Suspension and Termination. Page 78

Commission Shift suggests that the Commission expressly acknowledge as part of this rulemaking that citizen-collected evidence can support a finding of good cause to modify, suspend, or terminate a permit. Adding this acknowledgement would encourage communities that the Commission respects and values the public's contribution to protecting human health and the environment.

§4.124. Requirements Applicable to All Permit Applications and Reports. Page 79

Commission Shift strongly urges the Commission to require that all permit applications include a plan for community relations and public information for the facility.[223] The plan should provide a point of contact for the community, a list of all operations at the facility (both permitted and unpermitted), the facility's plan for severe weather events and stormwater, the contact information for other

[220] The Commission could add this as a requirement in this subsection (information required to be provided about applicant).
[221] This prohibition should extend to commercial recycling facilities as well.
[222] Ex. 35 Garcia, Karina. Waste spills at a disposal site near Nordheim. (May 17, 2023) https://www.crossroadstoday.com/news/waste-spills-at-a-disposal-site-near-nordheim/article_e941bce0-f390-11ed-a3ec-df18b668a357.html Ex. 36, 2017 STF-062 Pyote to Petro_Transfer.
[223] This dovetails with recommendations in the (Ex. 11) 2022 STRONGER Guidelines ("A community relations or public information plan should be considered.") at 53.

regulatory agencies with jurisdiction over the facility, and an explanation of how concerns can be raised with the operator and with regulatory agencies. The facility should make copies of the plan available---ideally online---in both Spanish and English, and any other language appropriate based on the population living near the facility.

Commission Shift also suggests that each application should include a proposed inspection checklist that would include site-specific features, providing direction for an inspector to confirm that the actual operations conform to the authorized and permitted operations. The current inspection forms used at many facilities are generic and do not describe the permitted operations. The inspection form should make it easy for inspectors to confirm things like freeboard, setbacks, maximum waste height, etc. It should also indicate where photographs should be taken from (and of what), so that a consistent record is made across inspections.

Commission Shift also suggests that each application include a review and discussion of the application and permitting files for all previous oil and gas waste permit applications filed within a 30-mile radius in the last ten years.[224] These applications and permits should contain information about the site suitability, and would aid communities, the applicant, and the Commission in determining whether the facility should be permitted.

These three suggestions could be added to § 4.124 with the following language:[225]

> (f) The permit application shall contain the following documents:
>
> (1) A proposed community relations and public information plan;
>
> (2) A proposed inspection form that is site-specific, which contains sufficient information for operators and inspectors to document compliance with the site-specific requirements set for all authorized and permitted operations; and
>
> (3) A review and analysis of all previous oil and gas waste permit applications and permits (both filed and issued) within a 30-mile radius of the property boundary in the last ten years, including a review and analysis of the data contained therein regarding the suitability of the site for the proposed operations.

Commission Shift strongly supports the Commission's requirement that any lab analyses done in as part of Subchapters A and B must be as described in §4.124(d)(3) and conducted by an independent, accredited laboratory and meet federal sampling standards. It is also essential that the full lab reports and chains of custody be submitted to the Commission and made publicly available so that the data can be reviewed and understood within the context of sampling methods and their limitations. The sample collection itself should also be conducted by independent samplers neither owned nor operated by the permittee. This requirement should be added as a third requirement under (d)(3).

[224] Thirty miles was the radius proposed for a statement of need and 10 years is the length of time an applicant must consider when reviewing flooding hazards.
[225] This language might also be incorporated in § 4.128(a), which describes the information that shall be submitted with each permit application.

Commission Shift is concerned that several terms in (e)(4) are vague and could be left open to interpretation. The Commission should consider adding more specificity to what "relevant calibration records" for NORM screening equipment includes. In addition, it is not clear to Commission Shift what would suffice for a survey that is conducted "in a systematic grid pattern." The Commission should consider defining the maximum spacing of this grid that would be acceptable.

Finally, Commission Shift appreciates that all permitted facilities will require a stormwater management plan (subsection f). This is imperative to fulfill the Commission's statutory duty to enact rules to prevent pollution of surface and subsurface waters.

§4.125. Notice Applicable to All Permitted Activities. Page 81

Commission Shift strenuously urges the Commission to take this rulemaking opportunity to increase the notice given for all permitted activities, both commercial and non-commercial.[226] These comments thus apply to the language in § 4.125 and in § 4.141.

Direct notice (subsection c) should not be limited to the surface owners within 500 feet of the property. Permitted oil and gas operations have the potential to impact nearby residents and landowners living further away and contaminate waters off site, as the Commission recognizes in its Subchapter B rules.[227] As discussed in more detail in Commission Shift's comments on 4.150, the scientific literature shows that health-based impacts can be felt at least a kilometer (3,281 ft) from such upstream oil and gas operations.[228] And the Commission has long required applicants to identify all groundwater wells within one mile, recognizing the potential for environmental impacts at these distances. Thus, direct notice for all permitted activities should be sent to all surface owners within a mile of the proposed facility's property boundary. This prompts meaningful public participation ***and*** will help identify risks to human and environmental health. Insufficiently broad notice disenfranchises affected persons who live outside the notice radius, but will still be impacted. In addition, it is well known that it is difficult to identify water wells within a one-mile radius of the facility from a records review[229]—one of the best ways to identify wells is by actually talking to the

[226] Especially since the distinction between commercial and non-commercial is not based on the size or type of facility, the volume of waste processed, nor its risks to human and environmental health.
[227] The Commission requires notice be given to all surface owners within 1/2-mile of the fenceline of a commercial solid recycling facility, both off-lease (4.238) and stationary (4.254) as well as commercial fluid recyclers, both off-lease (4.270) and stationary (4.286). Even in the October draft, the Commission recognized that surface owners ½ mile away should receive notice when a commercial facility is proposed. See October 2023 Proposal 4.141(1). Many of the waste facilities that would permitted in Subchapter A pose greater risks than some of these Subchapter B facilities.
[228] Ex. 24.02 Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making (June 21, 2024) Report prepared for the California Geologic Energy Management Division (CalGEM), at ES-2.
[229] The October 2023 draft § 4.126(d)(6) rightfully required applicants to identify all water wells within one mile of a disposal facility boundary, and water wells within a one-mile radius are used with Schedule B pits to help identify shallow groundwater that could be contaminated. The fact that 4.126(d)(6) has been omitted from this draft does not alter the conclusion that the one-mile radius is relevant.

residents living within one mile of the facility. Notice should also be sent to any groundwater district, city, town, or village within one mile of the proposed facility. In addition, the Commission should explain what it means when it now requires notice to

> (c)(4) the city clerk or **other appropriate official** if the tract upon which the facility will be located lies within the corporate limits of **an incorporated city, town, or village**

Instead of the October 2023 and prior versions:

> (a)(1)(B) the city clerk or **other appropriate city official** if any part of the tract on which the facility will be located lies **within the municipal boundaries of the city**

In short, towns and villages should receive notice of facilities proposed within or near their jurisdiction, not just cities.

Notice should be sent in English and Spanish, and any other language that the Commission determines is appropriate given the languages spoken in the area.[230] This is imperative in order to adequately identify and engage with the frontline and environmental justice communities that may be living near the proposed operations. To meet these goals, section 4.125(d) could be amended as follows:

> (d)(5) The notice of the permit application, the complete copy of the application, including all attachments, and the letter required by § 4.125(a)(2) shall be translated into Spanish and any other language that the Director deems appropriate based on the languages spoken in the area. These translated materials shall be included as part of the direct notice.

Published notice (subsection b of the October 2023 draft, which has been omitted from this proposed version) should be required for all facilities as well, regardless of whether a facility is commercial or not. Notice should be published both in print and electronically. Printed notice should not be limited to the county where the facility is built, because facilities may be proposed on the border of two counties. Instead, notices should be required to be printed a publication that has a circulation in every county that is within a mile of the facility.

Electronic notice should also be required. Both TCEQ and Louisiana's Department of Environmental Quality already do this. TCEQ maintains a public notice website in which anyone can search for notices and which is updated daily.[231] TCEQ also maintains permanent mailing lists based on applicant or county that anyone may request to join.[232] Those who sign up by county are sent all air, water, and waste notices for that county.

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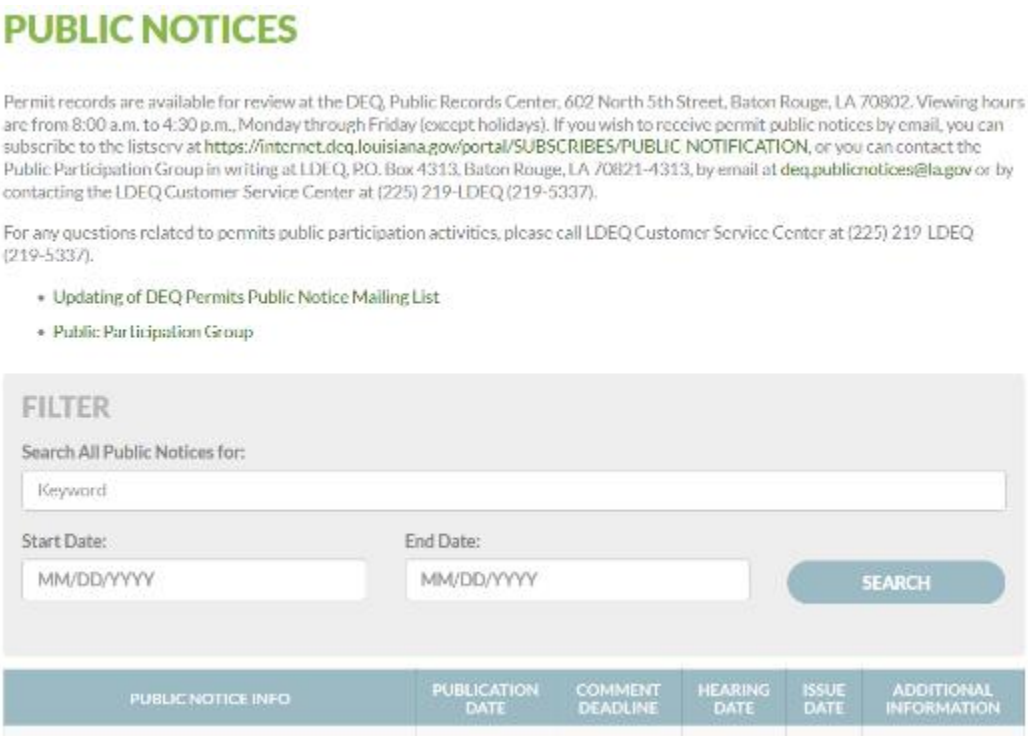
[230] Commission Shift suggests that notice should be published in the major languages spoken in all counties within one mile of the proposed facility, taking into consideration the populations with limited English proficiency.
[231] Search for TCEQ Public Notices. https://www.tceq.texas.gov/agency/decisions/cc/pub_notice.html (a search run October 31, 2023 returned multiple notices that were dated October 31, 2023).
[232] From the TCEQ at https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation/public-participation-9-1-2015:
Getting Placed on a Mailing List

Louisiana's Department of Environmental Quality's also does better than the Commission when it comes to public notice. LDEQ posts public notice information to their websites and offer listservs that anyone may join to receive permit public notices by email or by hardcopy.[233] A screenshot of LDEQ's website (https://www.deq.louisiana.gov/public-notices) is shown below:



The Commission should require that all applicants prepare public notice materials and post them online. Like Louisiana and the TCEQ, the Commission should maintain a list of every person who has signed up to receive notices of any oil and gas application filed in Texas and ensure that all who have requested notice receive it.

Deadline for protests. Commission Shift appreciates that the protest period is no longer a mere 15 days, which was prejudicial to potential affected persons. Having a long enough protest period is important because typically only those who register a protest within this window can provide feedback on whether the application is sufficiently protective of human health in the environment.

If you submit a comment, request a public meeting, or request a contested case hearing regarding a specific permit application, the TCEQ will automatically add you to the mailing list for that application. Y**ou may also request to be on either of these two kinds of mailing lists:**

The permanent mailing list for a specific applicant name and permit number.

The permanent mailing list for a specific county (which includes all air, water, and waste notices in that county). To get on either of these additional mailing lists, you must send a request to the chief clerk. In your request, specify the mailing list or lists you want to be on, and include your name and address.

[233] Ex. 37 LDEQ. Updating of DEQ Permits Public Notice Mailing List. (describing how both a hardcopy and an electronic mailout list is offered) (Accessed October 31, 2023). https://www.deq.louisiana.gov/assets/docs/Public_Notices/UpdatingDEQPermitsPublicNoticeMailingList.pdf

Commission Shift would support the creation of a more participatory permitting process, for example, one that would:

- require applicants to provide direct and published "notice of intent" to apply for a permit at least 30 days before applying
- set all applications for a hearing once the application is complete, regardless if a protest is received
- give at least 30 days direct and published notice of a complete application (which is same time frame applicants have to respond to protests) [234]
- prohibit modifications or supplements to the application once it is set for hearing (i.e., not allowing applicants to endlessly amend applications and create costly moving targets for the public & Commission to review). After all, "it is prejudicial to a protesting party when the administratively complete permit and its volumes of supporting Application documents referred to the Hearings Division, is not the permit or Application that is presented in a hearing"[235]
- at the hearing and in public meetings or comment periods, allow all interested persons the opportunity to present testimony, facts, or evidence related to the application or to ask questions

Both Louisiana and the TCEQ implement more inclusive processes like the one described above.

§4.126. Location and Real Property Information. Page 84.

Commission Shift is concerned that the applications will no longer include a topographic map of the facility with distances to important features such as:[236]

[234] TCEQ treats has two notice periods as proposed: the additional notice period is once the agency has completed its preliminary review, during which time any member of the public may submit additional comments. TCEQ. Overview: Public Participation in Environmental Permitting--for Applications Filed on or after Sept. 1, 2015 https://www.tceq.texas.gov/agency/decisions/participation/permitting-participation/public-participation-9-1-2015 ("Except for certain air applications, the public comment period ends no earlier than 30 days from the last publication date of the NAPD [Notice of Application and Preliminary Decision]. If a public meeting is held after the close of the comment period, the comment period extends to the end of the public meeting.")

[235] This quote comes from the opinion of one of the hearing examiners tasked with reviewing a waste permit application proposed for San Augustine County, acknowledging how burdensome it is to the Commission and protestant when the facility's scope at the hearing was "ever-evolving." (OG-20-00004639) (PA Prospect in San Augustine County) at *44. During the first three-week hearing on that project, the applicant was allowed to amend its application a full one hundred times, wasting protestant time and money. See Ex. 7.04 Reeder Declaration.

[236] This list was part of the October 2023 draft, see 4.126(d).

(3) the location of any pipelines within 500 feet of the facility;

(4) the distance from the facility's outermost perimeter boundary to public and private water wells, residences, schools, churches, and hospitals that are within 500 feet of the boundary;

(5) for disposal only, the location of all residential and commercial buildings within a one-mile radius of the facility boundary;

(6) all water wells within a one-mile radius of the facility boundary;

(7) the location of the 100-year flood plain and the source of the flood plain information;

(8) surface water bodies within the map area;

(9) the location of any major and minor aquifers within the map area;

Even if these features do not factor into notice or other design considerations (which they should), the Commission should have this in front of it when reviewing an application: indeed this information is still requested for Subchapter B facilities like on-lease solid recycling (4.219), which is temporary, as opposed to permanently (like a landfill). This information—like water well location and floodplain information---will impact whether the facility is proposed in a suitable area and whether it contains the appropriate engineering controls. Commission Shift is of the opinion that facilities should be prohibited next to sensitive receptors like these (for more on setbacks, see Commission Shift's comments on § 4.150). Likewise, the applicant is asked to identify all water wells within one mile—and all residences and commercial buildings within the same radius if the facility is for disposal—but is not required to send them notice of the application. Commission Shift's proposed changes to who gets notice attempts to address this disconnect (see comments on § 4.125).

§4.127. Engineering and Geologic Information. Page 85.

Commission Shift urges the Commission to require site investigations for all operations seeking to be permitted. As discussed in its comments in Division 3 (related to groundwater monitoring), the location of subsurface water can only be determined through soil borings and companion soil boring logs that capture continuous soil samples and log continuous descriptions by depth. As such Commission Shift encourages the Commission to amend section 4.127(b) as follows:

(b) ~~If information is not available to address subsection (a) of this section,~~ a site investigation including soil boring, sampling, and analysis is required.

Commission Shift is also disappointed to see that the Commission has deleted the requirement for all permitted facility operators to submit as-built drawings of the facility prior to commencement of operations.[237] Commission Shift also urges the Commission to require both documents and photographs documenting the as-built condition of the entire facility, not just the permitted waste

[237] See October 2023 proposed language: "4.127(d) Prior to commencement of operations, the permittee shall provide the Director with drawings documenting the as-built condition of the permitted waste management units at the facility."

management units. Photographs are necessary to confirm that the facility has been built to comply with all requirements, including setbacks. As such, Commission Shift suggests §4.127(d) be reintroduced to state:

> Prior to commencement of operations at a commercial facility, the permittee shall provide the Director with drawings and photographs documenting the as-built condition of ~~the permitted waste management units at the facility~~ the facility, including all equipment and waste management units. Photographs shall include at least one aerial photograph. All photographs shall include sufficient detail to confirm that the facility has been built in compliance with all permitted conditions.

§4.128. Design and Construction. Page 86.

In it comments on § 4.124, Commission Shift suggested three additional items that should be included in each permit application. The need for each of those items could also be appended to § 4.128(a) as items 7-9 as follows:

> (a) Application. The following information shall be submitted with each permit application: . . .
>
> (7) A proposed community relations and public information plan;
>
> (8) A proposed inspection form that is site-specific, which contains sufficient information for operators and inspectors to document compliance with the site-specific requirements set for all authorized and permitted operations; and
>
> (9) A review and analysis of all previous oil and gas waste permit applications and permits (both filed and issued) within a 30-mile radius of the property boundary in the last ten years, including a review and analysis of the data contained therein regarding the suitability of the site for the proposed operations.

Commission Shift requests that the Commission clarify subsection (b)(3)'s statement on secondary containment. If secondary containment surrounds more than one tank, it should be able to contain the maximum capacity of **all** tanks (not just the largest tank), plus freeboard to withstand a 25-year, 24-hour rainfall event. Subsection (b)(3) should be revised accordingly. Commission Shift is concerned that secondary containment be sized sufficiently because § 4.128(b)(4) requires stormwater to be collected "within 24 hours of accessibility," which may not be possible for several days during severe weather events. It is therefore imperative that the Commission require sufficient freeboard on all waste management units.

§4.129. Operation. Page 88.

Commission Shift urges the Commission to require immediate action on spills, as it does in Division 10. Commission Shift urges the Commission to incorporate the language used in Division 10 as follows:[238]

[238] Compare with § 4.196(b)(7) "Immediate corrective action shall be taken in all cases where pollution has occurred. An operator responsible for the pollution shall remove immediately such oil, oil field waste, or other pollution materials from the waters and the shoreline where it is found. Such removal operations will be at the expense of the

> (b)(4) The permitee shall take immediate corrective action in the event of any spill of waste, chemical, or any other material. The permittee shall take any measures necessary to stop or control the release and spills shall be collected and containerized within 24 hours and processed through the treatment system or disposed of in an authorized manner. The release shall be reported to the District Office within 24 hours of discovery of the release.

§4.130. Reporting. Page 89

The Commission should clarify why it has removed the requirement for the permittee to maintain records of the waste that is received at, generated by, and removed from the facility, which was in the October 2023 draft as subsection (a) and (b). It is important to be able to track this waste from cradle to grave, and these records should be available as general business practice. The Division 10 waste hauling rules do not appear to be sufficient to track this information, and even if it were, each facility should be required to maintain these records in the event of a facility-specific incident.

In its comments on § 4.108, Commission Shift discussed the need for all records, including those in § 4.130(b), to be made publicly available, not just made "available for review and/or copying upon request." Making these documents publicly available lets the public help monitor the compliance at these facilities and inspires confidence that good-actor facilities are being responsibly run.

Finally, the Commission should consider rewording new subsection (d)(1), which is unclear. If the Commission is trying to have all reports be filled electronically through their filing system (as opposed on hard copy or otherwise), the subsection should state as much. As drafted, it could be interpreted to give permittees a full year to submit reports.

§4.131. Monitoring. Page 90

Commission Shift strongly urges the Commission to require groundwater investigations and monitoring at every site. Subsection (b) must be revised.[239] Commission Shift suggests that better language would be moving the language from (b)(2)(D) up into (b)(1) as follows:

> (1) If shallow groundwater is present within 100 feet below ground surface at the site, a minimum of three groundwater monitoring wells shall be installed ~~may be required for some facilities, including but not limited to: brine pits, disposal pits, reclamation plants, commercial waste separation facilities, commercial recycling facilities, and commercial landfarming facilities~~. Factors that the Commission will consider in

responsible operator." The Commission should also reiterate that all other responsibilities in (b)(7) apply to operators of permitted operations.

[239] Even as drafted, it is confusing—it only states that wells ***may*** be required at certain facilities, which is a truism for all other facilities not listed—so why list any facilities by name at all? It also appears to conflict with 4.131(b)(2)(D), which would require groundwater monitoring whenever groundwater is present within 100 feet below ground surface

assessing whether groundwater monitoring is required at depths beyond 100 feet include:

(A) the volume and characteristics of the oil and gas waste to be managed at the facility;

(B) depth to and quality of groundwater ~~within~~ beyond 100 feet below ground surface; ~~and~~

(C) presence or absence of natural clay layers in subsurface soils; and

(D) any other factor the Director deems relevant to preventing pollution.

Commission Shift reiterates that it is all subsurface waters that the Commission is under a duty to protect—not just strata containing sufficient water for drinking or agriculture. Low-bearing formations may take additional time—more than 24 hours—to develop sufficient water that can be sampled and before a driller can confirm whether subsurface water is present.

Commission Shift urges the Commission to also prohibit operators from installing a monitoring well at the same exact location where it has taken soil borings during the geological investigation phase (for both permitted and authorized operations). Soil borings used to investigate the presence or absence of subsurface water are typically conducted before the site's groundwater gradient has been fully understood. The monitoring well locations should be established only after the soil boring data has been fully analyzed and reviewed by a certified professional. Soil borings should be fully plugged and abandoned to prevent pollution.

Commission Shift also urges the Commission to have operators pause operations for as long as a monitoring well is not operational. Commission Shift is aware of at least one operator that was allowed to continue operations without a full suite of operational wells, even though reports of contamination had been made about the facility. Section 4.131(b)(2)(B) should be revised as follows:

(b)(2)(B) The monitor wells shall be able to provide representative samples of groundwater underlying the site for the duration of facility operations. If a monitor well is not capable of providing a representative sample, the operator shall notify the Technical Permitting Section within 24 hours and cease operations at the facility immediately until the monitoring well has been replaced.

As for (b)(2)(D), the Commission appears to have omitted a requirement for upgradient wells to be installed. Upgradient wells are necessary to obtain groundwater samples that are representative of regional conditions and are not affected by the permitted site. Commission Shift thus suggests the following revision:

(b)(2)(D) If shallow groundwater is present within 100 feet below ground surface at the site, a minimum of three groundwater monitoring wells shall be installed. Wells shall be spaced around the facility or pit, close to the facility operational area, with at least two wells on the estimated down-gradient side of the operational area, and at least

> one well on the estimated up-gradient side of the operational area. Additional wells may be required for larger facilities.

As for (b)(2)(L)(ii), the Commission should clarify that a professional, licensed land surveyor[240] should be the one to survey the well head elevations. An accurate survey is essential for determining groundwater gradients and identifying if these gradients have shifted over time, as is possible especially over the long lifetime expected for some of these facilities. Commission Shift suggests the following language to achieve this goal:

> (b)(2)(L)(ii) a survey elevation for each well head reference point (top of casing) relative to a real or arbitrary on-site benchmark and relative to mean sea level. Surveys shall be conducted by a licensed land surveyor.

As for subsection(b)(4)(C), Commission Shift believe that the Commission has inadvertently omitted BTEX from the list of parameters sampled. This subsection should therefore be modified as follows:

> (C) The following measurements and analyses shall be reported to Technical Permitting Section after any sampling event no later than 15 days after the permittee receives the laboratory analysis results: static water level, pH, and concentrations of benzene, toluene, ethylbenzene, xylene, total petroleum hydrocarbons, total dissolved solids, soluble cations (calcium, magnesium, potassium, and sodium), and soluble anions (bromides, carbonates, chlorides, nitrates, and sulfates).

Finally, Commission Shift believes that human and environmental health is best protected if operations cease when potential pollution or potential liner failure is indicated, as the October 2023 draft proposed.[241] Commission Shift recommends that (b)(4)(D) be amended as follows:

> If any of the parameters identified in subparagraph (C) of this paragraph indicate potential pollution, or the potential failure of the liner system, the Commission may require additional monitoring events and/or may require analysis of additional parameters. In the meantime, the operator shall be prohibited from accepting additional waste at the facility until the facility no longer is a source of potential pollution.

§4.132. Closure. Page 92.

Commission Shift understands that these closure requirements apply to all permitted operations, including disposal pits, waste separation, landfarming and reclamation plants. As drafted, the rules state that operators must submit detailed closure plans at two separate times: first as part of the application process (4.132(a)) and second at least 30 days before commencing closure activities 4.132(b)(2). Operators should not be allowed to weaken their closure plans after the permit has been granted (i.e., after the only opportunity for public involvement has concluded). The final closure plan approved must be equal to or more protective of human health and the environment than the one

[240] Licensed State Land Surveyor (LSLS) at https://pels.texas.gov/lsls.htm

[241] See October 2023 proposal: 4.131(b)(4)(D): "If any of the parameters identified in subparagraph (C) of this paragraph indicate **potential** pollution, or the potential failure of the liner system, the Commission may require additional monitoring events and/or may require analysis of additional parameters." (emphasis added).

approved during the application process. Any deviations from the plan should be treated as a request to amend the permit and trigger a requirement for public notice and comment. As such, Commission Shift suggests that the following addition to 4.132(b)(2) could address this problem:

> (2) The permittee shall submit a detailed closure plan to the Technical Permitting Section at least 30 days prior to commencement of any closure activity. The Technical Permitting Section must approve the detailed closure plan before the permittee may initiate closure operations. <u>If the detailed closure plan differs from the permitted closure plan, the permittee must seek a permit amendment per § 4.122(d) and the Director shall require notice be given per § 4.122(d)(C). The Technical Permitting Section shall not approve a closure plan that is less protective of human health and the environment than the plan approved during the application process.</u>

Section 4.132(b)(3) should also be amended to state that if the soil samples taken during closure exceed the authorized limits or if the Commission determines additional remediation is required, the Commission "shall require" (not "may require") additional closure operations:

> (3) Once the permittee has removed all waste, equipment, concrete pads, contaminated soil, and any other material in accordance with the closure plan, the permittee shall conduct soil sampling in accordance with the approved soil sampling plan. Soil samples shall be analyzed for the parameters in the permit and/or soil sampling plan and submitted to the Technical Permitting Section no later than 30 days after the permittee receives the laboratory results. The Technical Permitting Section ~~may~~ <u>shall</u> require the permittee to conduct additional closure operations if the soil sample results exceed the authorized limits and/or the Technical Permitting Section determines that additional remediation is required to prevent pollution caused or contributed to by operations at the facility.

§4.134. Application Review and Administrative Decision. Page 94

Commission Shift notes that sections 4.134(b)-(h) of the October 2023 draft have been removed from the version proposed in August 2024. Commission Shift requests clarification if those provisions will simply become Commission guidance, or if new policies are forthcoming. For example, one of the provisions removed (October 2023's 4.134(c)) listed some of the grounds under which the Commission would request additional information of an applicant:

> The Technical Permitting Section may require an applicant for a permit under this section to provide additional information such as: geotechnical sampling, geologic cross-sections, stormwater and drainage modeling, slope stability analyses, and other information deemed necessary at the Director's discretion, to demonstrate that waste will be confined if it is located in an area where conditions exist that may increase the risk of a release. Such factors may include, but are not limited to, current and historical hydrological conditions such as flood risks, groundwater elevation, and proximity to surface water and/or critical areas; geological conditions such as soil suitability, surface relief, confining layers, or karst terrain; and specific facility design and operation.

The Technical Permitting Section should have authority to ask an applicant for any additional information that is needed---not limited to the above list.

In any event, Commission Shift remains unconvinced that sections 4.134 and 4.135 will solve the deep flaws inherent in the Commission's system for processing permits. The Commission should commit to allowing Technical Permitting Section staff the ability to deny technically flawed permits outright—as is it seems that no matter what an applicant has provided in its application, the applicant would be able to request a hearing on that application, even if it is declared administratively incomplete and denied (see 4.135(a)(1)). This would continue to result in a profound waste of the resources of the Commission and frontline communities who must spend time and money in defending against a facility or pit application that lacks adequate (or accurate) information. Functionally, it shifts the burden to the public to protest every bad application, as the Commission has no power to reject an application without it triggering a hearing.[242] Moreover, it appears that this rulemaking does nothing to change the fact that Commissioners may overrule both technical permitting staff and hearing examiner's proposal for decision when they determine that an application should be denied. Commissioners often do not have the technical and scientific expertise, nor the time, to make this determination on every application, which is why staff and hearing examiners are involved. The rules should require Commissioners who overrule proposals for decisions to provide at a minimum a written justification, based in science.

Commission Shift reiterates that it would welcome the opportunity to collaborate with the Commission on creating a more equitable system for processing permits (and would want an equal seat at the table in any future rulemaking).[243]

§4.135. Hearings. Page 94

Again, Commission Shift does not see how sections 4.134 and 4.135 will meaningfully improve the currently broken system of permitting oil and gas waste operations. Commission Shift is of the opinion that applicants should not be allowed to request hearings on applications that have been administratively denied. As discussed above, the Commission should have a mechanism for denying bad applications without allowing the applicant to waste the Commission and the public's time and money in a hearing.

[242] The proposed rules in Subchapter A also do not codify Commission policy to only allow two supplemental submissions on an application before it is administratively denied. That policy appears to be proposed for codification in Subchapter B, however. See, e.g., 4.262(c). The Commission should clarify that the only two-bites-at-the-apple policy will apply to applications under Subchapter A as well.

[243] Both TCEQ and LDEQ have procedures that appear more sensible, which include issuing multiple notices, providing for 30-day or more comment periods, and allow participation from all interested persons.

5. DIVISION 5 ADDITIONAL REQUIREMENTS FOR COMMERCIAL FACILITIES

§4.140. Additional Requirements for Commercial Facilities. Page 94.

Omitted from this draft is a proposal that was in a previous draft—that operators should show a need for a commercial facility before being eligible for a permit. Too many communities have had to expend their own capital to challenge facilities proposed in close proximity without a statement of need.[244] Requiring a "statement of need" / "market analysis" has support from community members and operators alike, and should be added back in to § 4.140. [245] Commission Shift also joins other commentors in arguing that also needed is a ***forward***-looking market analysis, i.e., to consider permit applications that are going to be drilled in the future. It is the wells that have not yet been drilled that will generate the most waste needing disposal. Commission Shift thus requests that § 4.140 be amended to include the following:

> An application for a commercial waste facility shall include a statement of need, detailing the necessity for an additional commercial facility in the geographical market where the property and proposed facility are located. The statement of need shall include a map showing, within a 30-mile radius around the proposed facility:
>
> (1) All permitted commercial waste facilities;
>
> (2) All oil and/or gas wells drilled within the 12-month period prior to the date of the permit application submission; and
>
> (3) All oil and/or gas wells that have applied for a permit to be drilled within 12-month period after the permit application submission.

Additionally, Commission Shift questions and seeks an explanation as to why closure requirement for stationary commercial fluid recycling facilities, which are governed by Subchapter B (in 4.285, 4.292), are described here in Subchapter A (4.140(h)). The closure requirements in B should also apply and the Commission should consider consolidating these rules into the same division. Many of these facilities have serious potential for health and environmental impact and should be held to high standards of financial security and closure.

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[244] Ex. 38 Sneath, Sara. Residents learn risks of possible facilities. Victoria Advocate. (March 14, 2014) https://www.victoriaadvocate.com/counties/dewitt/residents-learn-risks-of-possible-facilities/article_12bdb914-5536-58bd-89a7-dec61f6ae6f8.html (Facilities approximately 31 miles apart).

[245] As one disposal facility operator explains in favor of a statement of need:
Commercial disposal facilities must be operated by companies with regulatory, operational and safety expertise. The consequences of (i) mismanagement of commercial facilities and/or (ii) the financial instability of some commercial facility operators, negatively impacts the Railroad Commission, landowners and Texas taxpayers. . . . Operators known for cutting operational and safety corners to maintain profitability must be discouraged from opening new facilities. A market analysis and an associated statement from the Commercial Facility applicant, detailing the necessity for an additional facility in the market where the proposed facility is to be located, should be a part of the Commission's assessment criteria for new commercial facility permits. The commercial facility operator seeking a new facility permit must provide a (i) statement outlining their operational experience/background and (ii) a "Statement of Need" providing supportive information related to historical drilling activity in the defined area and other disposal options in the market) for a new facility in the market area for the Commission's consideration.
Ex. 26 (Milestone comments) at 5.

§4.141. Additional Notice Requirements for Commercial Facilities. Page 98

Commission Shift strongly urges the Commission to expand the notice given to frontline communities for all applications, including commercial applications. Insufficient notice is a common and frustrating complaint echoed by communities and landowners across the state. If the notice radius is too small, potentially affected persons can be disenfranchised from participating and have their protected interests infringed upon.

As discussed in the comments on 4.125, adverse impacts a permitted facility can occur at a greater distance than 500 feet from a facility's fenceline. And even though the Commission's definition of "commercial" does not directly relate to how much of a risk a facility will be, in general commercial facilities should be expected to pose greater risks to communities, handling higher volumes of waste and with a longer lifespan. Yet the Commission has not increased the radius across which applicants must identify and notify nearby people and entities. Previous drafts did scale the notice radius[246] and notice for commercial recycling facilities extends ½ mile.[247]

Direct notice by printed newspaper is also an archaic means of sharing information. State statute does not limit the Commission to requiring notice by newspaper---it could (and should) require concurrently posted electronic notice, as Commission Shift's comments in § 4.125 elaborate. Electronic publication of notice is already standard practice at TCEQ, LDEQ, and many other agencies, and will better facilitate meaningful participation, which is a key to ensuring the public interest is protected.

§4.142. Operating Requirements Applicable to Commercial Facilities. Page 99.

In its comments on Division 4, § 4.124, Commission Shift urged the Commission to require all applicants to include a community relations / public information plan and site-specific inspection forms as part of its permit application.[248] The Commission should include these requirements in this section as well, adding to subsections to § 4.142 as follows:

> (d) The operator shall develop and maintain a community relations and public information plan. The plan shall be maintained on-site and made available to the Commission upon request. A copy of the plan shall be posted publicly to the operator's website.
>
> (e) The operator shall develop and maintain a site-specific inspection form for all authorized and permitted operations at the facility. The inspection form shall be used

[246] Even in the October draft, the Commission recognized that surface owners ½ mile away should receive notice when a commercial facility is proposed. See October 2023 Proposal 4.141(1).
[247] The Commission requires notice be given to all surface owners within 1/2-mile of the fenceline of a commercial solid recycling facility, both off-lease (4.238) and stationary (4.254) as well as commercial fluid recyclers, both off-lease (4.270) and stationary (4.286).
[248] With technology today, a QR could even be posted on the sign to the facility.

> for inspections. The form shall be maintained on-site and made available to the Commission upon request.

§4.143 Design and Construction for Commercial Facilities. Page 100.

Commission Shift urges the Commission to require both documents and photographs that clearly identify and describe the as-built condition of the facility (including all authorized and permitted operations). Photographs are necessary to confirm that the facility has been built to comply with all requirements, including setbacks. As such, Commission Shift suggests §4.143 be modified to state:

> Prior to commencement of operations at a commercial facility, the permittee shall provide the Director with drawings and photographs documenting the as-built condition of the facility, including all equipment and waste management units. Photographs shall include at least one aerial photograph. All photographs shall include sufficient detail to confirm that the facility has been built in compliance with all permitted conditions.

6. DIVISION 6 ADDITIONAL REQUIREMENTS FOR PERMITTED PITS

§4.150. Additional Requirements Applicable to Permitted Pits, Page 100.

Commission Shift strongly urges the Commission to adopt more protective setbacks for all of the activities covered by Subchapter A (both "authorized" and permitted), with no exceptions allowed. As described in Part I, there are many communities and affected individuals who live further away from a pit than the distances described in (g) who have suffered and are continuing to suffer ill effects from these facilities. Texas should lead in protecting public health and the environment, not continue to avoid these issues.

Commission Shift is also concerned that no setbacks are required from sensitive residential, commercial, and other buildings, contrary to recommended practice and what's become typical in Louisiana. For example, the 2022 STRONGER Guidelines urge:[249]

> Where necessary to protect human health, E&P waste management facilities should not be located in close proximity to existing residences, schools, hospitals or commercial buildings. The need for minimum distance criteria from residences or other buildings to the boundary of E&P waste management facilities should be considered.

This draft also introduces the term "public area," which is pulled from its hydrogen sulfide rules and used as a setback for Schedule B pits. The Commission could (and should) easily include a setback from public areas for all permitted facilities.

Louisiana has been protecting its communities and water better, prohibiting commercial facilities and transfer stations "within 1/4 mile [1320 ft] of a public water supply water well or within 1,000 feet of a private water supply well," and setting default setbacks from buildings, schools, and churches up

[249] Ex. 11 2022 STRONGER Guidelines at 36. https://www.strongerinc.org/wp-content/uploads/2022/07/2022-Edition-STRONGER-Guidelines.pdf

to 2000 feet.[250] Louisiana's setbacks also vary based on the toxicity of the waste being handled. More recently, in 2020 the state of Colorado passed a 2,000 ft (610 m) setback from the "working pad surface" for residential buildings, high occupancy buildings, schools, and childcare centers. The exemption language for each building type includes additional informed consent, which requires consent from both building owners and tenants, as well as providing information in the languages used by populations living within the setback distances (COGCC Rules 600 Series, 2021).[251]

The Commission has even proposed stronger setbacks for certain commercial recycling facilities—facilities that unlike commercial disposal landfills, by rule do not exist for more than 2 years.[252] Even these setbacks would place frontline communities too close to facilities for safety, as the communities in Nordheim, Orange Grove, and Waskom can confirm.[253] The cone of depression (or area of drawdown) for a public supply well can extend quite far, depending on the aquifer. (And the recharge areas for aquifers can extend significant distances from the water well itself.) It is also inappropriate to allow applicants to seek exceptions to setbacks, especially without public input (see comments on § 4.109). The Commission should also take into consideration the presence of environmental justice communities when considering whether a site is appropriate (e.g., by incorporating a review of EJScreen's data[254] or other comparable methods). In addition, Commission Shift supports measuring setbacks from the facility's property boundary, not from the pit or facility's fenceline. Waste does not necessarily stay in a pit—it can be tracked through a site and/or be washed via stormwater beyond the waste management unit—setbacks should recognize this likelihood. Measuring from the property boundary avoids the problem of pits inadvertently expanding beyond their permitted bounds. (Buffer zones sufficient to allow equipment to operate are also necessary as well.)

Commission Shift proposes that setbacks be required for at least the following receptors:

- surface water, including wetlands
- public water system well or intake
- domestic water well or irrigation water well
- 100-year flood plain

[250] LAC § 507. https://casetext.com/regulation/louisiana-administrative-code/title-43-natural-resources/part-xix-office-of-conservation-general-operations/subpart-1-statewide-order-no-29-b/chapter-5-off-site-storage-treatment-andor-disposal-of-exploration-and-production-waste-generated-from-drilling-and-production-of-oil-and-gas-wells/section-xix-507-location-criteria

[251] https://leg.colorado.gov/sites/default/files/rulemaking.pdf

[252] §4.264(a) (off-lease commercial recycling) states "A pit permitted under this division shall not be located: (1) where there has been observable groundwater within 100 feet of the ground surface unless the pit design includes a geosynthetic clay liner (GCL); (2) within a sensitive area as defined by §4.204 of this title (relating to Definitions); (3) within 300 feet of surface water, domestic supply wells, or irrigation water wells; (4) within 500 feet of any public water system wells or intakes; (5) **within 1,000 feet of a permanent residence, school, hospital, institution or church** in existence at the time of the initial permitting; (6) **within 500 feet of a wetland**; or (7) within a 100-year floodplain"

[253] These communities have experience problems at greater distances than those proposed in these rules.

[254] EJScreen is EPA's Environmental Justice Screening and Mapping Tool. https://www.epa.gov/ejscreen

- residential, commercial, or public buildings; schools, hospitals, institutions, public parks and churches
- public areas
- other sensitive areas, as defined in § 4.110(79).

Setbacks should be based on the risks and nuisances associated with the particular oil and gas waste operation. The risk of an operation will depend on the type and volume of waste handled and how long it will be at that location. For example, pits that are used for days or weeks with low levels of pollutants would typically be less cause for concern than permanent disposal landfills. Instead of regulating based on whether an operation is authorized or not, the Commission should propose a (potentially three-tiered) system of setbacks tied to volume, pollutant level, and duration of operation and waste storage. Setbacks should not be used to disincentivize recycling that is actually beneficial and safe---setbacks should be based on risk. To be clear the proposed setback distances in § 4.150 are not sufficient for permitted or commercial operations—communities have been affected well beyond these distances.

Peer-reviewed health studies.

In June 2024, California Oil & Gas Public Health Rulemaking Scientific Advisory Panel published an in-depth study entitled “Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making” (“the Public Health Study”). [255] It found that peer-reviewed studies “consistently show increased potential for exposure to air pollution and noise, as well as increased risk for several adverse health outcomes in populations living within and beyond 1 kilometer (km) of oil and gas well sites.” Risks within this radius include cancer, perinatal risks, and respiratory problems. Eleven of the 72 reviewed studies even specifically focused on Texas: 8 on perinatal health, 2 on respiratory outcomes, 1 on cancer; other studies included Texas sites as part of their datasets.

The panel’s purpose was to inform the state agency’s rulemaking process. It compiled findings, conclusions, and recommendations regarding oil and gas regulation. The report’s findings are results that were ascertained from scientific evidence and data and reflect an unbiased synthesis of facts, and included the following:

> As the distance between human-occupied residences and upstream oil and gas development operations decreases, or the density of wells and production volume increases, the likelihood of adverse health outcomes increases. Studies, including those in California, consistently show increased potential for exposure to air pollution and noise, as well as increased risk for several adverse health outcomes in populations

[255] Ex. 24.02 Public Health Dimensions of Upstream Oil and Gas Development in California: Scientific Analysis and Synthesis to Inform Science-Policy Decision Making (June 21, 2024) Report prepared for the California Geologic Energy Management Division (CalGEM), at ES-2. https://www.conservation.ca.gov/calgem/Documents/Public%20Health%20Panel%20Final%20Report_20240621.pdf

> living within and beyond 1 kilometer (km) (~0.62 miles or 3,281 feet [ft]) of oil and gas well sites.
>
> . . .
>
> Finding 1.1. Various chemical and physical stressors are associated with upstream oil and gas development activities, including air pollutants, surface-water and groundwater contaminants, vibration, noise, and odors. The impact of these stressors generally attenuates as distance from the source increases. The degree of attenuation depends on the properties of the specific stressor.
>
> . . .
>
> Finding 1.3. More than 72 peer-reviewed epidemiological studies conducted across the United States and Canada — six conducted in California — and published through July 15, 2023, evaluated the associations between upstream oil and gas development and several adverse health outcomes. This body of evidence consistently indicates that human populations residing closer to upstream oil and gas development experience a greater risk of decreased respiratory function and adverse perinatal outcomes compared to those living farther away[.] Additionally, higher density of upstream oil and gas development in the vicinity of residences is associated with greater respiratory and perinatal health risks compared to lower density of oil and gas development. Finally, higher production volume of oil and gas is associated with increased risk of adverse respiratory and perinatal health impacts. These trends have been observed in urban and rural settings[.]

The panel concluded that oil and gas operations---including operations that the Commission's proposed rule authorizes under Division 3 and permits under Divisions 4-9 and Subchapter B---**should be setback from receptors by at least one kilometer (3,281 feet)**. And the panel's conclusion suggests that the Commission should retain the ability to require greater setbacks when operations are densely clustered or if other compounding environmental hazards and socioeconomic stressors exist:

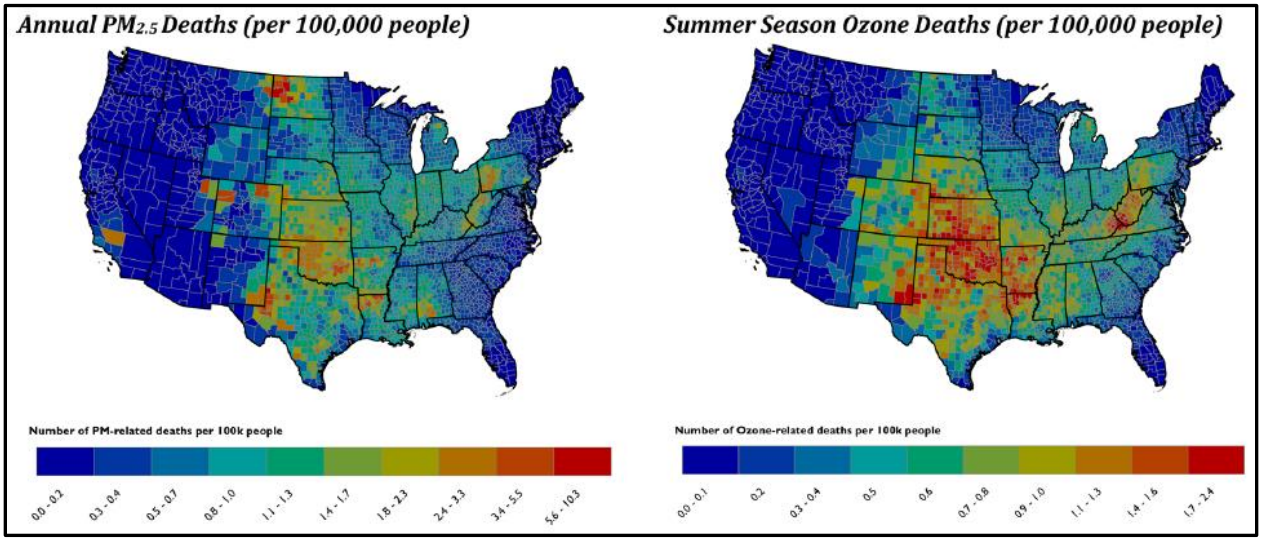
> Based on the existing epidemiological literature, including studies conducted in California, and the additional factors outlined below,[256] the setback distance should be at least 1 km (3,281 ft). In communities with higher well density, high hydrocarbon production volumes, dense ancillary oil and gas development infrastructure, and the presence of other environmental hazards and socioeconomic stressors, a larger setback should be applied.

In addition to the Public Health Study, Commission Shift has included ten of the peer-review studies as exhibits:

1. Exhibit 38.01: Fann, N., Baker, K. R., Chan, E. A. W., Eyth, A., Macpherson, A., Miller, E., & Snyder, J. (2018). Assessing Human Health PM2.5 and Ozone Impacts from U.S. Oil and Natural Gas Sector Emissions in 2025. Environmental Science & Technology, 52(15), 8095–8103. https://doi.org/10.1021/acs.est.8b02050). This study found that ambient concentrations of PM2.5 and ozone, and associated health impacts, are highest in a handful of states including Colorado, Pennsylvania, Texas and West Virginia. It estimates that 260 premature deaths will be attributable to

[256] E.g., the cumulative effects of stressors combined with the presence of vulnerable populations.

PM2.5 and ozone emissions from the oil and gas sector in 2025 (up to 370 deaths, with a 95% confidence interval).[257] Figure 2 from page 7 of the study (reproduced below) shows that the Permian Basin in particular experiences higher rates of premature death attributable from PM and ozone from the oil and gas sector than much of the rest of the country.



2. Exhibit 38.02: Adgate, J. L., Goldstein, B. D., & McKenzie, L. M. (2014). Potential Public Health Hazards, Exposures and Health Effects from Unconventional Natural Gas Development. Environmental Science & Technology, 48(15), 8307–8320. https://doi.org/10.1021/es404621d. This study reviews risks to workers and communities. It concludes that "[f]or communities near development and production sites the major stressors are air pollutants, ground and surface water contamination, truck traffic and noise pollution, accidents and malfunctions, and psychosocial stress associated with community change." Table 1 of the study describes the relationship between sources, process and hazards that may lead to human exposure, health effects or population health effects. Drilling mud, fracturing fluid, produced water, drill cuttings, and flowback water all create hazards to the air, groundwater, surface water, soil and sediments. It also reviewed epidemiological literature on health effects associated with upstream gas development, including: a retrospective study of 124,862 births in rural Colorado that indicated an association between maternal proximity to natural gas well sites and birth prevalence of congenital heart defects and neural tube defects; and a working paper exploring 1,069,699 births in Pennsylvania that reported increased prevalence of low birthweight and small for gestational age births, as well as reduced appearance, pulse, grimace, activity, respiration (APGAR) scores in infants born to mothers living within 2.5 km of a natural gas well compared to infants born to mothers living further than 2.5 km from a well.

[257] Summarized in table form in Ex. 24.02 Public Health Study at 47.

3. Exhibit 38.03: Rutter AP, Griffin RJ, Cevik BK, Shakya KM, Gong L, Kim S, Flynn JH, Lefer BL. Sources of air pollution in a region of oil and gas exploration downwind of a large city. Atmos Environ. 2015;120:89–99. https://doi.org/10.1016/j.atmosenv.2015.08.07 This study looked at Fort Worth ozone and volatiles data and concluded that oil and gas emissions contribute incrementally to local ozone.

4. Exhibit 38.04: Deziel, N. C., Brokovich, E., Grotto, I., Clark, C. J., Barnett-Itzhaki, Z., Broday, D., & Agay-Shay, K. (2020). Unconventional oil and gas development and health outcomes: A scoping review of the epidemiological research. Environmental Research, 182, 109124. https://doi.org/10.1016/j.envres.2020.109124 This study reviewed 29 studies evaluating pregnancy outcomes, cancer incidence, hospitalizations, asthma exacerbations, sexually transmitted diseases, and injuries or mortality from traffic accidents as related to unconventional oil and gas development and found that that 25 of the 29 studies reported at least one statistically significant association between unconventional oil and gas exposure and an adverse health outcome.

5. Exhibit 38.05: Garcia-Gonzales, D. A., Shamasunder, B., & Jerrett, M. (2019b). Distance decay gradients in hazardous air pollution concentrations around oil and natural gas facilities in the city of Los Angeles: A pilot study. Environmental Research, 173, 232–236. https://doi.org/10.1016/j.envres.2019.03.027 This study found that even in urban environments with multiple sources for air pollutants, oil and gas emissions were significant enough to be measurable and trackable as distance from the source increased. The facility selected for study had been in operation since 1964 and operates 20 active oil and gas wells with a total gas production of 8890 Mcf of gas and 8553 bbls of oil in February 2016.

6. Exhibit 38.06: Johnston, J. E., Lim, E., & Roh, H. (2019). Impact of upstream oil extraction and environmental public health: A review of the evidence. Science of The Total Environment, 657, 187–199. https://doi.org/10.1016/j.scitotenv.2018.11.483 This study reviewed 22 human studies, including 5 occupational studies, 5 animal studies, 6 experimental studies and 31 oil drilling-related exposure studies and found that the current evidence suggests potential health impacts due to exposure to upstream oil extraction, such as cancer, liver damage, immunodeficiency, and neurological symptoms. Adverse impacts to soil, air, and water quality in oil drilling regions were also identified. This study focused on oil operations, excluding effects from natural gas. Several studies reviewed focused on exposure to NORM, which can cause cell damage, anemia, birth defects, and respiratory harm and is associated with the increased incidence of cancer. One study compare soils with untapped crude deposits to oilfields with active exploration and found 2-10 times higher concentrations of radionuclides, suggesting exploration leads to the concentration of radionuclides in surface soils.

7. Exhibit 38.07: Johnston, J. E., Okorn, K., Van Horne, Y. O., & Jimenez, A. (2021). Changes in neighborhood air quality after idling of an urban oil production site. Environmental Science: Processes & Impacts, 23(7), 967–980. https://doi.org/10.1039/D1EM00048A This study found that residents' exposure to pollutants like NMHC, benzene, toluene, ethylbenzene, xylenes, styrene, n-hexane, n-pentane, ethane, and propane increased during drilling activities at an urban oil production site. The site sat less than 30 meters from a multiunit residential housing development and adjacent to a high school and a university campus. After oil production increased in 2010, nearby residents began to report noxious odors and adverse acute health symptoms, such as dizziness, nosebleeds and headaches. Officials who visited the site also became sickened on-site and complained of strong odors, sore throats, coughing, and severe headaches.

8. Exhibit 38.08: Marrero, J. E., Townsend-Small, A., Lyon, D. R., Tsai, T. R., Meinardi, S., & Blake, D. R. (2016). Estimating Emissions of Toxic Hydrocarbons from Natural Gas Production Sites in the Barnett Shale Region of Northern Texas. Environmental Science & Technology, 50(19), 10756–10764. https://doi.org/10.1021/acs.est.6b02827 A study in the Barnett Shale found elevated benzene and hexane levels compared to background downwind of oil and gas sites, which may raise public health risks and warrant additional study into effects on residential exposure as compared to single-chemical worker exposure limits from OSHA.

9. Exhibit 38.09: McKenzie, L. M., Witter, R. Z., Newman, L. S., & Adgate, J. L. (2012). Human health risk assessment of air emissions from development of unconventional natural gas resources. Science of The Total Environment, 424, 79–87. https://doi.org/10.1016/j.scitotenv.2012.02.018 This study found that residents living ≤½ mile from wells are at greater risk for health effects from natural gas development than are residents living >½ mile from wells. The natural gas development area used in the study was in a rural Colorado county with no other major industry except agriculture. Elevated levels of chemicals were measured higher than that majority of EPA air toxics monitoring sites. Emissions inventories indicated that gas development contributed five times more benzene than any other emissions source in the county, including on-road vehicles, wildfires, and wood burning. The study concluded that subchronic exposures to air pollutants during well completion activities present the greatest potential for health effects. The subchronic non-cancer hazard index (HI) of 5 for residents ≤½ mile from wells was driven primarily by exposure to trimethylbenzenes, xylenes, and aliphatic hydrocarbons. Chronic HIs were 1 and 0.4. for residents ≤½ mile from wells and >½ mile from wells, respectively. Cumulative cancer risks were 10 in a million and 6 in a million for residents living ≤½ mile and >½ mile from wells, respectively, with benzene as the major contributor to the risk.

In sum, before finalizing this rule, the Commission should review **all** of the studies cited in the Public Health Study, and if it decides to not establish 1-kilometer setbacks as is advised to protect public health, it must give a reasoned explanation why.

Other comments. Notwithstanding deep concerns about the broad application of Permit-by-Rule (Division 3 authorized pits) stated earlier in these comments, Commission Shift generally supports the language in subsection (b) that if at any time a pit that no longer meets the requirements of Division 3, the operator must apply for a permit. However, Commission Shift urges the Commission to require an application to be filed promptly, "within 30 days."

Commission Shift supports the requirement in subsection (f) that in the event of an unauthorized release, the operator must take any measures necessary to stop or control the release. However, Commission Shift urges the Commission to also require the operator to notify the public as well within 24 hours of the release.[258] As such, the Commission should adopt the following changes:

> (f) In the event of an unauthorized release of oil and gas waste, treated fluid, or other substances from any pit permitted by this subchapter, the operator shall take immediate corrective action and any measures necessary to stop or control the release and report the release to the District Office and the public within 24 hours.

§4.151. Design and Construction of Permitted Pits. Page 101.

Commission Shift supports the Commission to require freeboard on all pits to be two feet plus a volume sufficient to contain the 25-year, 24-hour rainfall event (4.151(b)(2)).

As for the installation procedures for liner (subsection b(3)), Commission Shift refers the Commission to its comments in Division 3. In addition, the Commission rule should require dual hot wedge seams for all permitted pits that are required to be lined with synthetic liners. A standard hot wedge creates a single uniform-width seam, while a dual (or split) hot wedge forms two parallel seams with a uniform unbounded space between them. The dual hot wedge seam is considered in the literature to be the preferred seaming method for all thermoplastic geomembranes.

§4.152. Monitoring of Permitted Pits. Page 103

Commission Shift urges the Commission to give operators more guidance on how to document and conduct the annual inspection of a pit liner so that the integrity of the liner is actually reviewed. Liner integrity cannot be determined from photographs taken at a distance, yet the current language would allow it. Commission Shift suggests adding the following language to 4.152(a)(1):

> (1) The permittee shall empty the pit and conduct a visual inspection on an annual basis. The permittee shall photograph the interior of the and otherwise record each inspection. Photographs shall include liner conditions at all welded seams, appurtenances, and prior repairs. The annual inspection photographs shall include field notes that explain where each photograph was taken and what was observed.

[258] The method used could be developed as part of the community relations plan, but might include a text alert or email listserve.

> The annual inspection shall include documentation of any liner wrinkles, tears, and other indicators of liner failure. The permittee shall maintain the photographs, documentation, and records from each inspection for the life of the pit.

Commission Shift is also troubled by the action leakage rates and monitoring plan described in 4.152(b)(1). These rules codify the existing amount of leakage allowed from some permitted facilities, but when examined, these rates make little practical sense and the Commission has provided no reasoning for these thresholds.[259] In addition, solid waste would presumably have no fluids in it, and indeed be able to retain rainfall in most circumstances, so any leakage at all would presumably represent a liner failure.

Any time the criteria in (b)(1)(A)-(C) are met, the operator should be required to notify Technical Permitting within 24 hours and immediately cease operations until the pit is emptied and repaired, as (b)(3) would require. This could be accomplished with the following language:

> (1) In the event of failure of the primary liner in a double liner and leak detection system, the operator shall notify the appropriate District Office and the Technical Permitting Section within 24 hours and immediately cease operations until the pit is emptied an repaired according to (b)(3). Failure of the primary liner in a double liner and leak detection system occurs if:
>
> (A) a volume of fluid is withdrawn from the leak detection system that is greater than the calculated action leakage rate, the standard action leakage rate of 1,000 gallons per acre per day (GPAD) for pits that manage fluid waste, or 100 gallons per acre per day (GPAD) for pits that manage solid oil and gas wastes;
>
> (B) any failure in the leak detection and return system or any component of the system occurs; or
>
> (C) any detected damage to or leakage from the secondary liner occurs.

Additionally, section (b)(3)(C) should include a requirement that the operator file a report describing the incident and the remedy taken, including an explanation for what happened to the waste emptied from the pit once the liner leak was found. Reporting this information is important so that the Commission and public can confirm that the waste was disposed of properly.

§4.153. Commercial Disposal Pits. Page 104.

Commission Shift understands that section (a) was added as part of a legislative mandate for the 10-year flood history of a site to be considered during site approval. Commission Shift is very concerned that the Commission will not commit to wholeheartedly incorporating this factor into its analysis of an application—as written the section only requires documentation of a "good-faith" investigation of whether an area is flood-prone but it does not commit the agency to considering this

[259] If these values have been pulled from other studies, the Commission must ensure that the assumptions used in the literature are appropriate for the pits it seeks to regulate in this rule. For example, leakage rates will vary based on the head of liquid in the pit and in the leak detection system, as well as the permeability of all materials involved. The preamble to the proposed rule does not explain where these values come from.

information in its analysis. It also does not list what investigations would be considered good-faith. The Commission should modify this section accordingly.

Commission Shift suggests that subsection (c) be reworded to clarify that the default post-closure monitoring period is at a minimum ten[260] (not five) years for any commercial disposal pit or facility where a commercial disposal pit is located, and that if it is not set to be ten years by the permit, the Director still retains discretion to implement a longer monitoring period if after-the-fact circumstances indicate a longer period is necessary. That intent could be conveyed with the following revision:

> Unless otherwise required by permit or if the Director determines that such post-closure monitoring is necessary to prevent pollution, a post-closure monitoring period of no less than ~~five~~ ten years is required for any commercial disposal pit and any facility where a commercial disposal pit is located.

7. DIVISION 7 ADDITIONAL REQUIREMENTS FOR LANDFARMING AND LANDTREATING

Commission Shift requests that the Commission consider whether these rules incorporate all types of land application, landfarming, and landtreating that are used in the oil and gas industry, including those that the Commission currently regulates.[261] Practices that may be appropriate for disposal on-lease may not be appropriate off-lease and at commercial facilities and so should be prohibited, and vice versa. As part of this rulemaking, the Commission must ensure that landfarms that have been allowed to violate permits and cause pollution in the past will no longer be allowed to

[260] For more details on why a minimum of ten years is more appropriate, see the comments on § 4.114.

[261] The Commission's website (https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/landfarming-landtreatment-and-land-application-facilities/) describes the activities regulated as follows:
There are three types of permitted land-spreading facilities:
Landfarming facilities can treat and dispose of only freshwater-based drilling fluids and associated cuttings.
Landtreatment facilities can treat and dispose of oil and gas wastes including oil-based drilling fluids and oil-impacted soils.
Land application permits are an alternative to discharge of fluid wastes. Gas plant effluent or low-chloride produced water may be applied to a controlled area via sprinkler or other irrigation systems.
Land-spreading utilizes the physical, chemical and biological capabilities of the soil-plant system to control waste migration and to provide a safe means of disposal without impairing the potential of the land for future use. Land-spreading facilities should be located on fine or medium grained soil with a thickness of at least 20 inches and a slope of less than five percent. Stormwater runoff must be controlled by either natural drainage features or by diversion structures. Land-spreading facilities should not be located in any area prone to flooding.
Landfarming of the following oil and gas wastes is authorized without a permit by Statewide Rule 8(d)(3), provided the wastes are disposed of on the same oil or gas lease where they are generated, and provided written consent of the surface owner of the tract where the landfarming will occur is obtained:
-water base drilling fluids with a chloride concentration of 3000 mg/l or less;
-drill cuttings, sands and silts obtained while using water base drilling fluids with a chloride concentration of 3000 mg/l or less; and
-wash water used for cleaning drill pipe and other equipment at the well site.
Other landfarming operations require a permit. Any facility land-applying oil-based drilling fluids and associated cuttings will require a permit."

do so.[262] It should also address why many of the guidelines it currently uses in permitting these facilities (including closure standards) have not been incorporated here.[263]

In reviewing whether the Commission should add additional rules to regulate different types of landfarming practices, the Commission should show its work by including an analysis of the landfarming and land spreading practices in adjacent states for wastes with similar waste characterization profiles. It appears that with this rulemaking, the Commission will be regulating in- or on-ground disposal methods, both which envision that the land will be suitable for agriculture and other such purposes in the future. The biological and chemical processes relied on to treat waste in this way can be temperamental and require in-depth understanding of the waste, receiving soil, microbial constraints, and climatic conditions. The Commission must therefore ensure that it requires careful testing of the incoming waste, receiving soil, and treated material, as well as sufficient monitoring during the treatment process in order to document that microbial degradation has occurred, and that the efficacy of the treatment processes result in protection of human health and the environment. Commission Shift strongly urges to include more detail throughout this Division.

§4.160. Additional Requirements for Landfarming and Landtreating Permits. Page 105

Commission Shift suggests that this section be edited to refer to "Divisions 4-6" as applying to landfarms, as some may be commercial facilities and the setbacks applicable to permitted pits (§4.150) should also apply to landfarms.

§4.161 Design and Construction Requirements for Landfarming and Landtreating Permits. Page 106

Overall Commission Shift has serious concerns that this Division lacks sufficient detail for human and environmental health to be protected in addition to surface waters, as is required by 4.161(a)(1)(B). To ensure that these setbacks are maintained, the applicant should be required to submit a topographic map and aerial photos (e.g., from a drone or Google Earth) that accurately

[262] Ex. 1 Fehling, Dave. How 'Landfarms' For Disposing Drilling Waste Are Causing Problems In Texas (2012). https://stateimpact.npr.org/texas/2012/11/12/landfarms-for-disposing-drilling-waste-causing-problems-in-texas/ ("The Texas Environmental Enforcement Task Force, run out of the Travis County District Attorney's Office but with statewide jurisdiction, recently won a criminal conviction and a $1.35 million fine against the company that had operated the landfarm, Pemco Services, Inc. "For over a decade the company was out of compliance with their permit and there was little done to regulate them," said Patricia Robertson, the task force's environmental crimes prosecutor. Robertson credits the efforts of a couple officers from Texas Parks and Wildlife for investigating the site and then alerting her office. The task force would later allege that from 2002 to 2009, a total of nearly 57 million gallons of drilling fluids were deposited on the landfarm in violation of the permit issued by the Railroad Commission. Yet the Commission, which has the power to take "enforcement action," never did. In 2010, the Texas Environmental Enforcement Task Force got search warrants to go on the site and take water samples. Prosecutors said lab tests confirmed the site was causing water pollution. They headed to court and eventually got a conviction and then earlier this month, a judge in Travis County imposed the big fine on Pemco Services, Inc.")

[263] Application Information for Landfarm and Landtreatment Permits. https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/landfarming-landtreatment-and-land-application-facilities/landfarm-and-landtreatment-permit-application/

portrays current land use and constructed properties to confirm that all applicable setbacks are addressed. This requirement could be included as follows:

> (a)(4) The applicant shall submit a topographic map and aerial photographs that show the facility boundary, location of all landfarm areas, any drainage features or surface waters, and all setbacks required in Divisions 4 through 7.

Commission Shift urges the Commission to require landfarm applicants to collect and submit more data with their applications, beyond minimal requirements such as those in 4.161(a) that "The applicant shall submit information to demonstrate that the area has at least 20 inches of tillable soil *that is suitable for the application, treatment, and disposal of oil and gas waste*"[264] and those in 4.162(a) that require the estimated chloride concentration of waste to be accepted to be included in the application. Detailed soil sampling is necessary for the Commission to evaluate the application, and also should be conducted prior to each delivery of waste being tilled into the soil, as is recommended by a variety of groups.

The 2022 STRONGER Guidelines state "Soil analyses should be performed prior to landspreading and again upon closure of the Site,"**[265]** and other expert groups agree.**[266]** A 2009 report from Texas A&M summarizes the sampling that should take place before the land application of fluids, emphasizing that no single measurement (like chloride) is sufficient to manage disposal: [267]

> The decision to land apply drilling fluids should be based on the chemical composition of the drilling fluid, and the amount and characteristics of the land area available. The first step is to obtain a chemical analysis of the drilling fluid and a representative (composite) sample of the native soil from the proposed land application area. No single measurement, such as a simple chloride analysis, is sufficient to properly evaluate and manage drilling fluid disposal. A thorough analysis should include the

[264] Commission Shift also requests that the Commission explains why 20-inches has been used—if it is a limitation on plow depth, it should be clarified as such.
[265] Ex. 11 2022 STRONGER Guidelines at 45. https://www.strongerinc.org/wp-content/uploads/2022/07/2022-Edition-STRONGER-Guidelines.pdf
[266] Commission Shift urges the Commission to require testing of the E&P waste prior to land treatment and the RRC should develop a standard loading rate. (2000 Guidelines 5.6.3.d and 5.6.3.i.)
[267] Ex. 39 McFarland, M.L. et al. Land Application of Drilling Fluids: Landowner Considerations, Texas AgriLife Extension Service (Aug. 2009) at 4 http://soiltesting.tamu.edu/publications/SCS-2009-08.pdf. The report goes on to state: "A qualified professional can utilize the results of these tests to determine if land application is appropriate for a particular situation. If so, they can provide the proper rate of application (barrels per acre, tons per acre, or inches of depth) of drilling fluid so that the process does not cause long-term adverse effects on soil properties. These results also can be used to determine if additional soil amendments may be needed to promote treatment of the waste. For example, gypsum (calcium sulfate) may be recommended to offset high levels of sodium in the drilling fluid and prevent problems with soil structure. In other cases, nutrients are applied to support the growth of soil microbes capable of decomposing hydrocarbons, and to enhance plant growth for site recovery." *Id.* at 5.

following measurements for both the drilling fluid and native soil unless otherwise specified:

1. **Total salts** – measured as the electrical conductivity (EC) of the saturated paste extract and reported in parts per million (ppm) or millimhos per cm (mmhos/cm).

2. **Extractable individual ions** – calcium, magnesium, sodium, boron, chloride, and sulfate-sulfur measured in the saturated paste extract and reported in milligrams per kilogram (mg/kg) or ppm.

3. **Sodium Adsorption Ratio (SAR)** – calculated from the saturated paste analyses for calcium, magnesium, and sodium.

4. **Total heavy metals** – arsenic, barium, chromium, copper, lead, nickel, and zinc reported in mg/kg.

5. **Total petroleum hydrocarbons (TPH)** – drilling fluid only, reported in mg/kg.

6. **Routine + micronutrient soil nutrient test** – pH, and extractable nitrate-nitrogen, phosphorus, potassium, calcium, magnesium, sodium, sulfur, copper, iron, manganese, and zinc.

7. **Soil texture** – native soil only.

8. **Cation exchange** capacity – native soil only.

The Commission should add these sampling requirements to § 4.161(a)(2) as a list of sampling information that "the applicant shall submit" as subitems (A) – (H) plus any additional analysis that the Director states is necessary to determine that the receiving land is suitable for landfarming. The Commission requires these parameters to be analyzed for wells that monitor the integrity of authorized pits[268]—landfarming units that require permits should be no different.

The Commission should also consider setting concrete limits to the type of waste that can be landfarmed. In general, the more complex a hydrocarbon is, the longer it takes to biodegrade (if at all) during landfarming. EPA and other groups provide details on the constituents expected in oil and gas wastes and the capacity of landfarming to treat those wastes—the Commission should consider these references when developing its own standards.[269]

Temperature extremes are also an important variable in ensuring that the receiving soil will be able to handle the pollutants in the waste (including in how it affects the microbial activity and required soil moisture content to optimize biodegradation). As Texas summer temperatures continue to rise,[270] the Commission should evaluate whether certain parts of the state are no longer suitable

[268] See 4.115(k) "The wells shall be monitored and/or sampled for the following parameters: the static water level, pH, and ***concentrations of benzene, total petroleum hydrocarbons, total dissolved solids, soluble cations (calcium, magnesium, potassium, and sodium), and soluble anions (bromides, carbonates, chlorides, nitrates, and sulfates)***."

[269] Ex. 40 How To Evaluate Alternative Cleanup Technologies For Underground Storage Tank Sites (2017, USEPA) Link: https://www.epa.gov/sites/default/files/2014-03/documents/tum_ch5.pdf ; Petroleum Production on Agricultural Lands in Texas: Managing Risks and Opportunities. https://agrilife.org/texasaglaw/files/2018/12/Petroleum-Production-on-Agricultural-Lands-in-Texas.pdf

[270] See e.g., Ex. 41 Five hottest days in Texas history. (August 2023) https://www.saveonenergy.com/resources/five-hottest-days-texas-history/ ; Ex. 42 Is there a limit to how hot it can get in West Texas? (June 2023)

for landfarming, or whether landfarming should be restricted to only certain that are conducive to reliable and efficient biodegradation.

In addition, the various soil amendments and microbes used to treat soil can lead to their own set of concerns.[271] The Commission should require applicants to not only document the amendments used (as in 4.162) but also defend how those amendments will not lead to further pollution.

As for **subsection (b)**, the rules do not specify that berms should be properly maintained to prevent erosion and failure to capture contaminated stormwater runoff. The Commission could incorporate such requirements with the following language:

> (b) Berm construction. All berms shall be constructed and maintained:
>
> (1) to fully enclose each landfarm area in a manner that shall prevent erosion and stormwater run-on and run-off

As discussed in its comments on § 4.150, Commission Shift also believes that the setbacks and buffers for landfarms (like facilities with permitted pits) should be increased beyond those proposed. Commission Shift also urges the Commission to categorically deny landfarm permits when shallow groundwater is present.[272] Groundwater monitoring should also continue to be a requirement unless on-site borings taken to 100 feet demonstrate no shallow groundwater underlies the proposed location.[273] The Commission should also set a maximum limit as to the size of each landfarm cell[274] —typically the equipment used in landfarming is only effective at smaller sizes, above which there is nonuniform application of waste, and the potential for overapplication, ponding, and hotspots. And given that only one sample is required per acre, it is highly unlikely that such hotspots would be identified.

§4.162. Operating Requirements for Landfarming and Landtreating Permits. Page 107

Commission Shift reiterates its concerns raised in § 4.161 that more than just the chloride concentration of the waste must be considered, as section (a) would envision. At a minimum, the

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https://www.newswest9.com/article/weather/how-hot-can-it-get-in-west-texas/513-8f116dc3-fd51-4af6-91bc-a8b0fe9d1d93

[271] Soil amendments—which is not defined in these rules—can be a catchall phrase that might include char, byproducts of gasification/pyrolysis; digester solids; some types of biosolids; poultry litter; etc.

[272] New Mexico, for example, prohibits the landfarming of waste where groundwater is located less than 50 feet below the lowest elevation at which the operator will place oil field waste, and wastes with a chloride concentration that exceeds 500 mg/kg is prohibited at sites with groundwater within 100 feet. See 19.15.36.13(A)(2)-(3).

[273] This requirement from the Commission's current guidelines appears to have disappeared from this draft. See Application Information for Landfarm and Landtreatment Permits. https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/landfarming-landtreatment-and-land-application-facilities/landfarm-and-landtreatment-permit-application/

[274] There is not a complete accounting of all landfarming and land applications in Texas currently, but land application facilities that EPA has identified in Texas range between 12 acres divided into 4 separate cells and 517 acres divided into 17 cells. Management of Exploration, Development and Production Wastes: Factors Informing a Decision on the Need for Regulatory Action ("EPA's Need for Action"), EPA (April 2019) at 4-9. https://www.epa.gov/sites/default/files/2019-04/documents/management_of_exploration_development_and_production_wastes_4-23-19.pdf

hydrocarbon content of the waste must be characterized using laboratory analysis of a statistically significant number of samples.

Commission Shift also questions why section (a) is left as open-ended as it is. It appears that the decision as to whether or not a landfarm should be permitted will be largely left up to Technical Permitting staff to develop guidelines outside the notice-and-comment rulemaking process. Again Commission Shift reiterates its request that the Commission provide more details on the landfarming process and how it will ensure that landfarming is designed, constructed, operated, and maintained in a manner that optimizes the destruction of hydrocarbons and minimizes the long-term risks to public health and the environment.

§4.163. Monitoring. Page 109

Commission Shift is concerned that the minimal number of samples required by these rules will not provide enough proof that all of the waste has been satisfactorily treated according to the approved design. As drafted, as little as one composite sample per acre is required for each of the three compliance zones. More comprehensive sampling should be required including the use of hydrocarbon detection devices and other field parameter screening tools. In addition, the Commission should explicitly require the following parameters be monitored during each event:

> Monitoring of landfarm treatment cells should include pH, moisture content, bacterial population (heterotrophic aerobes), nutrient content, and concentrations of pollutants that are being treated (TPH, heavy metals).

Commission Shift also urges the Commission to develop and publish expected sampling and analysis limitations for each zone. Sampling should also be conducted by independent third-parties and analyzed by accredited laboratories, as such Commission Shift suggests the following revision:

> (c) The operator shall <u>have</u> ~~analyze~~ samples <u>analyzed</u> from each active cell according to the analysis requirements specified in the permit <u>and §4.124(e)(2)-(3).</u>

Commission Shift also opposes allowing operators to continue to add waste to a cell after sampling shows exceedances for pollutants. The cell should be temporarily closed from accepting new waste until the operator has determined why the cells are not performing, has implemented the remedy, and has confirmed that the waste no longer exceeds recommended parameters. As such, the following revision should be made:

> (d) (4) If the parcel exceeds the limitation after ~~six months of~~ sampling, that plot is not authorized to accept additional waste until a sample analysis does not exceed the particular limitation.

Commission Shift notes that the proposed rule now provides closure soil concentrations for hydrocarbons, salts, and some heavy metals in Figure 16 TAC §4.163(d), but it does not set a maximum concentration of those pollutants that can occur during landfarming or landtreating of oilfield waste. This is troubling for several reasons, one of which is that the rule appears to assume

that only rather innocuous oilfield waste would be landtreated, but the closure soil concentrations for metals is anywhere from 3 times to 250 times TCEQ published soil background concentrations.[275] And in the case of silver, the rule allows up to 200 mg/kg with no comparable TCEQ soil background value. The salt concentration limits for closure are also excessive and may inhibit vegetation growth in the future. According to the University of Georgia Extension and the Natural Resources Conservation Service, electric conductivity values of 4.0mmhos/cm represents the dividing line of what are known as sodic and saline soils---neither of which would be conducive to producing certain commodity crops at non-polluted soil crop yields.[276] Excess salts in the soil profile interferes with plant growth for those commodity crops that are not salt resistant. Allowable BTEX and TPH closure values are also excessive. The rules should allow full use of the property after the site is closed and help operators ensure that the landtreated waste is actually being treated (as opposed to volatilizing or leaching out) to an acceptable and safe level.

§4.164. Closure. Page 110.

Commission Shift notes that there does not appear to be a procedure in place for public notice to adjacent landowners (and property owner) nor the general public that a closure plan has been submitted for review and approval. There is also no mention of sampling groundwater to determine if pollution occurred that needs to be remediated. If the reason for these omissions is because the closure requirements in Divisions 4-6 apply (including § 4.132), the Commission should reiterate that here.

Likewise, Commission Shift notes that closure sampling should also include independent third-party sampling and testing of the soil to verify site can support future vegetation without adverse impacts to livestock or other crop/vegetation consumers. The Commission has stated in the past that this is required procedure, but this requirement does not appear to be included in the proposed rule.[277]

Closure should also include sampling outside of the designated landfarm cells, to ensure that no waste has migrated outside the treatment cell (e.g., due to overflows, spills, etc) or has not persisted in other areas. This is currently a similar requirement in the Surface Waste Management Manual, but it does not appear to have been incorporated into this rulemaking.[278] Finally, Commission Shift notes

[275] See TX Code TCEQ Figure: 30 TAC §350.51(m) : https://texreg.sos.state.tx.us/fids/200700768-1.html

[276] https://extension.uga.edu/publications/detail.html?number=C1019&title=soil-salinity-testing-data-interpretation-and-recommendations

[277] Ex. 1, Fehling, David. How 'Landfarms' For Disposing Drilling Waste Are Causing Problems In Texas. NPR. (Nov. 12, 2012). https://stateimpact.npr.org/texas/2012/11/12/landfarms-for-disposing-drilling-waste-causing-problems-in-texas/

[278] https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/landfarming-landtreatment-and-land-application-facilities/landfarm-and-landtreatment-permit-application/ (Detailed plans for closing the site when land-spreading operations cease, include plans for closing any boreholes used for vadose zone or groundwater monitoring, removing dikes, contouring, and reseeding. Also include plans for sampling and analyses

that the Commission has published the closure parameters that it typically requires landfarms to meet. However, it has not proposed those for adoption in this rulemaking. The Commission should clarify why it has declined to do so and whether those will continue to be the closure levels that facilities must meet and identify the enforcement mechanism relied upon to ensure compliance with the guidance requirements.[279]

8. DIVISION 8 ADDITIONAL REQUIREMENTS FOR RECLAMATION PLANTS

Commission Shift understands that with this rulemaking, the Commission is moving the requirements of Rule 57 into Subchapter A.

Commission Shift urges the Commission to ensure that reclamation plants operate with the strictest of standards so that environmental and human health is protected. Reclamation plants handle a vast variety of oil and gas waste, including the waste from oil and gas processing plants and underground storage of gas and hydrocarbons —basically only excluding RCRA hazardous waste. In a typical reclamation plant, incoming wastes are separated into water, oil and soild fractions by means of thermal, physical and chemical processes. Waste is kept in a variety of holding areas during the process, some open air, some in tanks. There is potential for noxious vapors and malodors with such facilities—air permits may be required from TCEQ.[280] There is also the potential for radionuclides to concentrate in the sediment brought in for treatment, and for the equipment itself to build up radioactivity to unsafe levels.[281] Radionuclides can also be airborne, leading to potential exposure to workers and the public, which this rule does not appear to contemplate, here or elsewhere.[282] Given the complexity of operations at reclamation plants it is essential that the waste is characterized by laboratory analysis and screened for radioactivity at health-based levels. In addition, the waste characterization should include enough information to inform the Commission as to whether it is possible to protect worker and public health and prevent contamination of surface and subsurface waters.

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of areas other than remediated waste in treatment cells (e.g., temporary holding cells, treatment cells from which the waste has been removed, leachate collection sumps, etc.) Provide an estimate for the amount of time required to close the site).

[279] Ex. 43 Railroad Commission of Texas (RRC). Version Dated January 24, 2019. Closure Table 2 Landfarm, Landtreatment, and Land Application permits: Standard Soil Sampling Closure Parameters. https://portalvhdskzlfb8q9lqr9.blob.core.windows.net/media/49968/standard_closure_parameters-lf.pdf

[280] Though if these are “permitted-by-rule” there may be minimal scrutiny on the unique hazards of each site and nearby sensitive receptors.

[281] A study done by RRC in 1999-2000 reviewing the radioactivity in oilfield equipment found--- in almost every RRC District --- elevated radiation levels in equipment that would be unsafe for use except for the legal fiction that oil and gas waste is not hazardous. Ex. 43.01 Commission NORM Survey of Equipment at Leases and Facilities (1999-2000). And this was before the advent of horizontal drilling, which brings proportionally more radionuclides up from the subsurface. See Ex. 14.03 Glass Expert Report at 8 (pdf pg 11). The Commission should expect oilfield equipment to accumulate more radioactivity than its 1999-2000 study would predict.

[282] See e.g., Ex. 14.03 Glass Expert Report at 13-14 (pdf pg 16-17).

§4.170. Additional Requirements for Reclamation Plants. Page 111

Commission Shift requests that the Commission provide an example as to how many facilities might fall within subsection (a)(3), which exempts certain facilities from monthly reporting.[283] The subsection allows a hearing only if the application is denied and does not contemplate notice or input from surrounding landowners. All interested parties—community members included—should be allowed to participate in that permitting process, and appeal administratively if necessary. This one-sided appeals right is unfair everywhere it appears, including in subsection §4.171(d) and (e)—and should be altered to state: "The Commission's decision on a request for authorization may be appealed by any interested person."[284]

As for the language in subsection (a)(6), Commission Shift is encouraged to see that all reclamation plants will be regulated as commercial facilities regardless of the definition of commercial that is adopted in section 4.110.

However, Commission Shift strenuously objects to the lengthy grandfathering of reclamation plants that were permitted prior to this rulemaking, as subsection (a)(7) would allow. Permits issued prior to this new rulemaking should expire one year after the effective date of the rulemaking, not five years. A facility can always seek to renew its permit before the one-year period has elapsed. Public health concerns and the inconsistencies within existing permits for reclamation plants warrants the urgency with which operating facilities are brought into compliance with the new rules---preferably as soon as possible.

As for subsection (b), this subsection states that ***applicants*** and ***permittees*** operating reclamation plants must comply with Divisions 4-6. The Commission should also confirm that the ***agency*** itself will also follow the permit procedures as well. In addition, Commission Shift notes that the Commission's current guidelines for reclamation plants are much more detailed than the rules proposed here.[285] The Commission should incorporate at least a similar level of detail into notice-and-comment rulemaking so that the public may weigh in. Commission Shift suggests adding to (b)(2)(B) (application contents) the following:

[283] Commission Shift understands that there are currently 35 permitted reclamation plants in Texas.
[284] Instead of: ~~"If the request for authorization is denied, the applicant may request a hearing~~." 4.170(a); 4.171(3),(d),(e). See also §4.135(a).
[285] See https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/reclamation-plants/

(B) a detailed description of the treatment process, equipment, and pits, storage, or on-site containment at the facility that includes both narrative descriptions and engineering drawings.

§4.171. Standard Permit Provisions. Page 112

Subsection (b) represents a fundamental change in Commission practices—previously a permit to operate a reclamation plant was purportedly not transferable,[286] and the Commission required the new operator to obtain a new permit by submitting a complete application (allowing a renewed opportunity for public participation).[287] ***This should have been the practice that the Commission adopted in this rulemaking for all facilities.*** At a minimum, this practice should be preserved for reclamation plants. Commission Shift strongly opposes this shift to water down the availability for public participation in the renewal, transfer, and amendment process for reclamation plants even if the procedures for public notice in § 4.133 are required (for more on Commission Shift's concerns related to renewals, transfers, and amendments, see § 4.122).

Commission Shift supports the mandatory reporting of Division 10 violations within 24 hours of occurrence (subsection (c)). However, the violation should also be reported to the Director and to the public at the same time (e.g., through the Commission's online portal).

As for subsection (e), the Commission should require lab analysis be completed for any waste that is being received by a reclamation plant. Commission Shift also questions what sort of waste an operator would send to a reclamation plant that is neither "tank bottoms or other oil and gas waste," as subsection (e) describes. Such waste should absolutely be tested to confirm that it is not hazardous or radioactive, will not create a health risk, and that it is compatible with the reclamation processes used onsite. This could be accomplished by the following suggested language:

(e) All waste materials received shall be tested by laboratory analysis according to the requirements of § 4.124(e)(3)-(4). The receipt of any waste materials other than tank bottoms or other oil and gas wastes shall be authorized in writing by the Commission prior to receipt. The Commission ~~may~~ shall require the reclamation plant operator to submit an laboratory analysis of the waste materials prior to a determination of whether to authorize receipt. If the request for authorization is denied, the applicant may request a hearing.

If a hearing is requested, a notice period should be triggered for the public to participate in the hearing.

[286] However, Commission Shift's review of reclamation permits show some indeed were transferred. E.g., the Dunagin Transport Company in Taylor Texas (transfer requests in June 2003 and April 2008) http://rrc.texas.gov/media/yp4hsayi/dunagin_r9-7b-0810.pdf ; The Maker's Oil Corporation (P-5 No. 851524 in Nueces County), taking over for Southwest Oil Recovery R9# 04-1309.

[287] Id. The Commission was also clear that "The reclamation permit may be cancelled if the facility has been inactive for 12 months" and that "Once an application package has been submitted, only minor modifications or staff-recommended amendments will be accepted during the review process. If the original application is fundamentally revised, the application must be withdrawn, and a new application may be filed."

Commission Shift appreciates that 24-hour in-person security will be required (g), but questions why this is not a requirement for all permitted facilities, given the health-hazards and general hazards inherent in oil and gas waste management. Limits on the processing capacity of the treatment equipment and storage volumes of waste and reclaimed oil are also appropriate (h).

§4.172. Minimum Permit Provisions for Operations. Page 113

As in other sections of the proposed rules that require document retention, the documents required to be retained in this section should be uploaded and made public in a timely manner without a need for explicit Commission request.

§4.173. Minimum Permit Provisions for Reporting. Page 114

As Commission Shift's comments on § 4.108 reflect, Commission Shift urges the Commission to establish—within one year of the effective date of this rulemaking—an electronic filing system for reclamation plant reports that is public-facing, and thus urges the Commission to change the "may" to a "shall" in subsection b:

> (b) The Commission ~~may~~ shall establish a form or electronic system for filing monthly reports for reclamation plants.

Operators should be required to use a Commission-issued form, as the October 2023 proposal would have required, not their own forms that may be missing or have non-standardize information.[288] This language should be reintroduced to this proposal.

As for subsection (c), Commission Shift suggests that the Commission reexamine the language in (c)(1) and (c)(2). It is unclear if the intent is to differentiate based on whether the waste comes from a pipeline facility or from other sources (except (c)(2) also includes pipeline facilities) or if it is to differentiate between tank bottoms and "other" waste (except (c)(2) also addresses waste from "tanks"). More clarity would help operators comply and the public understand the rules.

For subsection (d), Commission Shift encourages the Commission to always require a laboratory analysis of the disposable material to be performed before approving a minor permit ("may" should be replaced with "shall" in the last sentence of (d)). Reference should also be made to § 4.124(e)(3)-(4), which describes how laboratory analysis and NORM sampling should be conducted.

[288] October 2023 Proposed 4.171(f): "By the 15th day of each calendar month, the operator of a reclamation plant shall file a report for each of the operator's reclamation plants covering each facility's activities for the previous month. **The operator shall file the report on a Commission-designated form or electronic filing system and shall file a copy of the monthly report** in the District Office for any district in which the operator made receipts or deliveries for the month covered by the report."

9. DIVISION 9 MISCELLANEOUS PERMITS

§4.180. Activities Permitted as Miscellaneous Permits. Page 115

Commission Shift is greatly concerned that Division 9 creates unnecessary loopholes for waste management operations to take place without sufficient safeguards for human health and the environment and without the safeguards that properly conducted notice-and-comment rulemaking can provide. For many of the permits in this Division, the Commission is already operating under more detailed guidance (readily available on its website) that it has chosen not to incorporate into this rulemaking, begging the questions of whether that guidance will continue to apply and why it has not been subjected to notice-and-comment rulemaking. Especially concerning is the fact that Division 9 waives the requirements set by Divisions 4-8, which even if flawed, provide more transparency than the guidelines.[289] Commission Shift urges the Commission to delete the last line of § 4.180[290] and the sections § 4.184 and § 4.185 in their entirety.

§4.181. Emergency Permits. Page 115

Commission Shift request clarification as to whether emergency permits might be granted for the purpose of "protecting public health, public safety, and the environment,"[291] in addition if needed to prevent waste and pollution of surface or subsurface water.[292] Commission Shift urges the Commission to confirm during the rulemaking that emergency permits will not be granted for convenience, repetitiously, or any other reason other than an unforeseen and unavoidable emergency. If the Commission insists on waiving notice for emergency permits, it should at a minimum require that the permit application and all reports be made publicly available contemporaneous with their filing (subsection (b)), including any oral applications made or permits rendered (subsection (c)). The Director's reasoning for alterations to the permit should also be made publicly available for review (subsection (d)). If it is truly an emergency, then the potentially affected public has a right-to-know and should be included in the permit process.

Commission Shift also is of the opinion that permits issued without notice-and-comment should expire after 15 days, not 30 days. In comparison, emergency orders of the Commission must expire after 15 days. Tex. Nat. Res. Code § 85.206(a)-(b)[293]. The Commission should not by rule allow

[289] § 4.180 states that "Unless otherwise specified in this division or by the Director, the requirements of Divisions 4 through 8 of this subchapter do not apply to activities permitted under this division."
[290] I.e., the Commission should delete the line that states: ~~"Unless otherwise specified in this division or by the Director, the requirements of Divisions 4 through 8 of this subchapter do not apply to activities permitted under this division."~~ By ***including*** this very strong language, the Commission makes itself vulnerable to an arbitrary-and-capricious challenge by an applicant if later on the Commission tries to apply the requirements of Division 4 through 8 to a Division 9 permit.
[291] As is enumerated in § 4.101(b).
[292] As is proposed in § 4.181(a).
[293] "The emergency order shall remain in force no longer than 15 days from its effective date." (b).

emergency permits issued without opportunity for notice-and-comment to last for a longer period than what the Legislature itself set for the Commission's emergency orders.

Finally, Commission Shift objects to District Directors being granted authority to issue emergency permits. The decision to grant an emergency permit should be centralized with the Technical Permitting Staff so that what constitutes an emergency can be standardized and consistent. Only when Technical Permitting is not available due to the nature of the emergency, and after the District has attempted to contact Technical Permitting, should the District have limited authority to act on an emergency permit. And if it has not already, the Technical Section in Austin should develop a (publicly available) standardized list of what constitutes appropriate use of an emergency permit and provide training to District Offices on how to make good decisions in the event of an emergency.

§4.182. Minor Permits. Page 115

As it is with all of the permits in this Division, Commission Shift is frustrated by the lack of detail provided for notice-and-comment review of the minor permit program. Section 4.182 authorizes the issuance of permits for the storage or disposal of minor amounts of fluids or waste without defining what a minor amount is or limiting how often a minor permit may be issued for a single site (see section (a)). The Commission should define the threshold for "minor amount" and restrict operators from using minor permits as a means to avoid obtaining better scrutinized- and better-noticed permits.[294] As part of this rulemaking, the Commission should give examples of what it has considered to be a "minor amount" for each waste type. And going forward, applications for minor permits should be made publicly available and notice subject to the same rules as in Division 4.

Commission Shift requests clarification on the intent of subsection (c), which allows only minor permits issued without notice of application to be modified, suspended, or terminated at any time for good cause. It's unclear why the Commission grants itself this power only for non-noticed applications. The Commission should be able to modify, suspend, or terminate any permit, noticed or not, in the interest of the protection of human health and the environment.

Finally, Commission Shift objects to District Directors being granted authority to issue minor permits. The decision to grant a minor permit should be centralized with the Technical Permitting

[294] Commission Shift requests that the Commission clarify if its existing Guidelines for Minor Permits will remain in effect. See https://www.rrc.texas.gov/media/gyolztfy/2005guidelinesrule8.pdf The Commission's current guidelines state that: "no more than 5 minor permits, for no more than a total volume of 30,000 barrels from 5 wells, or 1 minor permit for waste from one well if the volume is greater than 30,000 barrels, will be issued for one disposal site." Id. at 4. Commission Shift is of the opinion that these limits far exceed what would be appropriate for a minor permit. According to the Commission, "Typically, these [minor] permits authorize a "one time" disposal of oil and gas waste. Minor permits are commonly issued for: One time, off-lease landfarming of water-based drilling fluid. One time, on-lease landtreatment of oily waste. Disposal of basic sediment by burial, or for reuse. Disposal of drilling fluid in casing or annulus. Hydrostatic Test Water Discharge Recycling of Domestic Wastewater" https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/minor-permits-hydrostatic-test-discharges-domestic-wastewater-and-other-permits/

Staff so that what constitutes a minor amount (and how often minor permits can be used) can be standardized and the public can be informed. Likewise, Technical Permitting Staff should develop a standardized guidelines on issuing minor permits and seek public feedback on it before providing training to District Office on how to implement such a program.

§4.184. Permitted Recycling. Page 116

Commission Shift objects to the grant of virtually unbounded authority for the Commission to create a permitting program for "[f]or non-commercial recycling not otherwise authorized by this subchapter."[295] Because the Commission no longer defines non-commercial fluid recycling (instead using the term produced water recycling) the Commission should give clear examples of the types of operations that would fall under 4.184's permitted recycling.

It is a good first step to identify some of the elements that should be considered when permitting a novel recycling program (e.g., the last sentence of (a)), but it should be open ended. It should also not ignore the other rules that might be relevant in Subchapter A. By virtue of the proposed language in § 4.180, Divisions 5, 6, 7, and 8 would ***not*** apply to these permits—only Division 4 might be considered. But Division 4 contains ***no*** setbacks—that's all in Division 6 (§4.150). Division 6 also sets additional requirements on liners and what action is required if those liners leak. The Commission is unnecessarily limiting itself from fully protecting human and environmental health by tying its hands from considering Divisions 5-8. Subchapter B Division 7 at least sets ***some*** limits in the form of analytical limits on the recycling of solids (i.e., reuse of drill cuttings), but § 4.184 is totally silent in this.

Any waste management operation not authorized by rule or permit should be prohibited. A "catchall" rule undercuts transparency and public participation. If there becomes a need to permit additional operations, the Commission should first conduct a rulemaking subject to notice-and-comment. Transparent, participatory processes are necessary to ensure that the miscellaneous permitting program is not misused. In that vein, the Commission should make public the entities that requested that § 4.184 be included.

§4.185. Pilot Programs. Page 116

In general, Commission Shift is very skeptical that with the proposed regulations alone the Commission will have sufficient oversight over the programs envisioned by § 4.185, which includes very few protections for human and environmental health, and as such objects to the inclusion of this

[295] § 4.184(a).

section entirely.[296] As an initial matter, if “pilot programs” are limited to recycling only, that should be stated in the section heading (i.e., “pilot recycling programs”).

The Commission’s addition of subsection b during the drafting process does not provide sufficient additional clarification as to the purpose of such pilot programs nor ensure that they are regulated in a manner protective of human health and environment. (It is also not clear if it’s an exclusive list of what would qualify for a pilot program.”) As written, there seem to be very few limits on what a pilot program would consist of. Pilot programs should certainly not be exempt from the requirements of Divisions 4 through 8 of this subchapter; given the experimental, untested nature of new programs, it is especially important that the pilot programs be vetted by all interested persons, that notice be given, that application and permit materials be public, hearings be available, setbacks required and appeals routes clear. Before a permit is issued, the Commission should set metrics and goals for each program that indicate whether the program is working or not. That list should be drafted with public input given equal weight as industry input. (This is the only way to establish the public’s trust that treated produced water can be reused in certain activities that are safe and protective of human health and the environment.) In addition, as is, subsection (c) does not provide guidance on ***how*** the Director is to decide whether a pilot program presents a threat of pollution and encourages recycling of oil and gas.

Any pilot program should require the program operator to file periodic operating and monitoring reports (at least quarterly) that are publicly available, and the Commission should be required to publicize its analysis on the program’s process. It should also subject its decision to extend a pilot program to notice, hearing, and participation by all interested parties (and subsection (c)(2) should be revised accordingly to incorporate the requirements of Divisions 4-8). Subsection (c) also grants decision-making authority on program extensions to “the Commission” as opposed to the Director, without listing a role for Technical Permitting, as is seen elsewhere in the draft rules. The Commission should clarify whether the opinions and suggestions of technical staff are part of pilot project approvals (as they should be).

In any event, a pilot program should absolutely not be allowed to continue past the five years that traditional permits are allowed without a mandatory hearing and input and review by the public. Transparent, participatory processes are necessary to ensure that the pilot program process is not misused. In that vein, the Commission should make public the entities that requested that § 4.185 be

[296] Public Information Act requests reveal that the Commission has been working with industry on “a draft document entitled *Produced Water Recycling Framework for Pilot Study Authorization.* This document provides (1) an understanding of how RRC staff understands this challenge (that is, what staff wants industry to know), and (2) guidelines for industry on seeking authorization for pilot studies. This is RRC staff’s current approach to pilot study authorization.” It thus appears that the Commission will be planning on regulating at least some pilot programs through guidance, without the notice-and-comment protections of rulemaking. Commission Shift urges the Commission to include the public and other non-industry groups in the process of defining pilot programs so that human and environmental health considerations are fully included.

included—from the 2023 informal comment period, it appears that this program was requested at the behest of at least the Permian Basin Petroleum Association.[297]

10. DIVISION 10 REQUIREMENTS FOR OIL AND GAS WASTE TRANSPORTATION

§4.190. Oil and Gas Waste Characterization and Documentation. Page 117

Commission Shift supports the Commission's decision to issue rules on waste handling and documentation of waste manifests. East Texas communities in particular have struggled for years with waste haulers delivering mischaracterized wastes to facilities, and it is common knowledge that wastes from Louisiana and New Mexico are often preferentially disposed of in Texas landfills because Texas does less to prevent hazardous wastes from being sent to oil and gas waste landfills. There is still room for improvement in the proposed rules, however.

As an initial matter, Commission Shift is troubled that there is no longer a reference to waste profile forms being submitted electronically through an electronic filing system (compare proposed 4.190(b)(1) and with the October 2023 version (4.190(b)(1) & (c)). The Commission should commit to creating an electronic filing system for these forms within one year of the finalization of these rules and outline for the public the steps it will be taking to acquire the funding for software, hardware, and qualified employees/contractors to create the electronic filing system, so that the public can be a vocal proponent for Commission to secure these critical pieces of a working electronic filing system. Commission Shift is also concerned that the Commission is allowing operators to use their own custom waste profile forms in lieu of a standardized Commission format. This unnecessarily complicates the Commission's ability to ensure the relevant information is provided, and makes it more difficult for staff and the public to analyze the data and use these forms to monitor compliance. For example, it is doubtful that these forms will be text-searchable or even include the same units and types of waste descriptions. Indeed, 4.190(b)(2) would allow the generator to invent the waste profile categories it would use, making it virtually impossible to make comparisons across generators.

Moreover, the Commission has shrunk the list of required information on these forms, omitting the need to identify the "producing lease or property and Commission-assigned identifier." See October 2023's 4.190(b)(1)(C). This information would be important to track the waste in the event that it was mischaracterized or indicative of a problem at the lease. The Commission must provide a standardized form to avoid generating "junk" data that simply adds to the administrative burden without being useful for identifying violations or data trends.

[297] Oral comments by PBPA spokesperson Michael Lozano on October 26, 2023 (thanking the Commission for including the sections on pilot programs and miscellaneous permits (which has now been removed)).

Concerningly, the rule removes the requirement that the generator make it easy to correlate the form with the waste manifests:[298]

> The generator shall associate the Waste Profile Form and the generator-assigned identifier with a specific manifest or group of manifests for shipment of the media so the material can be easily correlated to the correct shipping documents.

Commission Shifts requests assurance from the Commission that despite this language's deletion, the generator will still be required to associate the Waste Profile Form and the generator-assigned identifier with a specific manifest or group of manifests for shipment of the media so the material can be easily correlated to the correct shipping documents. Again, this is important so that the data collected can actually be used to identify violations and overall trends.

Commission Shift assumes (and requests that the Commission clarify) that the waste profile information described in subsection (b)(4) would be made publicly available as part of the periodic reporting required; if not, this subsection should be amended to require this information to be made publicly available.

For Commission Shift's comments on acceptable methods of waste characterization (mentioned in subsection (b)(1)(E)), see comments on §4.102. In any event, the following clause should be appended to the last sentence of subsection (b)(1)(E): "and include full laboratory analytical reports and corresponding chains of custody, performed in accordance as described in §4.124."

§4.191. Oil and Gas Waste Manifests. Page 118

Commission Shift notes that the Commission intends to establish a standard manifest. As discussed in 4.191, standardization makes it more likely that the data on the manifest is useable, both to track the specific waste and to analyze across operators. The Commission should not allow operators to use their own forms, as 4.191(b) would allow, because it runs the risk of nonstandard data. The Commission should require the use of a standardized form and set a deadline for its creation.

For transparency, subsection (a)(2) should be revised to state that the "electronic manifest system . . . is accessible to the Commission, the public, and all parties . . ." Paper copies of manifests, if they are created, should also be made publicly available as full text-searchable documents. Records also should be retained for more than a period of three years (see subsection (c))—this limited retention period dates back to an era in which records were paper, not electronic. Electronic storage is much cheaper than storing paper. Electronic files also take up much less

[298] 4.190)b)(2) of the October 2023 draft, omitted in the 2024 proposal.

space. Cradle-to-grave responsibility for waste can extend well past three years—the retention period should likewise extend beyond three years.[299]

Commission Shift notes that the August 2024 draft now explicitly addresses waste moved by pipeline. These records should be segregated by type of waste and reported to the Commission periodically, and at least monthly, and not simply made available on request. Commission Shift requests that the Commission clarify its rationale and authority for treating waste transported by vehicle differently from waste by pipeline.

§4.192. Special Waste Authorization. Page 119

Commission Shift requests that the Commission set a deadline for itself to establish a Special Waste Authorization form (4.192(c)), and that the form be open to public comment.

§4.193. Oil and Gas Waste Haulers. Page 119

Commission Shift requests clarification why subsection (a) both prohibits the hauling of waste but then creates a carveout for “incidental” waste without defining what an incidental volume would be.

As for subsection (b)(1), Commission Shift suggests that for clarity there should be one subpart for inert waste and then a separate subpart for the much more critical asbestos, PCBs, and hazardous oil and gas waste, given the different risks associated with these categories of waste.

The application for a waste hauler should include information regarding the applicant and the applicant’s vehicle’s record, including whether the hauler has caused pollution or been involved in incidents of waste management discrepancies (§4.194(b)) that were reported for that waste hauler in the last seven years. Those with a history of waste discrepancies, accidents, or pollution should be prohibited from receiving permits. Commission Shift also questions whether the certification in (c)(4) stating that the vehicle has been appropriately designed should not instead be a certification from the manufacturer of the vehicle—given that the hauler likely does not have the design experience necessary to make such a certification. It could still be a certification that the hauler is obligated to obtain (just not obligated to make him or herself).

Commission Shift appreciates that the Commission has added back in the statutory requirement from the Waste Haulers Act that waste haulers must provide affidavit from each receiver that the hauler may use its facility (4.193(c)(3)). The Commission should set a deadline for the establishment of the electronic system for waste hauler applications (c), and make those files publicly available as fully text searchable documents.

[299] The Commission could consider implementing a tiered system for retention of records—i.e., one that recognizes waste transport data has differing levels of long-term importance with respect to preserving cradle-to-grave data. The proposed rule lumps all waste transfer paperwork into one category of perceived importance.

The Commission should also confirm that permit condition (e)(10) prohibiting spillage during transport prohibits spillage **at all times**, whether in transport or not. Clarifying this now will help avoid potential litigation later on over the scope of this prohibition.

§4.194. Recordkeeping. Page 122

Commission Shift is encouraged that the Commission will require operators to report waste management discrepancies (per subsection b).[300] This has been recommended to the Commission since at least 1993. Like all reporting done by operators, this information too should be made publicly available contemporaneously. In addition, operators who fail to report discrepancies should be subject to penalties.

§4.195. Waste Originating Outside of Texas, Page 122

Commission Shift is encouraged that the Commission will require out-of-state waste to be identified more specifically by regulatory identifier and location, as Commission Shift suggested in its May 2023 letter to the Commission on the related matter of P-18 forms. The Commission should require that waste haulers make this information available for the public as well. The Commission should also clarify that all of the records that must be kept and documented in 4.190 – 4.192 applies to out-of-state waste; the use of the word "notwithstanding" creates confusion as to this point.

The import of waste from outside of Texas has created headaches for many communities, including those in East Texas. Many view Texas as a dumping ground for waste other states don't want. It is an open secret that Texas is a destination for waste across the world because of the lax regulations and disregard for its health and environmental impact.[301] For example, at just a single NORM-landfill site in Andrews, Texas, waste has been documented arriving from Mexico, Canada, Australia, New Mexico, Oklahoma, Louisiana, off-shore from the Gulf of Mexico and California, Alaska, North Dakota, Michigan, Colorado, West Virginia, and Pennsylvania, and even states like Minnesota, Wisconsin, and Iowa.[302] The Commission's rules for waste haulers, receivers, and generators should ensure that the out-of-state waste volumes and contaminants are clearly tracked so that the data can be easily analyzed by the public and the Commission. Texas should not be a dumping ground for out-of-state waste.

[300] "The RRC should adopt rules requiring the operator of a disposal facility to report waste management discrepancies." Ex. 6 STRONGER Texas Review, 2003 at 31 (citing 2000 Guidelines 5.10.2.3 d).
[301] See e.g., Ex 43.02 Nobel, Justin. Where Does All The Radioactive Fracking Waste Go. (April 22, 2021) https://www.desmog.com/2021/04/22/lotus-llc-radioactive-fracking-waste-disposal-texas/
[302] *Id.* Describing how FOIA files "indicate that virtually every major operator in the oil and gas industry has sent their waste to Lotus, including ExxonMobil, BP, Chevron, Occidental, Anadarko, ConocoPhillips, Chesapeake, as well as midstream companies like Kinder Morgan and ONEOK."

11. DIVISION 11 REQUIREMENTS FOR SURFACE WATER PROTECTION

§4.196. Surface Water Pollution Prevention. Page 122

Commission Shift urges the Commission to clarify that ***all*** of its water-protection and anti-pollution rules (including 4.196(b)(6)-(7)) apply to activities on land (not just in offshore or in-land waters) that cause pollution of any state waters, whether inland, fresh, offshore, estuarine or otherwise. It could do so more clearly by moving (d) to follow (a):

> (a) An operator shall not pollute the waters of the Texas offshore and adjacent estuarine zones (saltwater bearing bays, inlets, and estuaries) or damage the aquatic life therein.
>
> (bd) The requirements of this section shall also apply to all oil, gas, or geothermal resource operations conducted on land or on the inland and fresh waters of the State of Texas, such as lakes, rivers, and streams.

It should also be made clear that these protections apply to all activities under the Commission's jurisdiction, not just oil and gas or geothermal, but to carbon capture, utilization and sequestration as well. For example, 4.196(d) does not list carbon capture, utilization and sequestration operations.

Commission Shift supports the Commission's proposed revision that would no longer allow any cutting and fluids from mud systems to be disposed of in Texas offshore and adjacent estuarine zones.[303] Furthermore, Commission Shift understands (e)(2)(A) was removed as the Commission no longer has jurisdiction over such discharges. (If that is not the case, then Commission Shift opposes removing regulations protecting waters from discharges.) Commission Shift requests confirmation that the Commission's deletions in 3.8(e)(2)(D)[304] regarding the disposal of burned waste and edible waste into the ocean is an actual prohibition of this activity.

§4.197. Consistency with the Texas Coastal Management Program. Page 124

This section appears largely unchanged from the original rule and the May draft, except regulations regarding discharges has been removed (specifically 3.8(j)(1)(B) and 3.8(j)(3)(B)). The summary to the informal draft did not provide a rationale for this change, but Commission Shift believes this may be in recognition of the fact that many discharge permits previously issued by the RRC now fall under the TCEQ's jurisdiction. However, some discharges remain under the RRC's jurisdiction, and Clean Water Act Section 401 certifications continue to require the Commission to consider the effects of discharges from oil and gas activities. Commission Shift requests a rationale

[303] Compare 3.8(e)(2)(E) ("Drilling muds which contain oil shall be transported to shore or a designated area for disposal. Only oil-free cutting and fluids from mud systems may be disposed of into Texas offshore and adjacent estuarine zones at or near the surface.") with § 4.196.

[304] This section stated: "Solid combustible waste may be burned and the ashes may be disposed of into Texas offshore and adjacent estuarine zones. Solid wastes such as cans, bottles, or any form of trash must be transported to shore in appropriate containers. Edible garbage, which may be consumed by aquatic life without harm, may be disposed of into Texas offshore and adjacent estuarine zones."

for why these sections were omitted from this draft. Whatever the reason, in making this amendment (and this rulemaking in general), the Commission must explain how this proposed rule amendment is consistent with the Coastal Management Plan, as required by 31 TAC 29.11(c).

Commission Shift notes that the language about large discharges into tidal waters found in the current rule at 3.8(j)(3)(B) and what would have been 4.197(c)(2) for “thresholds for referral” for a coastal consistency determination[305] has been removed in this draft. Commission Shift requests a rationale for why the following discharges will no longer be referrable to the General Land Office for review to determine consistency with the Coastal Management Plan:

> for discharges, any permit to discharge oil and gas waste consisting, in whole or in part, of produced waters into tidally influenced waters at a rate equal to or greater than 100,000 gallons per day.

By removing this language, such discharges will no longer be deemed to exceed thresholds for referral; in other words—as Commission Shift understands it—the General Land Office will not be able to review the Commission’s determination on whether a permit is consistent with the state’s coastal management plan, which is the federally-approved plan intended to “ensure the long-term environmental and economic health of the Texas coast.”[306] Again, the Commission must explain how this proposed rule amendment is consistent with the CMP.

The Commission should also take the opportunity to strengthen the water-protection rules in this section. As drafted, section 4.197(a)(1)(A) would allow non-commercial oil and gas waste disposal pits, temporary pits, waste separation facilities, landfarms, and recycling facilities to be built inside the coastal zone.[307] The only prohibitions are for "commercial” oil and gas “disposal pits”—i.e.: "pit[s] used for the ***permanent interment*** of oil and gas waste”[308] that are located in commercial facilities,[309] which is not defined based on level of hazard or volume of waste.

This leaves a lot of room for waste to be managed within the coastal zone. Nearby states like Louisiana have been prohibiting production pits from being constructed in the coastal zone since June 1989.[310] While the Commission must perform a “consistency review” of any permit that’s

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[305] (c) begins by stating “Any Commission action that is not identified in this subsection shall be deemed not to exceed thresholds for referral for purposes of the [Coastal Management Plan] CMP rules.”
[306] https://www.glo.texas.gov/coast/grant-projects/cmp/index.html
[307] 4.197(a)(1)(A) is as follows:
(a) Applicability. The provisions of this section apply only to activities that occur in the coastal zone and that are subject to the CMP rules.
(1) Disposal of oil and gas waste in pits. The following provisions apply to oil and gas waste disposal pits located in the coastal zone.
(A) No commercial oil and gas waste disposal pit constructed after October 25, 1995, shall be located in any CNRA.
(B) All oil and gas waste disposal pits shall be designed to prevent releases of pollutants that adversely affect coastal waters or critical areas.
[308] 4.110(31) (defining disposal pit).
[309] 4.110(21) (defining commercial facility). For Commission Shift’s arguments why “commercial” is too narrowly defined, see comments on 4.110 above.
[310] LAC 303.K.1. Except for exempt pits, no production pit may be constructed in the coastal area after June 30, 1989.

requested in the coastal zone, as the rule is currently drafted it appears that only pits larger than 5 acres are subject to review of the commission's decision as to whether they are consistent with the state's plan for coastal management and protection. As the severity and frequency of severe storms increase, our coastal communities and the facilities built among them become more vulnerable. Open waste pits and waste operations, whether temporary or not, and whether commercial or not, are sources of compounding risk that Texas communities should be protected from with forward-thinking regulations.

SUBCHAPTER B COMMERCIAL RECYCLING

Safe, responsible recycling of waste should be part of Texas's toolkit to manage oil and gas waste. Disposal should not be the preferential option. But to be viable options, recycling operations must ensure that public health, safety, and the environment is protected.

Many of the same concerns Commission Shift expressed in comments on Subchapter A are relevant to the proposed rulemaking in Subchapter B; these general topics are summarized here before specific section-by-section feedback that focuses on Divisions 1, 5, 6, and 7.

Concerns related to Subchapter A comments:

Given the similarities of 4.101 and 4.201, the comments on 4.101 apply to 4.201 as well.

The same concerns Commission Shift expressed in Subchapter A about the lack of meaningful public participation allowed for in the permitting process also apply to Subchapter B (including in § 4.207), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics.

The same concerns Commission Shift expressed in Subchapter A about the lack of meaningful public participation during permit renewals, amendments and transfers also apply to Subchapter B (including in §§ 4.209, 4.224, 4.261) and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics (see § 4.122).

The same concerns Commission Shift expressed in Subchapter A about modifications, suspensions, and transfers also apply to Subchapter B (including in § 4.210); thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics (see § 4.123).

The same concerns Commission Shift expressed in Subchapter A about penalties and the lack of meaningful enforcement also apply to Subchapter B (including in § 4.211); thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics (see § 4.107).

The same concerns Commission Shift expressed in Subchapter A about: (1) the need for the Commission to have a mechanism to deny incomplete applications that do not meet the Commission's minimum standards (without allowing applicants to waste Commission resources in a hearing or for the technical staff's decision to be overruled by Commissioners); and (2) the need for a mechanism to prevent applicants from continuing to modify their applications even during the hearing stage; also apply to Subchapter B (including in §§ 4.212, 4.230), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics.

The same concerns Commission Shift expressed in Subchapter A about the need for: (1) a community relations/public information plan; (2) site-specific inspection forms; and (3) a review of prior applications and permits; also applies to Subchapter B (including in §§ 4.214, 4.234, 4.250,

4.251, 4.266), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics (§§ 4.124, 4.128, 4.142).

The same concerns Commission Shift expressed in Subchapter A about the need for appropriate setbacks and location considerations also apply to Subchapter B (including §§ 4.219, 4.240, 4.256, 4.264, 4.278, 4.280), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics (§ 4.150).

The same concerns Commission Shift expressed in Subchapter A about the length of the notice period, who gets notice and how also apply to Subchapter B (including §§ 4.238, 4.254, 4.270, 4.272, 4.286), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics.

The same concerns Commission Shift expressed in Subchapter A about monitoring for leakage and leakage rates also apply to Subchapter B (including §§ 4.275, 4.291), and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on these topics.

1. DIVISION 1. GENERAL; DEFINITIONS

§4.202. Applicability and Exclusions. Page 127.

Commission Shift objects to the grandfathering of permits issued prior to the current rulemaking (section g). The Commission should set a deadline by which all operations permitted under the previous rules must come into compliance. To ensure that human and environmental health is protected, Commission should retain the power to make changes to these permits even before the deadline is reached.

§4.204. Definitions. Page 129.

Commission Shift recognizes that some changes are dictated by statute, like the definition of “drill cuttings.” Others are not defined in the statutes and thus are left to the Commission’s discretion, like the definition of “legitimate commercial product.”[311] The proposal defines this as “[a] product of a type customarily sold to the general public for a specific use and for which there is a demonstrated commercial market.” 4.204(8). But this appears to be simply the definition of ***a*** commercial product[312]—not necessarily a ***legitimate*** one.

The Commission has been given the opportunity to define the full term “legitimate commercial product”—it should use this opportunity to incorporate the fact that a legitimate commercial product

[311] Tex. Nat. Res. Code § 123.0015(b).
[312] With plenty of vague language ripe for exploitation to allow for products that do not have any long-term viability and have not been fully tested.

is also one that does not risk harming human health and public safety or environmental receptors, that has been fully tested, and that has long-term viability.[313]

Incorporating the concept of how a commercial product must be (at a minimum) not harmful to be actually "legitimate" makes sense because the term "legitimate commercial product" is used to define when use of drill cuttings is "beneficial." Tex. Nat. Res. Code § 123.0015(a) states:

> (a) For the purposes of this chapter, **a use of drill cuttings is considered to be beneficial** if the cuttings are used:
>
> (1) in the construction of oil and gas lease pads or oil and gas lease roads; or
>
> (2) as part of a legitimate commercial product.

The Commission should thus revise the definition of "legitimate commercial product" to reflect the fact that this term must also be able to describe when a use of drill cuttings is actually "beneficial."

In addition, the terms "complete application" and "administratively complete" appear to be relevant to Subchapter A as well. For consistency, the Commission should consider moving those definitions to Subchapter A instead (understanding that the definitions in Subchapter A also apply to Subchapter B).

§4.205. Exceptions. Page 132.

Commission Shift is concerned by the languages in this section on exceptions, and in particular the language in (c)(1). It appears that the Commission is intending to incorporate legislation codified in Texas Natural Resources Code § 122.004(f), which states that "An application requesting a variance from the standards adopted under this section must be evaluated and determined to be substantially similar to previous variances approved by the commission."

On its face, the language in in 122.004 states that one element of the Commission's review is to determine whether the exception is "substantially similar" to previous exceptions. While this may be a ***necessary*** finding, it is not ***sufficient*** to warrant a variance—and the statutory language reflects this. Over and over again the Legislature has directed the Commission to always consider a ***second*** element—that the proposed operation is protective of public health and safety and the environment.[314] In other words, applicants must prove both elements ***separately***.

Simply because a requested variance is "substantially similar" to a previously-granted variance does not make it safe. The Commission should rewrite section (c)(1) to clarify that showing that an exception is "substantially similar" to one granted previously is ***not*** the same as showing that it is also sufficiently protective of health and the environment. Intervening events or data may show that

[313] In other words, a legitimate product should be good.

[314] For example, in the context of drill cutting reuse, Tex. Nat. Res. § 123.005 (b) states that "A rule adopted by the commission under this chapter or a permit or order issued by the commission regarding the treatment and beneficial use of drill cuttings must be at least as protective of public health, public safety, and the environment as a rule, permit, or order, respectively, adopted or issued by the commission regarding the disposal of drill cuttings."

the previously granted exception is no longer protective of health and the environment---or the specific circumstances of the previously approved variance may not be the same as in the application under review. Applicants should be required to affirmatively prove an exception is protective, and not simply rely on asserting that it is “substantially similar” to one granted in the past.

The same concerns Commission Shift expressed about the exceptions provided for in Subchapter A § 4.109 also apply to Subchapter B, and thus Commission Shift respectfully refers the Commission to its comments on Subchapter A on this topic.

2. DIVISION 2. REQUIREMENTS FOR ON-LEASE COMMERCIAL SOLID OIL AND GAS WASTE RECYCLING

§4.214. Minimum Design and Construction Information.

There does not appear to be an explicit requirement that applications include a narrative description of all of the equipment in the facility diagram and the application. Especially when recycling practices can be wide-ranging, it would help Commission staff and the public to have a narrative description of the operations in every application (in this Division and all others).

The application should also not simply describe the type and thickness of liners used, but the applicant should provide manufacturer specifications that show that the liner will be compatible with the waste placed in it.

3. DIVISION 3. REQUIREMENTS FOR OFF-LEASE OR CENTRALIZED COMMERCIAL SOLID OIL AND 21 GAS WASTE RECYCLING.

§4.232 Minimum Siting Information. Page 15

Commission Shift is alarmed that the siting information required to be in an application for off-lease or centralized commercial solid oil and gas waste recycling is less detailed than the information required for operations in Subchapter A. In addition, more discretion is left to the operator to choose a source of this information (e.g., the source of flood plain information and characterization of subsurface water). The Commission could incorporate by reference Subchapter A’s methods for acceptable means to gather this information (much of which is in § 4.115 and § 4.131), or repeat the information here—in any event it is relevant to both disposal and recycling operations.

These deficiencies are repeated in Division 4 (§4.248) & 5 (§4.264)’s requirements for stationary commercial solid oil and gas waste recycling facilities, and should be remedied there as well.

§4.240 Minimum Design and Construction Information. Page 156.

Commission Shift appreciates that for off-lease commercial solid recycling the Commission explicitly states that it will consider distance to surface water “wet or dry.” This distance should be

relevant for every application and should be explicitly included for Subchapter A operations (although Commission Shift understands it is implicit in Subchapter A's definition as well). Waterbodies with intermittent flow can be significant conduits for pollution during wet seasons, even if they are dry at other times. The soils associated with such waterbodies are often more permeable, increasing the risk of soil and groundwater contamination from waste operations.

§4.241 Minimum Permit Provisions for Design and Construction. Page 19

For sections 4.241, 4.257, Commission Shift has similar concerns as those expressed in § 4.232 about how data is collected for the installation of monitoring wells and the assessment of whether groundwater is present. Subchapter A's provisions on soil investigations and monitoring well installation should be referenced or incorporated into Subchapter B. In addition, the list of parameters that groundwater wells must be sampled for in § 4.259 should include at least toluene, ethylbenzene, and xylene (a complete BTEX suite for the same reasons as discussed in Commission Shift's comments on Subchapter A) metals, and pH. Commission Shift also questions why this list of sampling parameters does not apply to all operations under Subchapter B.

4. DIVISION 5. REQUIREMENTS FOR OFF-LEASE COMMERCIAL RECYCLING OF FLUID.

§4.263 Minimum Engineering and Geologic Information. Page 34

In this section and related ones about the minimum engineering and geologic information that is necessary, Commission Shift notes that the information required to investigate the subsurface geology is much less detailed than the information required for operations in Subchapter A. In addition, more discretion is left to the operator to choose a source of this information—e.g., subsection (b) allows site characterization information to come from "available information"—not necessarily site-specific investigations. For all the reasons Commission Shift explained in Subchapter A, the only way to fully characterize the subsurface and identify subsurface water (which the Commission has a duty to protect) is with site-specific investigations. Subsection (b) should be revised to require this information before an application can be approved. Likewise, subsection (c) provides very little detail on how "background" is to be determined, in contrast to the detail in Subchapter A. Commission Shift raises the same concerns with respect to § 4.279, a similar section.

§4.266 Minimum Design and Construction Information. Page 35

The level of detail on pit construction that the Commission has proposed in § 4.266 (and § 4.282) in many ways exceeds the level of detail provided for in Subchapter A. Many of Commission Shift's recommendations appear to have been incorporated into this section—for example the requirements

that quality assurance / quality control testing reports be obtained[315]; that liners should be anchored into compacted earth; that very specific details have been given on the liner type, thickness, and leak detection system construction. Schedule B produced water recycling pits handle similar wastes with similar durations; the safeguards of Subchapter B should apply to these pits as well.

Commission Shift reiterates its concerns about allowable leakage rates that it articulated in its comments on Subchapter A. Those same concerns apply equally to the commercial recycling facilities in Subchapter B as well.[316]

§4.268.Minimum Monitoring Information. Page 187.

Commission Shift notes that in this section there is not an explicit requirement for monitoring leakage volume in the double-lined leak detection systems that may be onsite; such monitoring should be required. The Commission provided detailed instructions in Subchapter A on how to monitor leak detection systems; it should consider being similarly detailed in Subchapter B.

§4.272 Minimum Permit Provisions for Siting. Page 43

Commission Shift strongly objects to the new last sentence that has been added to § 4.272(a) (and § 4.288(a)) as follows:

> §4.272(a) A permit for off-lease commercial recycling of fluid may be issued only if the Director [~~director~~] or the Commission determines that the facility is to be located in an area where there is no unreasonable risk of pollution or threat to public health or safety. The Director will presume that an application meeting the requirements of §4.264(a) of this title (relating to Minimum Siting Information) does not present an unreasonable risk of pollution or threat to public health or safety with regard to siting, unless extraordinary circumstances indicate otherwise.[317]

Asking the Commission to disregard a risk of pollution "unless ***extraordinary*** circumstances" are shown is a dangerously high bar to put between the Commission and its duty to protect public health and safety and the environment. It will be virtually impossible for the public to surmount. It will force the Commission to disregard information that indicates that a site creates a risk of pollution or threat to public health or safety—only "extraordinary" information or circumstances would suffice. This standard is a risk to human and environmental health all its own.

Commission Shift sees no statutory mandate for this language to be included—the notice of informal comment disclosed House Bill 3516 as the legislative driver for the changes to Divisions 5 and 6—yet H.B. 3516 has no such language in it.[318] Indeed, the preamble to the August 2024 proposed rule no longer cites H.B. 3516 as rationale for this change and Commission Shift has been

[315] Though these should also be reported to the Commission.
[316] E.g., see 4.266(a)(5)(B).
[317] The problematic last sentence of § 4.288(a) is identical to that of § 4.272(a).
[318] Ex. 44 (Enrolled version of H.B. 3516, 87th Legislature, Regular Session).

unable to find this language in any other law or statute. The Commission therefore need not include it. The last sentence of (a) should be omitted.

5. DIVISION 7. BENEFICIAL USE OF DRILL CUTTINGS.

§4.301. Activities Related to the Treatment and Recycling for Beneficial Use of Drill Cuttings. Page 67

This Division envisions a permit process to allow drill cuttings to be spread across all county roads, all oil and gas lease roads, and to be included in construction aggregate, fill material and concrete (and more). The potential for widespread pollution and harm to human health and public safety warrants much more detailed regulations and much more scrutiny than it has received, tucked in as last pages in a massive rewrite of Chapter 4. The minimal guidelines in this Division puts Texans at risk—the Commission needs to go back to the drawing board when it comes to regulating the use of drill cuttings and bring the public to the stakeholder table with industry.[319]

Commission Shift recognizes that the Legislature has directed the Commission to draft rules for the use of drill cuttings (i.e., this new Division), but it has been given significant leeway in the rules that can be set. The Commission appears to only be limited by the constraints that:[320]

> A rule . . . regarding the treatment and beneficial use of drill cuttings ***must be at least as protective*** of public health, public safety, and the environment as a rule . . . adopted . . . by the commission ***regarding the disposal of drill cuttings***.
>
> and[321]
>
> The commission by rule shall adopt criteria for beneficial uses to ensure that a beneficial use of recycled drill cuttings under this chapter is ***at least as protective*** of public health, public safety, and the environment ***as the use of an equivalent product made without recycled drill cuttings***.

The Commission must thus take into consideration the protections provided when disposing of drill cuttings and the impacts of equivalent products made ***without*** drill cuttings. An equivalent product made without recycled drill cuttings would need to meet health based standards, and be safe for the consumer and downstream user. The statute frees the Commission to enact standards that are more protective—which it must do. Drill cuttings as defined are not simply geologic material removed from the wellbore, but may include residual additives used in drilling muds (oil-based, water-based, and synthetic-based) cleaned out of the wellbore, including potentially hazardous materials. [322] These rules do not define how much, if any, pretreatment of drill cuttings must be done

[319] Ex. 14.03 Glass Report.
[320] Tex. Nat. Res. Code § 123.005(b).
[321] Tex. Nat. Res. Code § 123.0015 (c).
[322] "Drill cuttings" is defined by statute to mean: "bits of rock or soil cut from a subsurface formation by a drill bit during the process of drilling an oil or gas well and lifted to the surface by means of the circulation of drilling mud. The term includes any associated sand, silt, drilling fluid, spent completion fluid, workover fluid, debris, water, brine, oil scum, paraffin, or other material cleaned out of the wellbore." Tex. Nat. Res. Code § 123.001(1).
"Treatment" means "a manufacturing, mechanical, thermal, or chemical process other than sizing, shaping, diluting, or sorting." Tex. Nat. Res. Code § 123.001(4).

before the material is an appropriate ingredient—and whether that pre-treatment would be done by the generator at the wellpad or at a Division 3 or 4 facility conducting Division 7 operations. Rules establishing minimum pre-treatment standards could help screen out cuttings that are likely too dirty for treatment and reuse.

The rule also assumes all drill cuttings are fungible across the state irrespective of the method of drilling and the formations drilled. The rule must acknowledge the expected wide variation in characteristics of each incoming load of drill cuttings depending on type of well, mud additives, and other considerations. Most oil and gas development since 2000 is conducted using unconventional oil and gas development methods, characterized by the combination of horizontal drilling and hydraulic fracturing. Compared to vertical bores, horizontal bores typically require drilling muds with additional contaminants of concern, especially as they pass through shale formations. Organic shales are commonly enriched with heavy metals (i.e. arsenic, barium, vanadium, and uranium) compared to other sedimentary rock. In addition, on average NORM levels are known to be higher in horizontal segments as opposed to vertical segments (due to the extended length of the horizontal hole in those formations), increasing the risk from NORM beyond what the Commission has likely had to account for in past decades.[323] Yet the proposed rules do not distinguish between vertical and horizontal cuttings or any other material with inherently different pollutant loadings.

As Subchapter B proposes, drill cuttings that are disposed of are typically placed in consolidated privately owned locations, becoming at most point source reservoirs of pollution—they are buried in a landfill or potentially landfarmed in a contained, monitored space. However, this Division envisions the use of cuttings publicly—along oil and gas lease roads (a use named in the statute) ***and*** along county roads—which is not a use that the statute requires the Commission to regulate or allow. There are over 300,000 lane-miles of certified county roads in Texas, according to The County Information Program,[324] or 47% of all roads in the state, according to TxDOT and 2017 data from the Federal Highway Administration.[325] Division 7 creates the framework for these roads to become an immense network of public roads that are potentially new sources of risk to public health and the environment. The rule does not set clear methods to guarantee protection of public health, public safety, worker health and safety, and the environment, and thus should not allow drill-cutting reuse on county roads. This is especially concerning to Commission Shift supporters who live near county roads that are unpaved and are candidates for Division 7 drill cuttings.[326]

[323] Ex. 14.03 Glass Report at 2 (pdf page 5).
[324] Ex. 45 Texas Counties: Lane Miles, Certified County Roads (Data source: Texas Department of Transportation. Annual Roadway Inventory Reports. (2022)) https://txcip.org/tac/census/morecountyinfo.php?MORE=1079 Lane-miles are determined by multiplying centerline miles by the road's number of lanes so better capture the area of the roadway as compared to centerline miles, which are the total length of a road or road segment.
[325] Ex. 46 The State of Highways in Texas. At 3 https://ftp.txdot.gov/pub/txdot-info/tpp/2050/meeting-materials/round-02/highway-intro.pdf
[326] See e.g., Ex. 7.04 Reeder Declaration; Ex. 9.01 Todd Declaration.

Section (b) also envisions the use of drill cuttings ""as a concrete bulking agent, oil and gas waste disposal pit cover or capping material, treated aggregate, closure or backfill material, berm material, or construction fill." Several of these categories of products could be used all over the state—like concrete bulking agent, treated aggregate, and construction fill.

Commission Shift strongly objects to rules being drafted to allow uses that are not envisioned in the statute. The Commission should disclose which entities are behind the push to allow drill cuttings on county roads and "as a concrete bulking agent, oil and gas waste disposal pit cover or capping material, treated aggregate, closure or backfill material, berm material, or construction fill."

Thus at a minimum, section (b) should be modified to restrict the applicable beneficial reuse to oil and gas roads that are not also public county roads and restructured so that requirements (3)(A) and (3)(B) must be demonstrated for all uses.

> (b) The Commission may approve a permit for the treatment and recycling for beneficial use of drill cuttings if:
>
> (1) the applicant can demonstrate that the product:
>
> (A) meets the engineering and environmental standards for the proposed use; and
>
> (B) is at least as protective of public health, public safety, and the environment as the use of an equivalent product made without treated drill;
>
> (2) and the treated drill cuttings are used:
>
> (A) in a legitimate commercial product for the construction of oil and gas lease pads or oil and gas lease roads that are not also county roads;
>
> (B) in a legitimate commercial product for the construction of county roads; or
>
> (C) in a legitimate commercial product used as a concrete bulking agent, oil and gas waste disposal pit cover or capping material, treated aggregate, closure or backfill material, berm material, or construction fill.

§4.302. Additional Permit Requirements for Activities Related to the Treatment and Recycling for Beneficial Use of Drill Cuttings. Page 67

Section (a) gives two examples of how an applicant could show that there is a demonstrated commercial market for treated drill cuttings:

> (a) An applicant for a permit to treat and recycle drill cuttings for beneficial use shall show that there is a demonstrated commercial market for the treated drill cuttings. The applicant may make this showing by providing:
>
> (1) evidence that the same product made with drill cuttings or a product that is substantially similar is commonly used in the area where the product is created
>
> (2) evidence of actual commitments from customers who intend to use the product made with drill cuttings, including information regarding the volume of product the customers intend to use annually; or
>
> (3) other credible and verifiable means consistent with the rules in this chapter.

As an initial matter, Commission Shift notes that the Commission has substituted the word "demonstrated" for "legitimate" as what must be shown for a commercial product to be legitimate.

“Demonstrated” is not necessarily a synonym for “legitimate,” as Commission Shift explained in its comments on § 4.204. In addition “evidence” is not defined—as written it could simply be an email chain—which the applicant could argue is sufficient to show a permit is merited.

As for subsection (a)(1), “evidence that the same product made with drill cuttings ***or a product that is substantially similar*** is commonly used ***in the area where the product is created*** “ is not relevant to whether there is a commercial market for drill cuttings in the location **where they are to be used.** This doesn’t even require that the area producing the product is using drill cuttings at all—it just has to be a “substantially similar product,” which is undefined, and “commonly” used, which is also undefined. Under this defective definition, evidence that roadbed material is being made and used in a location halfway around the world might suffice even if that location has no human health or environmental standards in place at all. The Commission should not have to accept such evidence. Subsection (a)(1) doesn’t even require “commercial use”—it could be still in a research phase, donated, or even dumped. Worse, section (a)(3) would expand the scope of (a)(1) as it would allow evidence that is “consistent with the rules in this chapter” . . . which includes (a)(1).

In short, section (a)(1) should be removed in its entirety.

In addition, (a) references the need for a permit to treat drill cuttings, but then gives no clear explanation for how that permit would be obtained, the public’s ability to participate, and what it would involve. Presumably a Division 3 or 4 permit would be needed for the facility (with notice and opportunity for protest allowed), but the public should also be able to weigh in on whether the treatment process itself is appropriate and will keep nearby receptors safe.

It appears that large portions of this Division are simply cut and paste from others in Subchapter B without careful consideration whether those borrowed rules apply to and are sufficient for Division 7. As for section (b), Commission Shift is concerned that only a single “trial run” would be required to demonstrate the suitability of a drill cuttings-based product. Drill cuttings have been defined to be a product that contains “any wellbore material”—many experiments should be run using a variety of sources of drill cuttings feedstock in order to capture influence from a wider range of potential contaminants. A single trial run is also insufficient given the widespread intended application of this product—scattered on roads and in aggregate across the state—and thus this section should be altered accordingly. Requiring on-going sampling of the product (as contemplated in (c)(1)(B)) during its production is not the same thing as ensuring that the production process consistently produces material that will not put public health, safety, and the environment at risk.

This section also references ASTM standards that are behind paywalls. As Commission Shift has pointed out in comments on previous sections, the public will not be able to provide meaningful feedback unless the Commission provides summaries of these standards, including what these standards are suitable for (and not suitable for).

As for subsection (c), it only requires the reporting of lab analyses and a "letter of authority" application for materials that are in category § 4.130(b)(3). These requirements (c)(2)(D) and (c)(2)(E) must also be requirements for use of drill cuttings on roads (i.e., added as (b)(2)(D) and (b)(2)(E)). There is no legitimate reason for the distinction. As written, the rule only requires the reporting of lab tests and submittal of an application for a permit without an obvious public notice and participation component. The rule does not include a clear path for the Commission and the public to monitor the efficacy of the program through its operational lifespan. In addition, the "letter of authority" process should include the opportunity for the public near the site where this material is to be used to weigh in on the application, akin to the notice and protest provisions elsewhere in these rules. Commission Shift is particularly concerned about the risks (c)(2)(E)(v) reveals: this section requires consent only from the company officer of a concrete batch plant. The purchaser of these materials would be unaware that the materials might contain elevated contaminants, and the Commission would have no way to track the ultimate disposition of these wastes in the event remediation becomes necessary.

Expert Report of Marc Glass

To better understand whether Division 7 is adequate to safeguard public health and the environment, Commission Shift sought the advice of an expert in oil and gas waste, remediation, and NORM. That expert report is attached as Exhibit 14.03, and Commission Shift incorporates it in full. In short, however, it concludes that if finalized as proposed, Division 7's rules "will fail to prevent pollution of the waters of the state and will endanger public health."[327]

The report concludes that:[328]

> In order to protect against pollution, the Commission must withdraw its Proposed Rulemaking. Any revised proposed rulemaking on this topic would need to:
>
> 1. Require that all treated batches are tested for the parameters listed in both 16 TAC §4.302(c)(1)- "Parameters and Limitations for Roadbase," and 16 TAC §4.302(c)(2) – "Parameters And Limitations For Reusable Product,". The Rulemaking provides no basis for why one beneficial use warrants different testing parameters and limits than

[327] Ex. 14.03 Glass Report at 2-3 (pdf 5-6) ("As drafted, the Amendments will allow pollution of surface or subsurface water and run contrary to the prohibitions of such pollution in Texas Natural Resources Code, §91.101(a) ("the commission shall adopt and enforce rules and orders". . . "[t]o prevent pollution of surface water or subsurface water in the state"); Texas Water Code, §26.131 (RRC is "solely responsible for the control and disposition of waste and the abatement and prevention of pollution of surface and subsurface water"). As drafted, the Proposed Rulemaking also lacks the necessary monitoring requirements to evaluate compliance with Texas Water Code, §26.131.")

[328] Ex. 14.03 Glass Report. Note that references to "Sections" in the numbered list refer to sections within the Glass Report.

another use, so a single list for all beneficial use batches should be used. See Section 3.

2. Add analysis for all of the NORM isotopes from the Uranium-238 and Thorium-232 decay chains to 16 TAC §4.302(c)(1) and 16 TAC §4.302(c)(2). See Section 4.

3. Amend the Rulemaking to have NORM limits for beneficial use drill cuttings that do not exceed 5 pCi/g above the local background surface soil conditions for combined Radium 226 and Radium 228 where any beneficial use drill cutting product is to be used. See Section 4.

4. Test radionuclide activities using SW-846 Method 901.1M, consistent with the Ohio Department of Health (ODH,2019) NORM testing protocol, utilizing a high-purity Germanium detection and minimum 28-day ingrowth period. To determine the stability of radionuclides and the potential for NORM from drill cuttings to leach from where drill cuttings for beneficial use are placed, additional testing and analysis is also likely warranted. Beyond the gamma emitting radionuclides likely to be present in drill cuttings, assessment of the human health risks associated with drill cuttings should include isotopic analysis of all environmentally persistent radionuclides including pure alpha emitters (Uranium 234, Thorium 230, and Polonium 210) as well as the low-level ß emitter (210Pb). (Eitrheim et al, 2016). See Section 4 and 6.

5. Require that the LEAF framework, TCLP (1311) and SPLP (1312) methods are used to evaluate Radium 226 and all other potentially soluble radionuclides from the Uranium and Thorium decay chains prior to public or private release of drill cuttings for beneficial reuse to confirm that the new treated product is not a hazardous waste (16 TAC §4.208(a)(2)). It is noted that these leaching tests are meant to simulate the conditions of leaching potential of waste placed in a landfill setting or exposed to intense weathering processes. However, these tests do not necessarily represent additional forces that can expedite and exacerbate the leaching process, such as chemical forces, like brine, fuel, solvent, or other chemical spills, or mechanical forces such as grinding, sawing, cutting, abrading, milling, crushing, etc.. that are applicable to the beneficial uses contemplated by the Rulemaking. Therefore it is essential that applicants be required to test the materials under the conditions expected for each beneficial use. See Section 4 and 5.

6. Amend the Rulemaking to account for emanation of Radon 222 from material in beneficial reuse placements. The Commission has not addressed the emanation of Radon gas, or the human exposure to its radioactive decay products, from treated drill cuttings that are permitted for reuse. Since according to (definition of NORM 16 TAC §4.208(a)(3)) there may be up to 30 pCi/g of either or BOTH Radon 226 and Radon 228, both of which include Radon 222 (Radon gas) in their radioactive decay chains, emanation of Radon 222 will occur. Once released to the atmosphere in gaseous form, Radon 222 will migrate as any gas in the environment and continue its radioactive decay. See Section 4.

7. Expand the testing requirements in 16 TAC §4.302(c)(1) and 16 TAC §4.302(c)(2) to include additional parameters to include the target analyte lists for semi-volatile organic compounds by M8270, low level polycyclic aromatic compounds (PAHs) by M8270 SIM, the full target analyte list including the 22 heavy metals rather than the truncated lists 16 TAC §4.302(c)(1) and 16 TAC §4.302(c)(2) so that contaminant concentrations in beneficial use materials that contain drill cuttings can be evaluated against human and ecological-health based screening levels. See Section 5.

8. Assessment of drill cutting suitability for use in beneficial products should be conducted in accordance with human and ecological health risk-based methods and

criteria and not solely hazardous waste disposal criteria. Revise the limitations provided in Figure 1 and Figure 2 for chemical parameters to align with Texas human and ecological health-based standards, such as the Texas Commission on Environmental Quality (TCEQ), Texas Risk Reduction Program (TRRP), Tier 1 Protective Concentration Levels (PCLs) and Human Health and Aquatic Life Surface Water Risk Based Exposure Levels (RBELSs). See Section 5.

9. Amend the Rulemaking to ensure that financial assurance is available if material in beneficial reuse is released to the environment and requires a response or corrective actions. See Section 5.

10. Conduct a risk assessment that considers plausible current and future exposure to all contaminants reasonably contained in treated drill cuttings. See Section 8.

The report highlights deficiencies in the constituents tested for, even though they are potentially present (e.g., PFAS, or the full suite of potential contaminants like metals, semivolatiles, bromides, NORM).[329] It explains how the proposed rule even lacks testing for many of the metals that TxDOT recommends be analyzed before recycled materials are used in construction, as part of TxDOT's DMS-11000 (Table 1),[330] as well as testing required by other states. It also highlights deficiencies in the testing methods used given the ultimate disposition of these materials will be exposed to the elements,[331] not trapped inside a landfill. While TCLP and SPLP are intended to replicate landfill conditions, EPA's Method 1313 (EPA Leaching Environmental Assessment Framework ("LEAF")) evaluates a wider range of environmental conditions. The LEAF framework uses four different tests to account for variation in the major factors known to affect leaching behavior (i.e. pH, liquid/solid ratio, rainfall infiltration rate, material form) whereas the SPLP and TCLP methods only contemplate single scenarios, respectively. LEAF is also the method that the state transportation department (TxDOT) used in its on-going investigation into the suitability of drill cuttings for roadbase applications.[332]

NORM is especially of concern given that these drill cuttings will be introduced to the publicly traveled environment instead of contained within a disposal site. Also concerning is that the Commission's Proposed Rulemaking does not cite or rely on any scientific studies or otherwise to

[329] For example, "Figure 16 TAC §4.243 does not include many parameters of environmental concern expected to be in drill cuttings such as: chloride, bromide, additional heavy metals, additional VOCs, additional SVOCs including polycyclic aromatic hydrocarbons (PAHs), and any combination of radionuclides from the Uranium 238 and Thorium 232 decay chains (Costa et al, 2023; Kazamis and Zorpas, 2021; Nowak et al, 2020; Gray, 1993; USGS, 2019; PADEP, 2016). To prevent pollution, the Commission must require these parameters be analyzed in the final treated "beneficial-use" products prior to release." Ex. 14.03 Glass Report.

[330] Ex. 46.01 Evaluating and Using Nonhazardous Recyclable Materials Guidelines: DMS-11000 (Table 1) (TxDOT) (October 2008) https://ftp.dot.state.tx.us/pub/txdot-info/cst/DMS/11000_series/pdfs/11000.pdf

[331] E.g., Including rain, snow, temperature extremes, vehicular traffic, deicing chemicals, etc.

[332] Ex. 46.02 TxDOT PIR (University of Texas at Austin Center for Transportation Research (UTA-CTR). 2024. Environmentally Sustainable Solutions to Recycle Oil Cuttings). As the Glass Report describes TxDOT's study, "that study is not complete, is not a risk assessment, does not examine the full range of uses contemplated by the rule, does not present any testing or analysis for NORM, and looks at only two sites in Texas even though it is common knowledge that drill cuttings differ greatly across sites and even day-to-day. For example, what works in East Texas, won't work in the Permian Basis." Ex. 14.03 Glass Report at 24 (pdf pg 27).

establish the expected levels of radioactivity in this media, neither as part of the published Proposed Rule nor in response to Public Information Act Requests. The only data cited by the Commission as to establishing background concentrations of radium and thorium decay chain compounds (including but not limited to radium 226 and radium 228) was results of field studies of NORM in equipment conducted from December 1999 to mid-March 2000.[333] But this data was collected prior to the shale gas revolution, at a time when most wells were vertical and did not include the long horizontal segments typical of exploration and production today that are well known to have higher radioactivity levels than vertical segments.[334] Lacking data to clearly justify use of a different value, the Commission should presume soil background for combined Radium 226 and Radium 228 to be 2pCi/g, as the default value used by other significant gas producing states such as Ohio

In the end, because beneficial use products that contain drill cuttings that will be ingredients in construction products that people are exposed to, the Commission must amend its Rulemaking so that the concentrations of contaminants in drill cuttings can be compared to human-health risk benchmarks. In its Rulemaking, the Commission proposes to compare testing results to hazardous waste disposal criteria under the U.S. Resource Conservation and Recovery Act (RCRA).

The RCRA Hazardous waste criteria are appropriate for making landfill disposal decisions, where the question is the level of protectiveness provided by a solid (industrial and municipal) waste/non-hazardous (RCRA Subtitle D) landfill vs. a hazardous waste (RCRA Subtitle C) landfill. Beneficial use products will not be placed into landfills, they will be placed in roads, concrete, and fill material directly in the human environment, without any of the human health and environmental exposure protections provided by landfills (specific siting requirements prohibiting construction in environmentally sensitive areas, use of liners to contain waste and collect and treat liquid leachate; environmental monitoring systems to protect groundwater and gaseous emissions). Drill cutting contaminant concentrations should appropriately be compared to human health benchmarks, such as those provided under the Texas Risk Reduction Program Protective Concentration Levels.

Finally, the Rulemaking appears to lack foundation in an exposure risk assessment that evaluates potential threats to public health and safety.[335] Robust risk assessments are iterative processes that include opportunities for public comment and peer review. And even though the Commission has not cited a risk assessment as basis for this rule, other entities have conducted risk assessments

[333] https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/environmental-permit-types/norm-waste/norm-field-measurements/

[334] See also Ex. 46.03 A Hot Fracking Mess: How Weak Regulation Of Oil And Gas Production Leads To Radioactive Waste In Our Water, Air, And Communities (July 2021) https://www.nrdc.org/sites/default/files/fracking-mess-regulation-radioactive-waste-report.pdf

[335] Ex. 14.03 Glass Report at 24-26 (pdf pg 27-29) (describing the elements of a risk assessment and federal NORM risk assessments for land-applied oil and gas waste and buried coal combustion residuals).

relevant to NORM, which show that the levels of NORM allowed by this rule (combined Radium at 30 pCi/g, other radionuclides at 150 pCi/g) would exceed protective and achievable levels.

Dumas, Texas Superfund Site

If the Commission approves this drill-cuttings reuse rule, it runs the serious risk that it will repeat the mistakes of the Dumas, Texas zinc smelter, which is now a state superfund site.[336] Between 1973 and 1974---and without properly considering the risks and harms--the state allowed the smelter's heavy-metal contaminated waste to be sold for use as road base throughout Dumas city limits. More waste was left onsite and used by residents in home driveways, flower beds, and lawns. That material was left to leach lead and cadmium for over a decade before it was discovered, at which point concerning levels of these metals were found along the roadways and in private properties. Investigators also found elevated levels of these metals as far as three miles downstream from where some of the waste had been left to leach into an intermittent creek. The waste used on private properties was not cleaned up until 1997.[337] The site itself was not remediated until 2012 (and future use restricted to only to industrial / commercial activities), with operation and maintenance activities continuing to this day.[338] Even though the Dumas Superfund Site did not involve drill cuttings, it is a precautionary tale of the importance of adequate testing and analysis before waste is reused in public settings.

In sum, the lesson learned throughout the history of Rule 8 is that vague and incomplete regulations are difficult to implement and enforce. Rather than learning from past mistakes, Division 7 will repeat that history. Commission Shift strenuously requests that the Commission not finalize Division 7 with this rulemaking.

[336] Ex. 46.04. American Zinc (TCEQ) https://www.tceq.texas.gov/remediation/superfund/state/amzinc.html.
[337] Ex. 46.05. Community Relations Plan for American Zinc (TNRCC) (Sept. 2000) at pdf pages 2-4 (1-3). https://www.tceq.texas.gov/downloads/remediation/superfund/pdf0125.pdf.
[338] Ex. 46.04. American Zinc (TCEQ) https://www.tceq.texas.gov/remediation/superfund/state/amzinc.html.