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Abstract

Broiler operations in Texas, by virtue of their reliance on dry litter waste systems, are generally exempt from Concentrated Animal Feeding Operation (CAFO) designation at state and federal levels. The state of Texas has strong and comprehensive regulatory requirements that apply to CAFOs. Non-CAFO animal feeding operations (AFOs) are also required to conduct operations in accordance with all the technical requirements specified in Texas CAFO regulations unless they operate under a Texas State Soil and Water Conservation Board (TSSWCB) certified water quality management plan (WQMP), in which case they are exempt from Texas CAFO regulation. WQMPs have been adopted by almost all broiler operations in Texas. These site-specific plans are generally consistent with technical requirements in Texas CAFO regulation since they are both based on Natural Resources Conservation Commission (NRCS) standards. The TSSWCB has no enforcement powers, per se, however, if a broiler operation is found to be out of compliance with its WQMP, the TSSWCB may refer the operation to the Texas Natural Resource Conservation Commission (TNRCC) for enforcement. Broiler operations that choose not to obtain WQMPs are still required to adhere to all applicable regulations, including the technical requirements in Texas CAFO regulations.

Dry litter broiler operations in Texas are exempt from air permitting requirements under state regulation. Broiler facilities, however, could be vulnerable to federal and state occupational safety standards on the basis of unacceptably high concentrations of ammonia inside chicken houses. The fact that most operations employ only family members, however, may reduce legal exposure. The most likely violation of air quality regulations by a poultry operation would involve the creation of a nuisance condition due to odor. Although “right to farm” legislation has been passed which exempts farms from nuisance lawsuits if the nuisance condition has persisted for at least one year, courts have ruled against similar laws in at least one other state.

Looking toward the future, a key goal of the USDA-EPA Unified National Strategy for AFOs (Unified Strategy) is to develop and implement comprehensive nutrient management plans (CNMPs) for all AFOs. The regulatory environment for broiler operations in Texas, however, may change little, even if many elements of the Unified Strategy are eventually adopted, because TSSWCB WQMPs already incorporate many elements of CNMPs. WQMPs, perhaps with some alterations, could take on the status of CNMPs should this goal be adopted. Elements in the Unified Strategy pertaining strictly to CAFOs would not effect broiler operations so long as dry litter broiler operations continue to be exempted in the CAFO definition. If, on the other hand, dry litter broiler operations were to lose their exemption from CAFO status, any new regulation pertaining to CAFOs would also apply to broiler operations.
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Regulatory Status of the Broiler Industry in Texas

In response to a changing technological and economic environment, animal agriculture in the United States has been restructuring for the past several decades and continues to restructure. Animal feeding operations (AFOs) have become larger and more numerous and concentrated in certain regions of the nation. Although the engineering and economic efficiencies of large scale animal agriculture have resulted in lower prices to consumers, a by-product of the pattern of ever larger and more regionally concentrated operations has been the production of large amounts of animal waste in regions where AFOs have concentrated. The effects of this waste on air and water quality and the consequent need to deal with it in an environmentally sound fashion is the driving force behind current and proposed regulation of livestock industries, including the broiler industry. Litter from broiler operations is typically applied to crop fields or pasture. Current practices, however, may result in surface or groundwater pollution or nutrient buildup in soil.

The Texas Institute for Applied Environmental Research (TIAER) is engaged in a comprehensive research project designed to shed light on the current status of broiler operations in the Brazos-Navasota watershed in Texas, the environmental and economic effects of alternative litter management practices, and future growth scenarios. As part of the current status of the industry, this report describes current regulations pertaining to broiler operations in Texas. This information, along with assessments of the current biophysical, economic, and operational aspects of broiler operations, constitutes a set of baseline conditions for the industry, upon which growth scenarios and alternative litter management practices will be simulated. While certain statutes apply exclusively to poultry operations, much of the regulation discussed in this report has general applicability to all AFOs.

Regulation of poultry operations in Texas, as elsewhere, is authorized by state and federal laws that often work hand in hand to achieve compliance. Because of the integrated nature of state and federal regulation, this report is generally organized by type of regulation (i.e., air and water), with appropriate subcategories. A section outlining some key elements of future federal strategy and some issues that are being considered, and may be proposed for future regulation, is also included.

Water Quality Regulation

The Clean Water Act (CWA) is the primary source of federal water quality control. The first two sections under this heading discuss two major provisions of the CWA that may apply to AFOs: the National Pollutant Discharge Elimination System, and the total maximum daily load (TMDL) program. The third section discusses a Texas blanket prohibition against unauthorized discharge into waters of the state. The final two sections discuss the control of nonpoint source pollution and groundwater protection.
National Pollutant Discharge Elimination System (NPDES)

Although the CWA addresses nonpoint source pollution in a number of sections, its major regulatory mechanism, the National Pollutant Discharge Elimination System (NPDES), applies only to point sources. Point sources are required to obtain permits from the Environmental Protection Agency (EPA) or a state with delegated authority in order to legally discharge. Federal regulations (40 CFR § 122.23) define concentrated animal feeding operations (CAFOs) as point sources subject to the NPDES permit program. The federal definition of CAFO, however, excludes virtually all broiler operations.

Federal regulations classify CAFOs as a subset of AFOs. AFOs are currently defined as lots or facilities where animals are confined for 45 days or more in any 12-month period and where crops or forage vegetation is not sustained over any portion of the lot or facility (40 CFR § 122.23). Thus, all large modern broiler facilities meet the federal definition of an AFO. Not all AFOs, however, are regulated under federal water quality legislation. Only the subset of AFOs classified as CAFOs fall under point source designation subject to the NPDES permit program. The criteria for determining whether an operation is a CAFO include the number of animals confined and whether or not pollutants are discharged from the facility (40 CFR § 122, App. B). An AFO can also be designated a CAFO on a case-by-case basis upon determining that it “is a significant contributor of pollution to the waters of the United States” (40 CFR § 122.23).

For broiler operations, CAFO designation also depends on the type of manure system employed. For example, broiler operations are defined as CAFOs if more than 100,000 chickens are confined and the facility has continuous overflow watering, or more than 30,000 chickens are confined and the facility has a liquid manure system (40 CFR § 122, App. B). In addition, if pollutants are discharged into navigable waters, broiler operations are also considered CAFOs if more than 30,000 chickens are confined and the facility has continuous overflow watering, or more than 9,000 chickens are confined and the facility has a liquid manure system (40 CFR § 122, App. B). Although used more commonly in the past, few if any broiler operations in the United States (and in Texas) currently employ liquid manure systems or continuous overflow watering, and consequently avoid CAFO classification and regulation under the NPDES program. Most broiler operations today have adopted dry bedding to capture manure in lieu of liquid manure systems and utilize nipple or other “water on demand” systems instead of continuous overflow watering.

Although the federal definition of CAFO excludes virtually all broiler operations on the basis of manure management and watering technology, a dry litter broiler operation could be considered a CAFO in two situations: 1) upon a finding that the facility “is a significant contributor of pollution to the waters of the United States” (40 CFR § 122.23), or 2) upon a determination that a facility has established a liquid manure system by storing waste in areas exposed to rainfall or adjacent to a watercourse. Accordingly:

Poultry operations that remove waste from pens and stack it in areas exposed to rainfall or adjacent to a watercourse may be considered to have established a crude liquid manure system. Therefore, a facility that stacks waste in this way and that otherwise meets the regulatory CAFO definition (40 CFR § 122, App. B) may be considered to be a CAFO subject to the NPDES program. (USDA and EPA, 1999)

Federal Agricultural Storm Water Exclusion

An important provision of federal regulation pertaining to water quality regulation is its treatment of agricultural storm water discharges. The CWA expressly excludes agricultural
storm water discharges from point source status: “The term ‘point source’ ... does not include agricultural stormwater discharges and return flows from irrigated agriculture” (FWPCA § 502(14)). This provision is codified in federal regulation in the definition of point source (40 CFR § 122.2), and in a section of exclusions of discharges not requiring NPDES permits (40 CFR § 122.3).

Waste management of dry litter poultry operations is somewhat different than for other types of AFOs in that litter is retained in dry form until it is removed from houses. Thus, so long as poultry houses remain weather-tight, there is little potential for water pollution from poultry houses (the production area). Once removed from houses, litter may be exposed to the weather, however, in many cases, litter is land applied immediately or shortly after removal, thereby falling under the federal agricultural storm water exclusion. The fact that there is little risk of water pollution from the production area itself in conjunction with the agricultural storm water exclusion, which generally applies to land application of litter, is a possible rationale for generally excluding dry litter broiler operations from CAFO (i.e., point source) status. Dry litter operations, however, may be considered CAFOs if they “remove waste from pens and stack it in areas exposed to rainfall or adjacent to a watercourse” (USDA and EPA, 1999). In addition, under certain conditions, Texas CAFO regulation leaves poultry facilities subject to CAFO status if litter is improperly applied (see below).

The State Program (Texas)

Most state environmental regulations in Texas, including CAFO regulations, are administered by the Texas Natural Resource Conservation Commission (TNRCC). On September 14, 1998, EPA approved TNRCC’s Texas Pollutant Discharge Elimination System (TPDES) program, thereby delegating TNRCC authority to administer the national program.1 A prerequisite to NPDES delegation is that states adopt and provide evidence that they can enforce regulations that meet or exceed the federal standards. Thus, much of Texas’ CAFO regulations are patterned after the national model. For example, the definition of CAFO in the Texas regulation (30 TAC § 321.32) is virtually identical to the federal definition.

TNRCC has also adopted the federal agricultural storm water exclusion provided that animal wastes are applied to fields in accordance with NRCS standards for nutrient management and waste utilization (Williams, 2000).2 Consistent with this stance, “poultry facilities ... that dispose of litter on land such that stormwater runoff will be transported into surface water or groundwater may be considered a CAFO” (30 TAC § 321.32(9)(C)). This definition is an important departure from federal regulation, which categorically omits dry litter broiler operations from CAFO status. Utilizing litter at agronomic rates, consistent with NRCS nutrient management standards, however, is considered a beneficial use, not “disposal” (Williams, 2000), hence, this provision would not apply in cases where litter is appropriately applied. Currently, no dry litter broiler operations have been designated as CAFOs under this statute (Williams, 2000).

A important aspect of Texas CAFO regulation is that it explicitly requires all AFOs, including non-CAFO AFOs to adhere to the same technical requirements as CAFOs. Specifically, non-CAFO AFOs as well as CAFOs are required to:

- locate, construct and manage waste control facilities and land application areas to protect surface and groundwaters and prevent nuisance conditions and minimize odor

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1 Texas became the 43rd state to receive such approval.

2 By limiting the federal agricultural storm water exclusion, this stance exceeds federal standards.
conditions in accordance with the technical requirements of §§321.38-321.40 of this title (relating to Proper CAFO Operation and Maintenance, Pollution Prevention Plan[s] and Best Management Practices). (30 TAC § 321.33(e))

Facilities operating under a Texas State Soil and Water Conservation Board (TSSWCB) certified water quality management plan (WQMP), however, are explicitly exempted from Texas CAFO regulation under 30 TAC § 321.33(d), although they must adhere to the terms of their WQMP or risk referral to TNRCC. (The role of the TSSWCB and WQMPs are addressed in later sections of this paper.) Most broiler operations in Texas have obtained TSSWCB certified WQMPs, thus, the technical requirements in Texas CAFO regulation would apply only to a minority of broiler operations.

For the minority of broiler operations in Texas not operating under a TSSWCB certified WQMP, the following requirements of pollution prevention plans in Texas CAFO regulation, regarding land application of manure, would apply:

- “Manure shall be uniformly applied to suitable land at appropriate times and at agronomic rates” (30 TAC § 321.39(f)(24)(D)).
- “Edge-of-field, grassed strips shall be used to separate water courses from runoff carrying eroded soil and manure particles. Land subject to excessive erosion shall be avoided” (30 TAC § 321.39(f)(24)(F)).
- Prior to commencing wastewater irrigation or waste application on land owned or operated by the operator, and annually thereafter, the operator shall collect and analyze representative soil samples of the wastewater and waste application sites according to [prescribed rules]. (30 TAC § 321.39(f)(28))
- When results of the annual soil analysis for extractable phosphorus … indicates a level greater than 200 ppm … for a particular waste … application field …, the operator shall not apply any waste or wastewater to the affected area unless the waste … application is implemented in accordance with a detailed nutrient utilization plan developed by [the Natural Resources Conservation Service], the Texas State Soil and Water Conservation Board, Texas Agricultural Extension Service, an agronomist or soil scientist on full-time staff at an accredited university located in the State of Texas, or any professional agronomist or soil scientist certified by the American Society of Agronomy (ASA). … No land application under an approved nutrient utilization plan shall cause or contribute to a violation of water quality standards or create a nuisance. (30 TAC § 321.39(f)(28)(G))

As these sections reveal, Texas CAFO regulation sets strict standards for the land application of livestock manure under which CAFOs and non-CAFO AFOs not operating under TSSWCB certified WQMPs must comply. It should be noted, however, that TSSWCB WQMPs as well as pollution prevention plan requirements in Texas CAFO regulation are based on NRCS standards, including Nutrient Management (code 590) and contain similar provisions.

**Total Maximum Daily Load Program (TMDL)**

Although not a regulatory mechanism, the total maximum daily load (TMDL) program, contained in section 303(d) of the CWA, represents another possible avenue for regulatory authority over poultry operations. In contrast to NPDES, which focuses solely on effluent limitations from point sources, the TMDL program strives to achieve ambient water quality standards by addressing nonpoint sources (NPSs) of pollution as well.\(^3\) Pollution reductions called for by TMDLs are designed to achieve state-adopted water quality criteria that are consistent with beneficial uses such as swimming, fishing, or aquatic life. While the program
is federally authorized, development and implementation is delegated to the states, which are required to provide a comprehensive listing of impaired waters, prioritize those waters, and then develop “pollution budgets” or TMDLs.

Although Congress created the TMDL program in the CWA of 1972, only recently has the program been implemented on a major scale. Successful lawsuits filed against EPA and individual states in the late 1980s and early 1990s compelled development of TMDLs on specific schedules for impaired waters, including waters impaired by nonpoint sources. Because section 303(d) created no new regulatory authority, TMDL implementation is dependent upon existing state and federal regulatory and voluntary programs.

Since the vast majority of broiler operations in Texas are not defined as CAFOs, state authority to regulate waste disposal activity as part of a TMDL would need to come from programs applicable to nonpoint source pollution. In Texas, the TSSWCB is the lead agency “for activity relating to abating agricultural and silvicultural nonpoint source pollution” (Texas Agriculture Code 201.026). Part of the TSSWCB’s mandate is to “certify a plan that... complies with state water quality standards established by the [TNRCC]” for each region identified as having the potential to contribute to agricultural and silvicultural nonpoint source pollution (Texas Agriculture Code 201.026). These plans, in turn, provide for the development, supervision, and monitoring of individual WQMPs. Thus, if a water body were placed on the state’s impaired waters list (303(d) list) due to agricultural or silvicultural nonpoint source pollution, the TSSWCB, under state law, would have the obligation to develop a watershed-wide plan to address the source of impairment such that state water quality standards are achieved.

If a broiler operation were designated a CAFO, TNRCC could institute permit requirements in accordance with its CAFO regulation. One provision of CAFO regulation is that “No land application ... shall cause or contribute to a violation of surface water quality standards ...” (30 TAC § 321.39(f)(24)(G)). Few, if any, broiler operations in Texas are considered CAFOs, however, and such a designation could only be made as a result of improper storage or land application of litter, as previously described.

Required elements in TMDL development include the designation of load allocations to individual nonpoint sources or categories of nonpoint sources and “reasonable assurance” that allocations will be attained. This assurance can be provided by state regulatory mechanisms, local ordinances, or voluntary programs supported by adequate funding. The preceding regulations provide authority for revising permits or regional nonpoint plans in response to violations of state water quality standards. In addition, TSSWCB is authorized to “develop and implement a corrective action plan” in response to a complaint concerning “a violation of a law or rule relating to agricultural or silvicultural nonpoint source pollution,” provided that the complaint is warranted (Texas Agriculture Code § 201.26(d)). These provisions of Texas law appear to support the requirements of “reasonable assurance” and the ability of existing state regulation, in principle, to institute programs which would reduce nonpoint source pollution within the context of a TMDL.

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3 A federal district court recently ruled that the TMDL program applies to water impaired solely by nonpoint sources (Pronsolino v. EPA, 2000).

4 Current TMDL regulation states, “For nonpoint sources, reasonable assurance means that nonpoint source controls will be implemented to achieve applicable load allocations. For nonpoint sources reasonable assurance would need to be specific to the pollutant of concern, expeditiously implemented and supported by reliable delivery mechanisms and adequate funding” (Federal Register, 1999).
Blanket Regulation Prohibiting Unauthorized Discharges (Texas)

Regardless of CAFO and TMDL status, Texas regulation broadly prohibits unauthorized discharge of “agricultural waste” into waters of the state (Texas Water Code § 26.121). An exception is made, however, for discharges that comply with 1) a certified water WQMP approved by the TSSWCB, or 2) a water pollution and abatement plan approved by TNRCC.

The blanket prohibition against discharge of agricultural waste could potentially apply to any source of agricultural waste not explicitly exempted—point or nonpoint, CAFO or non-CAFO. The definition of “agricultural waste,” however, “does not include tail water or runoff water from irrigation or rainwater runoff from cultivated or uncultivated range land, pasture land, and farmland” (Texas Water Code § 26.001(10)). Water quality impairment from broiler operations stems, in large measure, from pollutants in runoff from litter fertilized fields and this blanket prohibition would not apply in such cases. In some situation, however, e.g., when litter is improperly stored or dead birds are improperly disposed of, this statute could apply. Enforcement of the prohibition, however, is at the discretion of TNRCC and consideration is given “to the state of existing technology, economic feasibility, and the water quality needs of the water that might be affected” (Texas Water Code § 26.121 (b)). In sum, while providing an important backdrop for water pollution control, Texas’ blanket prohibition of unauthorized discharges would not likely be directly invoked against poultry operations.

Control of Nonpoint Source Pollution (Texas)

Texas Senate Bill 503 (1993) designated the Texas State Soil and Water Conservation Board (TSSWCB) as “the lead agency in [Texas] for activity relating to abating agricultural and silvicultural nonpoint source pollution.” The TSSWCB is charged with developing a water quality management certification program (Agriculture Code § 201.026 (c)), investigating complaints concerning violations of law relating to agricultural or silvicultural nonpoint source pollution, and, where warranted, developing and implementing a corrective action plan to address the complaint (Texas Agriculture Code § 201.026 (d); Texas Water Code § 26.1311). Although the TSSWCB does not have regulatory authority, it is obligated to refer complaints or violations of a WQMP to the TNRCC if corrective action is refused (Texas Agriculture Code § 201.026 (d)). The TNRCC may then exercise its authority under appropriate state regulation. Broiler operations, thus, must either comply with TSSWCB certified WQMPs, or else risk being subject to state regulation.

Water Quality Management Plans (WQMPs)

Section 201.026(c) of the Texas Water Code authorizes the TSSWCB to develop and certify site-specific water quality management plans (WQMPs) for areas of the state that the TSSWCB “identifies as having or having the potential to develop agricultural or silvicultural nonpoint source water quality problems.” TSSWCB certified WQMPs must “satisf[y] [TSSWCB] rules and criteria and compl[y] with state water quality standards established by the [TNRCC]” (Texas Water Code § 201.026 (c)). WQMP are very comprehensive, covering all land areas of an operation. Their provisions are very similar to those required in pollution prevention plans and other technical requirements in Texas CAFO regulation since they are both based on NRCS practice standards.6

5 This statute does not prevent pollution from runoff from agricultural fields from being prohibited under other state statutes.
Adoption of WQMPs by producers is completely voluntary from the standpoint of the TSSWCB and the state of Texas. Poultry integrators, however, either strongly encourage or require their growers to obtain WQMPs and lenders often require them (Lampe, 2000; O’Connor, 2000). An informal survey of agency personnel reveals that almost all broiler operations in Texas have obtained certified WQMPs.

Groundwater (Texas)

Contamination of groundwater by poultry operations, particularly by nitrates, has caused concern in major poultry producing regions of the nation. Section 26.401(b) of the Texas Water Code (Groundwater Protection) states that “it is the goal of groundwater policy in this state that the existing quality of groundwater not be degraded.” The statute also specifies that “discharges of pollutants, disposal of wastes, or other activities subject to regulation by state agencies be conducted in a manner that will maintain present uses and not impair potential uses of groundwater or pose a public health hazard…” (Texas Water Code § 26.401(c)(1)). While this statute sets the conditions under which existing state regulations may apply, the authority to regulate discharges must come through other water quality regulation.

From the standpoint of groundwater protection, it is important to note that “waters of the state” includes groundwater as well as surface water (Texas Water Code § 26.001(5)). The definition of “waters of the state” in Texas CAFO regulation also specifically includes “Groundwater, percolating or otherwise…” (30 TAC § 321.32(37)). Several provisions in Texas CAFO regulation, however, make specific reference to the protection of groundwater.

Texas CAFO regulation, for instance, provides that the executive director of TNRCC may designate an AFO as a CAFO if it is located near groundwater (or surface water) resources (TAC § 321.33(b)(1)). Also, notwithstanding the federal agricultural storm water exemption from point source status, poultry facilities that “dispose of litter on land such that stormwater runoff will be transported into surface water or groundwater may be considered a CAFO” (TAC § 321.32(9)(C)). In addition, all CAFOs and AFOs not operating under TSSWCB certified WQMPs are required to “locate, construct and manage waste control facilities and land application areas to protect surface and groundwaters … (TAC § 321.33(c)). Finally, if application for an individual permit is made, then the presence or absence of recharge features must be made (TAC § 321.35(c)(10)), and if recharge features are present, a detailed groundwater monitoring plan is required including sampling for chlorides, nitrates, and total

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6 WQMPs prescribe NRCS practice standards for each defined area (field) of an operation. Practice standards that might typically apply to a combined poultry-beef operation include heavy use area protection, pest management, waste management system, compost facility, waste storage structure, forage harvest management, nutrient management, prescribed grazing, filter strip, waste utilization, upland wildlife habitat management, and riparian forest buffer.

7 Nitrates contaminate one-third of all groundwater in Delmarva’s agricultural areas, according to a United States Geological Survey (USGS) study done in the late 1980s. Many of the samples contained three to four times as much nitrate as EPA considers safe for drinking water. Data compiled last year by the Delaware Division of Public Health found that 10 to 15 percent of all wells tested in Sussex County exceeded federal nitrate standards (Goodman, 1999).

8 Section 26.401 of the Texas Water Code also created the Texas Groundwater Protection Committee “to coordinate state agency actions for the protection of groundwater quality in this state” (Texas Water Code § 26.403).

9 As mentioned in the NPDES section of this paper, applying animal waste in accordance with NRCS’s nutrient management practice standard is considered a beneficial use, and not disposal.
dissolved solids (TAC § 321.35(c)(11)). This last provision would apply only if and when a facility were considered a CAFO.

Unlike surface water, there are no comparable water quality standards for groundwater. State and federal drinking water standards, however, specify maximum contaminant levels. The maximum contaminant level for nitrate at both the state and federal level is 10 mg/L as nitrogen (30 TAC § 290.103; EPA 1996).

**Air Quality Regulation**

Although most environmental regulation of AFOs addresses water quality, the effects of AFOs on air quality is a growing concern. CAFOs in Texas are required to obtain air permits and non-CAFO AFOs not covered under a TSSWCB certified WQMP must also adhere to state air quality standards. Discussion of air quality regulation pertaining to animal feeding operations is classified into three categories: 1) air quality standards, 2) worker safety, and 3) nuisance and ‘right to farm’ laws.

**Air Quality Standards**

The Federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis of national air pollution control. Key elements of the act include national ambient air quality standards for major air pollutants, hazardous air pollutant standards, state attainment plans, and enforcement provisions. The law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and the environment, and directs states to develop state implementation plans (SIPs) for industrial sources. Permits are required for construction and for emission of regulated pollutants at greater than de minimis levels (Rule 10 CSR 10-6.060 (6)). Livestock operations, for which the only potential air contaminants are odorous gases, are explicitly exempted from the permitting rule. Livestock operations that emit regulated pollutants in addition to odorous gases, however, are not exempt. Although individual states develop and implement detailed SIPs, EPA retains the authority to enforce applicable standards of performance in state SIPs (CAA § 113(a)(1); 40 CFR § 52.23).

To date, there has been little enforcement action against animal feeding operations under the Clean Air Act. However, Eric Schaeffer, chief of EPA’s Office of Regulatory Enforcement, called air emissions from CAFOs “…a ‘sleeper’ enforcement issue that EPA would be paying more attention to over the coming years, indicating a likely increase in enforcement against [AFOs]” (Inside EPA, 2000).

In general, Texas CAFO regulations require air permits under Texas air permitting rules (30 TAC § 116) for CAFOs that are considered new major sources (30 TAC § 321.33(k)). Under CAFO rules, however, facilities which meet all “Air Quality Only” requirements in section 321.39 (Pollution Prevention Plans) and obtain either a registration, individual permit, or a

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10 On April 26, 2000, the EPA air enforcement chief issued a notice of violation to Premium Standard Farms (PSF), a Missouri hog operation, for violation of CAA rules. This marked the first time EPA has taken an independent enforcement action against a CAFO under the CAA (Inside EPA, 2000). Among the violations cited by EPA were a failure to apply for preconstruction permits and operating permits at installations emitting regulated pollutants at greater than de minimis levels (i.e., greater than 25 tons per year of total suspended particulates and greater than 10 tons per year of hydrogen sulfide) (EPA, 2000).
CAFO general permit are eligible for an air quality standard permit, which may be obtained in conjunction with a water quality application (30 TAC § 321.46).

Non-CAFO status for most broiler operations exempts them from the aforementioned permitting requirements. Moreover, all broiler operations in Texas are explicitly exempted from air permitting requirements by section 3.27 of the Texas Clean Air Act, which exempts certain classes of facilities from permit requirements if they do not make a significant contribution of air contaminants to the atmosphere. Various classes of livestock operations are specifically exempted including “All housed poultry operations when wood shavings or similar material is used as litter” (30 TAC § 106.161). Incinerators designed to dispose of poultry carcasses due to mortality are also exempt from permitting if they are located a minimum of 700 feet from the nearest property line and meet specified design criteria (30 TAC § 106.494(1)(E)).

Worker Safety

Large amounts of ammonia gas (NH₃) can volatilize from poultry manure, which in confined situations can lead to potentially harmful ambient concentrations for both birds and workers. Buildup of NH₃ can be particularly problematic in winter months, when ventilation may be reduced to reduce heating costs. Carlile (1984) indicated that a critical level of ammonia gas for poultry production is 25 ppm (parts per million), above which NH₃ can cause decreased growth rates, reduced feed efficiency, and a number of poultry ailments. A number of studies have also documented health problems to agricultural workers exposed to poor air quality in poultry facilities (Harmon, Zhang, and Xin, 1994). The limit set by OSHA (Occupational Safety & Health Agency) for human exposure to NH₃ is 25 ppm for an 8-hour day and 35 ppm for a 10-minute exposure, levels which are often exceeded in cooler months (Moore, Daniel, and Edwards, 1999).

Most broiler facilities in Texas are family operations, which could limit legal exposure from suits based on occupational health standards. Operations that hire workers, however, could be substantially more vulnerable.

Nuisance and “Right to Farm” Law

Nuisance law is generally administered and adjudicated at the state and local level. Sweeten and Levi (1977) comment that “The EPA Administrator’s Office has stated that odors are a local problem amenable to local controls, rather than a national problem requiring national controls.”

Nuisance law doctrine originated from the English common law concept of nuisance, which holds that no property should be used in such a manner as to injure another property owner (Cullingworth, 1993). Objectionable odor produced as a by-product of economic endeavor has long been considered a nuisance. A prohibition of nuisance caused by air contaminants is explicitly codified in Texas air quality regulations:

No person shall discharge from any source whatsoever one or more air contaminants or combinations thereof, in such concentration and of such duration as are or may tend to be

11 These provisions are considered to constitute a “permit by rule.”

12 It is unlikely that a family member would sue his or her own family’s business.
injurious to or to adversely affect human health or welfare, animal life, vegetation, or property, or as to interfere with the normal use and enjoyment of animal life, vegetation, or property (30 TAC § 101.4).

Texas CAFO regulations also require the operation of facilities in such a manner as to prevent the creation of a nuisance (30 TAC § 321.31(c)) and to avoid nuisance conditions in the land application of manure (30 TAC § 321.39). While not explicitly stating that nuisance conditions must be avoided, certain provisions in TSSWCB WQMPs are clearly aimed at avoiding nuisance. Requirements in recent poultry WQMPs, for instance, include:

Litter should not be applied within 100 feet of adjacent residential property, unless it will be incorporated within 48 hours.

... Neighbors should be informed prior to litter application. Explain that there may be an odor for several days, and that the odor is not harmful.

Litter should not be applied immediately before weekends or holidays if nearby outdoor activities are planned.

Interference in the normal use or enjoyment of property can occur even though a livestock operation is complying with all other state and federal regulations. Animal feeding operations, including poultry operations that emit objectionable odors as a by-product of normal operation, are particularly vulnerable to nuisance lawsuits when urban areas encroach on rural lands. Moreover, priority of use, i.e., establishing operations before others move into the area, does not necessarily protect a defendant (Sweeten and Levi, 1977; also see Mugler v Kansas, 1887).

Pressure from suburban sprawl in the late 1970s and early 1980s and the recognition that agriculture was an important component of the regional economy prompted many states to pass “right to farm” laws that sought to protect farms from nuisance lawsuits by neighbors. Texas right to farm law reads in part:

It is the purpose of this chapter to reduce the loss to the state of its agricultural resources by limiting the circumstances under which agricultural operations may be regulated or considered to be a nuisance (Texas Agriculture Code § 251.001)....

No nuisance action may be brought against an agricultural operation that has lawfully been in operation for one year or more prior to the date on which the action is brought ... (Texas Agriculture Code § 251.004(a)).

The chapter further specifies that a plaintiff

...who brings a nuisance action ... against an agricultural operation that has existed for one year or more prior to the date that the action is instituted ... is liable to the agricultural operator for all costs and expenses incurred in defense of the action .... (Texas Agriculture Code § 251.004(b))

The legal status of state “right to farm” laws, however, has been challenged. In 1999, the U.S. Supreme Court let stand a ruling by the Iowa Supreme Court that struck down the state’s “right to farm” law13 (Girres v. Bormann, 1999; Bormann v. Kossuth County Board of Supervisors, 1998; see also The Gazette Company, 1999 and Feitshans, 1999). Given this successful challenge against a “right to farm” law, it is prudent to assume that livestock operations, including poultry operations, are not immune from nuisance lawsuits due to odor or other nuisance conditions, whether they have been in operation for less than or greater than one year.
The Future

Public concern about the environmental impacts of animal feeding operations and governmental efforts to fulfill the requirements and goals of the CWA have prompted considerable effort to improve the environmental performance of AFOs.

Unified National Strategy for Animal Feeding Operations

The Clean Water Action Plan, a document released by the Administration in February 1998, provides a blueprint for restoring and protecting the nation’s waters (EPA and USDA, 1998). To minimize the water quality and public health impacts of AFOs, the plan called for the development of an AFO strategy by EPA (AFO Strategy) as well as a broad unified national AFO strategy to be developed jointly by USDA and EPA (Unified Strategy). A draft of the Unified Strategy was issued in September 1998. After a 120-day public comment period and 11 national “listening sessions,” a final strategy was issued on March 9, 1999. While the Unified Strategy is not new regulation nor does it impose any binding requirements, it enumerates a number of goals that could form the basis for enhanced enforcement of new or expanded regulation. Many elements of the Unified Strategy have been incorporated into a draft Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations (Guidance Manual) (EPA 1999). Three aspects of the Unified Strategy relating to broiler operations are discussed below.

Comprehensive Nutrient Management Plans (CNMPs)

A key goal of the Unified Strategy is to develop and implement site-specific comprehensive nutrient management plans (CNMPs) for all AFOs, which are designed to minimize water quality and public health impacts (USDA and EPA, 1999). The Unified Strategy calls for voluntary CNMPs for most AFOs (i.e., non-CAFOs). In regard to CAFOs, however, the Unified Strategy will require the development and implementation of CNMPs as part of the NPDES permit process. Since few if any broiler operations in Texas are considered CAFOs, and almost all operations already operate under certified WQMPs, it seems likely that the goals of the Unified Strategy would not change the modus operandi of most broiler operations in Texas. In fact, TSSWCB certified WQMPs, which include Natural Resources Conservation Service (NRCS) nutrient utilization plans, appear to be the very type of voluntary CNMP advocated in the Unified Strategy.

Voluntary Approach Affirmed as Principle Approach for Most AFOs

USDA and the agricultural community expressed concern that EPA’s proposed AFO Strategy would bring more AFOs under CAFO status and thereby reduce reliance on voluntary approaches. The Unified Strategy, however, states that voluntary mechanisms will continue to be the principle approach:

13 The Iowa Supreme Court found that the “right to farm” law had the effect of creating an easement permitting farmers to create nuisances without compensating their neighbors. In the Iowa Supreme Court’s view, this was tantamount to the government physically taking the property, a per se taking. Failure to provide compensation for per se takings violates the takings clause of the Fifth Amendment of the Constitution (Feitshans, 1999).

14 A desired outcome of the Unified Strategy is that all AFOs develop and implement CNMPs by 2009 (EPA and USDA, 1999).
For the vast majority of AFOs, voluntary efforts will be the principal approach to assist owners and operators in developing and implementing site-specific CNMPs and in reducing water pollution and public health risks associated with AFOs. While CNMPs are not required for AFOs participating only in voluntary programs, they are strongly encouraged as the best possible means of managing potential water quality and public health impacts from these operations.15 (USDA and EPA, 1999)

**Integrator Responsibility**

The *Unified Strategy* encourages industry leadership as one of its seven strategic issues. The *Strategy* states that USDA and EPA will work with industry, in particular, integrators, to identify opportunities for greater industry involvement in pollution prevention. One avenue recommended is for integrators to require CNMPs in contracts with producers. Poultry integrators in Texas already require that their growers obtain certified WQMPs or else strongly recommend them.16 As integrators feel increasingly vulnerable to the environmental impacts of their growers’ operations, it is possible that all integrators could contractually require WQMPs in the future.17

The draft *Guidance Manual* recommends copermittng of corporate entities exercising substantial operational control over CAFOs:

Corporate entities that exercise substantial operational control over a CAFO should be copermitted along with the CAFO operator. Corporate entities that exercise such operational control over a CAFO are considered “operators” of the CAFO under the Clean Water Act (CWA) (EPA, 1999).

This recommendation is contingent upon an AFO being classified as a CAFO. As indicated earlier, broiler operations employing dry litter waste management (the vast majority of operations) are currently exempted from CAFO status, regardless of size. This exemption, however, is controversial and has come under close scrutiny, as discussed below.

**Expanding CAFO Status to Include Dry Litter Broiler Operations**

In the initial EPA AFO Strategy (predecessor to the *Unified Strategy*), EPA clearly indicated a need to revisit the exemption of dry litter poultry operations from CAFO status when it stated that, “[Revised] guidelines need to reflect industry changes since the 1970s—such as the movement away from using liquid manure or continuous flow watering systems in poultry—better protect the environment and public health” (EPA, 1998). The EPA AFO Strategy also set out the objective of permitting all CAFOs by 2005 including those facilities that claim no discharge, and “designation of poultry facilities that have greater than the number of animals [needed to be considered a CAFO] regardless of the type of watering and manure management…” (EPA, 1998) (emphasis added). The subsequent USDA-EPA *Unified*

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15 EPA estimates that only about 5% (15,000 to 20,000) AFOs would be permitted under the existing program, while the remainder, approximately 450,000 AFOs, would be encouraged to implement voluntary CNMPs (EPA, 2000).

16 One poultry grower indicated that his integrator will “twist your arm” until the grower gets a WQMP. Other integrators, reportedly, contractually require WQMPs (O’Connor, 1999).

17 The Maryland Department of the Environment recently issued operating permits requiring top poultry producers to ensure that their growers dispose of waste in ways that do not pollute Chesapeake Bay waterways (Huslin, 2000).
Strategy, however, dropped all reference to bringing all poultry operations greater than a given size within the definition of CAFO. The CAFO status of dry litter poultry operations, however, is currently undergoing close scrutiny by EPA.

Summary

Broiler operations in Texas, by virtue of their reliance on dry litter waste systems, are generally exempt from CAFO designation at state and federal levels. Dry litter operations, however, can be designated as CAFOs under state or federal regulations if litter is improperly stored or applied. Few, if any, broiler operations in Texas are considered CAFOs by either EPA or TNRCC. The technical requirements of Texas CAFO regulation, however, apply to all AFOs, unless the AFO is operating under a TSSWCB certified WQMP. The TSSWCB was designated the lead agency in Texas responsible for the control of nonpoint source pollution. Almost all broiler operations in Texas have obtained TSSWCB certified WQMPs and are thereby exempt from Texas CAFO regulation.

WQMPs, however, are based on the same NRCS practice standards and technical requirements used as the basis for Texas CAFO regulation. Thus, the provisions of WQMPs are very similar, if not identical, to the technical requirements in Texas CAFO regulation. Although WQMPs are voluntary, producers are obligated to adhere to the plans or risk referral to TNRCC for possible enforcement action.

There is a nascent effort at the federal level to enforce air quality regulations that may pertain to CAFOs. Dry litter broiler operations in Texas are exempt from air permitting requirements under state regulation. Broiler operations, however, could be vulnerable to federal and state occupational safety standards due to unacceptably high ammonia levels inside chicken houses. The fact that most operations employ only family members may reduce this exposure. Perhaps the most likely violation of air quality regulations by a poultry operation would involve the creation of a nuisance condition due to odor. Although “right to farm” legislation has been passed which exempts farms from nuisance lawsuits if the nuisance condition has persisted for at least one year, courts have ruled against these laws in at least one other state. It is thus prudent to assume that poultry operations are not immune from nuisance lawsuits due to odor or other nuisance conditions regardless of how long they have been in operation.

The Unified Strategy developed by USDA and EPA and EPA’s draft Guidance Manual for AFOs may provide insights into future AFO regulation. A key goal of the Unified Strategy is to develop and implement CNMPs for all AFOs. The Unified Strategy also reaffirms voluntary programs to be the primary means of achieving water quality compliance for the vast majority of AFOs, including most broiler operations. Greater integrator responsibility for waste disposal is also proposed in the Unified Strategy and the draft Guidance Manual recommends copermitting of corporate entities exercising substantial operational control over CAFOs. If broiler operations retain their exemption from CAFO status, these provisions would not apply. Nonetheless, poultry integrators in Texas strongly recommend or require that their growers obtain WQMPs.

The foreseeable regulatory environment for broiler operations in Texas will most likely change very little if dry litter broiler operations retain their non-CAFO status, because existing state regulations already incorporate many elements of the Unified Strategy that pertain to non-CAFO AFOs. Almost all broiler operations in Texas, for instance, currently operate under TSSWCB certified WQMPs, which incorporate most or all of the elements in proposed CNMPs, including nutrient management plans based on NRCS practice standards. There may be more pressure in the future, however, for all broiler operations in Texas to obtain WQMPs,
which could take on the status of CNMPs should the adoption of CNMPs be promoted for non-CAFOs.

If dry litter broiler operations were to lose their exemption to CAFO status, the regulatory environment for broiler operations in Texas could change considerably. They would, of course, be subject to all permitting and reporting requirements required of CAFOs. In addition, any change in federal regulation applying to CAFOs (copermitting requirements, for instance) would then also apply to broiler operations.
References


Bormann v. Kossuth County Board of Supervisors. 1998. 584 N.W. 2d 309 (Iowa).


