

The Texas Natural Resource Conservation Commission (TNRCC or commission) adopts amendments to §106.2, concerning Applicability, §106.224, concerning Aerospace Equipment and Parts Manufacturing, §106.321, concerning Metal Melting and Holding Furnaces, §106.373, concerning Refrigeration Systems, §106.418, concerning Printing Presses, and §106.454, concerning Degreasing Units. The commission also adopts the repeal of §106.222, concerning Woodworking Shops. Section 106.373 is adopted with changes to the proposed text as published in the January 2, 1998, issue of the *Texas Register* (23 TexReg 60). The remaining sections are adopted without changes and will not be republished.

EXPLANATION OF ADOPTED RULES

The last two sentences in §106.2 have been deleted, as they contained references to §116.211, a section that was repealed in November 1996.

Section 106.231, concerning Manufacturing, Refinishing, and Restoring Wood Products, was adopted by the commission in July 1997. This section is more comprehensive, and applies to the same facilities as §106.222, which is no longer needed.

Section 106.224(1) has been amended to remove an incorrect reference to a standard exemption number that was valid prior to November 1996 and should no longer be used as a cross-reference.

The amendment to §106.321 expands the ability of small foundries with insignificant air emissions to obtain authorization for construction or modification and corrects an apparent typographical error in the

exemption. The revised exemption allows the production of ductile iron, the use of a fluxing agent for aluminum foundries, the limited melting of brass and bronze, and prohibits the use of “manganese” bronze rather than “magnesium” bronze, which was previously prohibited and does not exist as a viable alloy. Through these amendments to §106.321, an estimated 40 foundries will be permitted by rule consistent with advances in chemistry and process technology. The amount of chemicals used in these processes is minimal, as are the air emissions.

The commission directed that the Air New Source Review Permits (NSRP) Division evaluate the protectiveness of a significant portion of the exemptions from permitting (previously referred to as standard exemptions). The protectiveness evaluation for §106.373, concerning Refrigeration Systems, revealed that in general, it was protective for most compounds. However, additional information was needed to assess protectiveness in all situations. Based on the technical evaluation of the exemption and comments received from affected industry and regional offices, the commission determined that the exemption required minor clarifications to ensure its protectiveness through prohibitions of some compounds. The compounds that this exemption prohibits are those that have a higher potential for off-property environmental and health effects. The commission does not believe that these compounds are commonly used as refrigerants, and there will be minimal economic effect as a result of their prohibition.

Limits on the amount of refrigerant allowed on-site and setback distances are not being adopted.

Refrigeration systems are designed to contain high-pressure gases and operators do not want frequent,

expensive recharges, nor do they want to lose cooling power. System leaks are infrequent, of smaller volume, and repaired quickly.

As proposed, these amendments contained specific requirements to prevent accidental releases of ammonia from refrigeration systems and requirements for leak detection and repair. There are a number of standards, building codes, and federal regulations that affect the design, construction, installation, and operation of systems using anhydrous ammonia (ammonia). The added requirements in this exemption, which include registration and maintaining a system with no detectable leaks off the site, are therefore intended to complement those strategies rather than compounding them.

Refrigeration systems using 10,000 pounds or more of ammonia must comply with 40 Code of Federal Regulations (CFR) Part 68, Chemical Accident Prevention Provisions. The commission believes that the existing industry installation codes as well as Occupational Safety and Health Administration (OSHA) rules and 40 CFR Part 68 provide ample protection against accidental releases of refrigerant, and ensure very low emissions in normal operation without regulatory overlap. In order to gather more information on the need for additional regulations for smaller systems, the commission will require facilities with refrigeration systems using ammonia to register using the PI-7 form. The commission staff will continue to examine the issue and, if necessary, recommend amendment of the section in a later rulemaking.

The incorporation of the effects screening level (ESL) limit on refrigerants serves to prevent highly toxic materials from being used in exempted systems. ESLs are used to evaluate the potential for effects as a result of exposure to a particular substance. They are based on data concerning health

effects, odor, nuisance potential, vegetation effects, or corrosion effects. They are not ambient air standards. If predicted or measured airborne levels of a substance do not exceed the screening level, the commission would not expect any effects. If concentrations of a substance exceed the ESL, it does not necessarily indicate a problem, but may be a trigger for a more in-depth review.

The adopted amendment to §106.373 would modify the existing standard exemption by prohibiting the use of compounds in refrigeration systems with an ESL less than $150 \mu\text{g}/\text{m}^3$. Through dispersion modeling, the commission has determined that the use of substances with an ESL below that figure could result in a ground level concentration that may not be protective of human health in all situations. Substances with an ESL below $150 \mu\text{g}/\text{m}^3$ would require a larger area for dispersal and dilution to safe levels than is provided by the typical users of this exemption. The health effects would vary on the type of substance involved and length of exposure, but systems using substances with an ESL below $150 \mu\text{g}/\text{m}^3$ would require a more extensive engineering and toxicological review to assure their protectiveness and would not be suitable to exempt from permit. Modeling data concerning ESL and health effects is available through the commission's Toxicology and Risk Assessment Division.

Section 106.418 is amended to correct a reference in the rule to 30 TAC Chapter 115, Subchapter D. The correct reference is Subchapter E.

Section 106.454 is amended to add a reference to the section designation of 30 TAC §115.415.

Under the Texas Clean Air Act, §382.057, the commission finds that under the adopted rules, changes within any facility or types of facilities that are exempt from the requirements of §382.0518 will not make a significant contribution of air contaminants to the atmosphere.

REGULATORY IMPACT ANALYSIS

The amendments to §§106.2, 106.224, 106.418, and 106.454 are entirely administrative and have no economic effect. Section 106.222 was replaced, in 1997, by a new and more comprehensive §106.231, concerning Manufacturing, Refinishing, and Restoring Wood Products. Section 106.222 can consequently be repealed with no effect on users of the exemption. The amendments to §106.321 increase the number of metallurgic operations that can be allowed under the exemption. The commission is basing this expansion on current foundry practices and experience which demonstrates that these additional operations may be conducted with no significant increase in emissions. The commission also estimates that 40 additional foundries will be able to use the exemption.

The amendments to §106.373 should cause minimal economic effect on users of the exemption.

Current industry practice demonstrates that the compounds authorized under this exemption are the most commonly used refrigerants. Operators of systems that must use a compound other than those authorized in this exemption would still be able to obtain a permit for the system under 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification. The commission has determined that the rulemaking does not meet the definition of a major environmental rule as defined in §2001.0225. The amendments to §106.373 are intended to reduce risks to human

health from environmental exposure but do not adversely affect in a material way the economy, productivity, competition, jobs, the environment, or the public health and safety of the state.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a takings impact analysis for these adopted amendments under Texas Government Code, §2007.043. The following is a summary of that assessment. The amendments in this action have four purposes. The amendments to §§106.2, 106.224, 106.418, and 106.454 are administrative or corrective and have no substantial effect. Section 106.222 is repealed because it was replaced by the more comprehensive §106.231 in 1997. The repeal of §106.222 will have no regulatory or economic effect because §106.231 applies to the same facilities as the repealed section. The amendments to §106.321 expand the types of metallurgic operations that may be conducted at foundries without an operating permit. The commission is basing this expansion on current foundry practices and experience which demonstrates that these additional operations may be conducted with no significant increase in emissions.

The amendments to §106.373 should not burden private, real property. Current industry practice demonstrates that the compounds authorized under this exemption are the most commonly used refrigerants. Operators of systems that must use a compound other than those authorized in this exemption would still be able to obtain a permit for the system under 30 TAC Chapter 116, Control of Air Pollution by Permits for New Construction or Modification. The compounds prohibited for use under this exemption would pose unacceptable health risks if released in small amounts. This rule

action is taken in response to a real and substantial threat to public health and safety and meets the conditions of Texas Government Code, §2007.003(b)(13).

This action does not create a burden on private, real property.

COASTAL MANAGEMENT PLAN

The commission has determined that this rulemaking action relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 et. seq.), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with the Texas Coastal Management Program. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this rulemaking action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council, and has determined that this rulemaking action is consistent with the applicable CMP goal 31 TAC §501.12(1) by protecting and preserving the quality and values of coastal natural resource areas. This action is consistent with 31 TAC §501.14(q), which requires the commission to protect air quality in coastal areas. The administrative corrections and repeal in this action will have no effect on air emissions. The amendments to 30 TAC §106.321 are based on proven industry practices and will not allow new emissions. The specific amendments to 30 TAC §106.373 restrict the use of refrigerants according to their potential for off-site health effects.

HEARING AND COMMENTERS

A public hearing regarding the proposed rules was held in Austin on January 26, 1998. The public comment period closed February 2, 1998. Eastman Chemical Company (Eastman) and Red Star Yeast and Products (Red Star) submitted comments on the proposal. The United States Environmental Protection Agency (EPA) acknowledged the proposal but had no comments.

Eastman commented that the proposal was not clear as to which refrigerants would be exempted in §106.373(1) under the classification of "Freon." The commenter inquired whether this classification would include all fluorocarbon refrigerants, substances with a DuPont chemical trade name, or substances on the ESL list. Eastman also requested that the rule language specify which refrigerant blends and substitutes will be eligible for exemption.

The commission agrees that including Freon under the classification of asphyxiant could be confusing, as the term "Freon" can include a variety of compounds. The commission modified the rule language to include a list of asphyxiant gases that may be used as refrigerants under this exemption. An asphyxiant is a non-toxic gas that deprives the body of oxygen. Instead of a separate listing of compounds that would qualify for exemption, the commission has elected to use the list of 30-minute ESLs. Any compound with an ESL greater than 150 $\mu\text{g}/\text{m}^3$ may be authorized by this paragraph. The commission has determined through computer modeling that releases of refrigerant gas using compounds with ESLs lower than 150 $\mu\text{g}/\text{m}^3$ may result in ground level concentrations that may not be protective of human health in all situations. Additional discussion of ESLs can be found under EXPLANATION OF ADOPTED RULES.

Eastman commented that the restrictions on the use of anhydrous ammonia address construction design safety and hazard communication. These issues are covered in the regulations of OSHA. Additionally, warning signs as required by §106.373(3)(C) would not be needed if a plant has a large buffer zone and security fence. Eastman also stated that the rule language which requires reports of unauthorized releases is redundant, as this subject is covered in 30 TAC §101.6.

After further study, the commission has concluded that the ammonia restrictions in the proposed amendments may be duplicative with federal safety requirements or system installation standards. The commission is choosing not to go forward with the requirements concerning the accidental release of anhydrous ammonia and will gather additional data on the number of these systems through registration. The commission recognizes that facilities operating under the exemption with ammonia refrigerant of 10,000 pounds or more must comply with 40 CFR Part 68, concerning Chemical Accident Prevention Provisions. All facilities using ammonia as a refrigerant will be required to register with the commission, allowing the commission to make a determination if additional restrictions on smaller refrigeration plants are necessary. It will also prevent any regulatory overlap between the rules of the commission and federal rules. The commission agrees that the reference to 30 TAC §101.6, concerning Upset Reporting and Recordkeeping Requirements, is unnecessary and has deleted that language.

Eastman concluded its comments by stating that keeping records on leak detection and repair is burdensome and has no benefit. This commenter also suggested that the commission include a provision within the exemption that would defer repair of minor leaks requiring a system shutdown

when the shutdown would cause greater emissions than the leak. Eastman requested that the repair be made at the next scheduled shutdown. Red Star commented that locating small leaks on large systems can be difficult, and the regulation should include relief from repair and documentation for minor leaks. Red Star also commented that a requirement to repair leaks within 15 days would not be compatible for systems that cannot be shutdown in that time due to process needs.

The commission has considered these issues and believes that the language in the proposal on leak detection and repair is overly prescriptive. Installation codes for these refrigeration systems generally provide good initial assurance of the system integrity. The commission also believes that it is in the operator's best interest to maintain a system that is vapor tight for effective and efficient operation. The larger systems with 10,000 pounds of ammonia or more, which are potentially of more concern, are regulated by EPA under 40 CFR Part 68, as well as other federal regulations. To reduce the chances of harm or nuisance from ammonia leaks, the commission is requiring that leaks not be detectable from beyond the property line. The operator will need to determine the most effective way to meet the property line requirement. Therefore, the commission is not adopting specific leak detection and repair requirements.

Red Star commented that a definition of effects screening level be included in the preamble. The commenter also encouraged the commission to expand the materials that may be used to construct protective barriers around ammonia storage tanks and requested confirmation that storage systems located above traffic areas are not required to be protected.

The commission has included an explanation of ESLs which states that they are used to evaluate the potential for effects as a result of exposure to a particular substance. As stated earlier, the commission has reexamined the basis for proposing additional accident prevention requirements on refrigeration plants using anhydrous ammonia. Older facilities currently using ammonia would not be covered under a new exemption. Therefore, the commission has decided to delete from this adoption the accident prevention requirements for facilities using anhydrous ammonia as a refrigerant. The commission will require registration of facilities in order to allow the commission to determine if additional accident prevention restrictions are necessary.

Red Star expressed concerns about modifications to existing systems and at what point the modifications would subject the system to the amendments adopted in this action.

If a series of exemptions has been published since a company's start of construction, the company may select any subsequent exemption it is able to meet. Additionally, if a company modifies its operations such that it no longer meets a specific exemption, the company is entitled to remodel operations to re-qualify for any exemption in effect.

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

SUBCHAPTER A : GENERAL REQUIREMENTS

§106.2

§106.2. Applicability.

This chapter applies to facilities or types of facilities listed in this chapter where construction is commenced on or after the effective date of the relevant exemption.

SUBCHAPTER I : MANUFACTURING

§106.222

STATUTORY AUTHORITY

The repeal is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.222. Woodworking Shops (Previously SE 105).

SUBCHAPTER I : MANUFACTURING

§106.224

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.224. Aerospace Equipment and Parts Manufacturing (Previously SE 123).

Any new aerospace equipment and parts manufacturing plant, or physical and operational change to an existing aerospace equipment and parts manufacturing plant are exempt, provided that the following conditions of this section are satisfied.

(1) For purposes of this section, aerospace equipment and parts manufacturing plant means the entire operation on the property which engages in the fabrication or assembly of parts, tools, or completed components of any aircraft, helicopter, dirigible, balloon, missile, drone, rocket, or space vehicle. This exemption will not include composite aerospace equipment and parts manufacturing plants. Composite plants are defined to be plants whose products are less than 50% metal, by weight, based on annual production figures. This definition excludes those operations specifically authorized by other exemptions. For example, a boiler would not be considered a part of the aerospace

manufacturing plant, but could be authorized under §106.181 of this title (relating to Boilers, Heaters, and Other Combustion Devices), if all pertinent requirements were met.

(2) - (8) (No change.)

SUBCHAPTER M : METALLURGY

§106.321

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.321. Metal Melting and Holding Furnaces (Previously SE 58).

Metal melting and holding furnaces as specified in this section are exempt.

(1) crucible furnaces, pot furnaces, or induction furnaces with a holding capacity of 1,000 pounds or less, with the following limitations:

(A) (No change.)

(B) in ferrous melting furnaces where gray iron or steel is melted:

(i) ductile iron is produced only when emissions are captured by a vent hood and filtered or within a crucible with a lid which allows no visible emissions; and

(ii) (No change.)

(C) in nonferrous melting furnaces, only the following metals are melted,
poured, or held in a molten state:

(i) - (iv) (No change.)

(v) copper, brass, or bronze; or

(vi) (No change.)

(D) no lead, leaded brass, leaded bronze, or manganese bronze is melted,
poured, or held in a molten state;

(2) aluminum melting or holding furnaces with a holding capacity of 2,000 pounds or less that melt only clean aluminum ingots or pigs and in which no refining, smelting, metal separation, sweating, distilling, or fluxing with chlorine bearing gases is performed.

SUBCHAPTER P : PLANT OPERATIONS

§106.373

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.373. Refrigeration Systems (Previously SE 103).

Refrigeration systems, including storage tanks used in refrigeration systems, that use one of the following categories of refrigerant are exempt:

(1) simple asphyxiants limited to argon, carbon dioxide, ethane, helium, hydrogen, methane, neon, nitrogen, propane, propylene, or liquefied natural gas; or

(2) any other chemical, excluding anhydrous ammonia, with a short-term effects screening level (ESL) published in the commission's ESL list greater than $150\mu\text{g}/\text{m}^3$

(3) anhydrous ammonia (ammonia) provided:

(A) the facility is registered with the commission's Office of Air Quality in Austin using Form PI-7; and

(B) the system is maintained in good working order and such that ammonia leaks are not detectable beyond the operator's property line.

SUBCHAPTER R : SERVICE INDUSTRIES

§106.418

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.418. Printing Presses (Previously SE 13).

Printing operations (including, but not limited to, screen printers, ink-jet printers, presses using electron beam or ultraviolet light curing, and labeling operations) and supporting equipment (including, but not limited to, corona treaters, curing lamps, preparation, and cleaning equipment) which directly supports the printing operation are exempt, provided that all the following conditions of this section are satisfied.

(1) - (6) (No change.)

(7) Facilities located in ozone nonattainment areas shall meet the requirements of Chapter 115, Subchapters B and E of this title (relating to General Volatile Organic Compound Sources and Solvent-Using Processes).

SUBCHAPTER T : SURFACE PREPARATION

§106.454

STATUTORY AUTHORITY

The amendment is adopted under the Texas Health and Safety Code, the Texas Clean Air Act, §382.012, which provides the commission with the authority to develop a comprehensive plan for the state's air, §382.017, which provides the commission with the authority to adopt rules, and §382.057, which provides the commission with the authority to exempt certain facilities from permitting.

§106.454. Degreasing Units (Previously SE 107).

Any degreasing unit that satisfies the following conditions of this section is exempt.

(1) The following general requirements are applicable to all degreasers unless specifically exempted by the conditions of this section.

(A) - (E) (No change.)

(F) Each unit, regardless of the county in which it is located, shall meet the requirements of §115.412 and §115.415 of this title (relating to Control Requirements and Testing Requirements).

(2) - (5) (No change.)