STATUS OF EPA AND OSHA REGULATIONS AFFECTING COTTON GINS

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Abstract

Some of the more significant EPA and OSHA regulations that could impact cotton gins are discussed. Both EPA and OSHA continue to be very active with regulations and guidance. For EPA, these include the following air quality activities: NAAQS for PM and ozone, proposal for regional haze, MACT standard for process heaters, and accidental release prevention for propane. For OSHA, these include the safety and health program standard, ergonomics, crystalline silica and others.

Introduction

Both the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA) have been and will continue to be very active in the regulatory arena. Some of the more significant EPA and OSHA regulations that could impact cotton gins are discussed.

EPA -- Environmental Regulatory Actions

Environmental issues are becoming more complex and regulatory compliance more difficult. The need for sound science to give basis to regulations was never more necessary. EPA will continue to be very active on regulatory issues, particularly with the development and implementation of air quality rules. According to an EPA report released in December 1998, during 1988-97 particulate matter (PM) concentrations declined 26 percent but EPA continues to be highly concerned with the levels and the health effects of PM. This is demonstrated by the amended PM National Ambient Air Quality Standards (NAAQS) and the proposed regional haze rule, which will be finalized in early 1999. Also, anything that involves children's health will be of high priority and EPA is more aggressive in enforcement of regulations

Air Quality

In 1990, Congress amended the Clean Air Act (CAA). The amended Act, among other things, set new requirements for federal operating permits (Title V), for attainment of particulate matter (PM) and ozone (criteria pollutants) ambient air standards, and for hazardous air pollutants (HAP) standards. These requirements have caused confusion and problems for many industries as they are being developed and implemented.

Various states are finalizing and revising their state implementation plans (SIP) and federal EPA is finalizing the requirements for various emissions sources. Cotton production, ginning, and cottonseed processing operations are all affected in some way. All of the Cotton Belt states/air districts now have interim final or final approval of their federal operating permit program (Title V). The National Cotton Council (NCC) and the National Cotton Ginners Association (NCGA) continue to work with Federal EPA and state environmental agencies to develop acceptable permitting requirements for gins. In 1998, NCC and NCGA were able to obtain from Federal EPA a guidance for determining potential-to-emit and Title V permitting of gins (Seitz and Schaeffer, 1998) (see next section and Table 1). NCC and NCGA also worked with EPA on revised emission factors (AP-42) for gins (issued on July 9, 1996).

Potential to Emit (PTE) Guidance for Cotton Gins. Cotton ginning was one of eight source categories addressed by EPA in a document that provides guidance to the states for addressing the minor source status under the Clean Air Act for lower-emitting sources (Seitz and Schaeffer, 1998). EPA issued this guidance to assist states and local agencies in efficiently creating potential-to-emit limits for small sources, and to assist states and business owners in identifying sources that are minor sources without additional limits. Where states and local agencies need and use this guidance, small business owners will achieve greater certainty that EPA, states, local agencies, and the public do not consider them major sources under the Act. EPA calculated the 72,000 bale and 90,000 bale cutoffs for cotton gins based upon the upper end of the range from available tests (see Table 1). EPA believes these numbers are very conservative (worse than the typical "worst-case") and should ensure that there is a very low probability that a cotton gin limited to those levels would have a potential to emit major amounts.

EPA also envisages that the states can use their guidance document to develop a "prohibitory rule" or "general permit" guidelines for gins in a state based on material throughput (i.e., cotton bales ginned over a season).

Table 1. Guidance for Cotton Gins

Cotton Gin Emission Controls[1]	Major Source PM-10 Cutoff	Permit Guideline Threshold[2,3]
Cyclones on all exhausts	100 tpy PM-10	90,000 bales
	70 tpy PM-10	63,000 bales
Screened drums or cages on low pressure exhausts,	100 tpy PM-10	72,000 bales
cyclones on all other exhausts	70 tpy PM-10	50,000 bales

Reprinted from the *Proceedings of the Beltwide Cotton Conference*
Volume 1:429-436 (1999)
National Cotton Council, Memphis TN

1) For a more detailed description of the two configurations listed above, please refer to EPA's AP-42 document, section 9.7.

2) State and local authority prohibitory rules and general permits must require records sufficient to ensure that the cutoff can be enforced. EPA guidelines on "practical enforceability" considerations are contained in a January 25, 1995 memorandum from EPA's OECA entitled "Guidance Enforceability Requirements for Limiting Potential to Emit Through SIP and Section 112 Rules and General Permits."

3) The EPA calculated the 72,000 and 90,000 bale cutoffs based upon the upper end of the range from available tests. EPA believes these numbers are very conservative (worse than the typical "worst case") and should ensure that there is a very low probability that a cotton gin limited to these levels would have a potential to emit major amounts.

Particulate Matter (PM) and Ozone. PM and ozone are national ambient air quality standards (NAAQS). EPA considers the NAAQS as the minimum Federal standards for ambient air quality needed to protect public health and welfare. These standards are to be reviewed and revised, if necessary, every five years. The standards are health based standards (economics are not considered) intended to provide an ample margin of safety. EPA has to consider costs and benefits in the implementation of these standards, but not in setting the standards. EPA's review of the PM and Ozone standards led to significantly tighter new standards for both pollutants, which have the potential to affect cotton industry segments significantly. The new standards were published on July 18, 1997 (PM: 62 FR 38652-38760; Ozone: 62 FR 38856-38896). EPA added a PM 2.5 standard to the existing PM 10 standard (see Table 2) and replaced the 1-hour ozone standard with an 8-hour standard at a level of 80 parts per billion (ppb). As a result, many areas of the U.S. will be nonattainment and there will be large economic effects on many industries, including production agriculture and agricultural processing. About 24 counties in nine states where cotton is grown and ginned will be nonattainment for PM 2.5 and 66 counties in 14 states will be nonattainment for ozone. Presently for cotton, only areas in California and Arizona are non-attainment for PM and in California, Arizona, and Tennessee for ozone.

A USDA Task Force on Agricultural Air Quality Research, which was required by the 1996 Fair Act, was appointed by the Secretary of Agriculture to advise USDA and EPA. Efforts of the Task Force have led to a Memorandum of Understanding (MOU) between USDA and EPA to help ensure that sound science is used by EPA in all air regulations that affect agriculture; recommendation on priorities and funding for air quality research; and recommendations on specific principles that should be adhered to in development of a national policy on agriculture and its relationship to air quality that should prevent "permit to farm" requirements in state implementation plans. The Task Force has been reauthorized for another two years. Dr. Phil Wakelyn, NCC Technical Services, Dr. Calvin Parnell, Texas A&M University, and Dennis Tristao, J.G. Boswell Company, are members of the Task Force.

An amendment to the 1998 reauthorization of the International Surface Transport Efficiency Act (ISTEA) by Senator Inhofe (R-OK) essentially codifies the EPA plan for implementing the new PM standard. This plan requires EPA to collect three years of monitoring data on PM 2.5 before designating an area as non-attainment and deployment of the monitor by December 1999. The Inhofe amendment also requires EPA to do additional studies on the EPA approved Federal Reference Method Sampler (FRM) for PM 2.5, which is important for agriculture. It also aligns implementation of the regional haze regulations more closely with the PM rule so state implementation plans (SIP) will be due three years after attainment designation occurs between 2003 and 2005 instead of by February 1999 (Table 3). The haze rule is scheduled to be issued in early 1999.

Table 2. EPA PM standards

New*
PM 2.5 - 65 mg/m^3
PM 10 - 150 mg/m^3
PM 2.5 15 mg/m^3
PM 10 - 50 mg/m^3

* 62 FR 38652; July 18, 1997

Table 3. US EPA Implementation Timeline for PM 2.5 Standard

• 1997	EPA issues final PM 2.5 NAAQS (7/18/97; 62 FR 38652)
• 1999	EPA designates areas as "unclassifiable"
• 1998- 2000	Monitors put in place nationwide by states and EPA
• 1999- 2003	Collect monitoring data with FRM and conduct special studies
• 2002	EPA completes review of PM standards based on revised scientific criteria
• 2002- 2005	EPA designates nonattainment areas (or attainment)
• 2007	EPA completes review of the scientific criteria and standards
• 2005- 2008	States submit State Implementation Plans (SIPs) for meeting the standard
• 2012-2017	States have up to 10 years to meet standards plus two possible 1-year extensions

Regional Haze. On July 31, 1997 (62 FR 41138) EPA proposed a regulation to address "regional haze". A final rule is expected in April 1999. The purpose of the regulation is to improve visibility in 156 national parks, wilderness lands, and other pristine areas (referred to as "Class 1 areas" in the Clean Air Act) throughout the US. It is not a health-based regulation; it is part of how EPA is addressing public welfare concerns from PM. On July 18, 1997 EPA published revisions to the NAAQS for PM (as discussed earlier), which are health based standards. In this action EPA recognized that visibility impairment is an important effect of PM on public welfare and established

secondary standards for PM identical to the primary standards (to protect human health) in conjunction with this revised visibility protection program in mandatory Class 1 areas. Section 169A of the Clean Air Act sets forth a national goal for visibility which is the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class 1 Federal areas which impairment results from man-made pollution".

Regional haze impairs visibility and is caused by natural sources and manmade air pollution such as PM, sulfates, and nitrates. Long range transport of fine particles contributes to regional haze, so all 50 states are covered. The ultimate goal of the proposed regulation is to return visibility conditions to natural levels in Class 1 areas; that is, visibility that is not affected by manmade air pollution.

The proposed regulation establishes a target -- one "deciview" (measurements of improvement in light extinction, the primary cause of visibility impairment) of visibility improvement every 10 years -- to be achieved when natural background visibility levels are reached. On deciview equates to approximately a 10% decrease in airborne particulate concentrations. The proposed regulation requires control of fine particles, like the new ambient air quality standard for PM2.5, but would affect more areas (all 50 states would be required to develop plans) and ultimately require greater emission reductions. EPA assistant administrator for air and radiation, Robert Perciaseps said on February 5, 1999, that the final rule will contain changes from the proposal. For example, EPA will not set a national rate of progress goal of one deciview of visibility improvement every 10 years. EPA is considering ways to establish a single rate of progress requirement which likely will be based on achieving background levels of visibility improvement within 60 years. In addition, the agency expects to change the requirement that states revise their implementation plans for the haze rule every three years by extending the number of years a state can go without adjusting its plan. The rule is expected to foster regional/multi-state efforts to reduce regional haze (e.g., the Western Regional Air Partnership). Because of the Inhofe amendment, implementation of regional regulations are now more closely aligned with the PM rule (see Table 3). Also, EPA plans to spend $4.9 million in the coming years to help states develop strategies for cutting haze.

To address regional haze, distant sources (perhaps hundreds of miles from Class 1 areas) will be subject to emission controls. Presently, it is uncertain how many miles away sources will be regulated. The exact distance will be based on analyses by the states and EPA. Besides the additional controls on agriculture, business, industry and others, states will be burdened with developing new plans to implement the regional haze program at the same time many are faced with developing plans to implement the new standards for ozone and PM2.5, as well as PM-10 in severe nonattainment areas.

Emission Standard for Process Heaters (MACT standard). In 1997 EPA convened the Industrial Combustion Coordinated Rulemaking (ICCR) to identify and develop technology based standards (Maximum Available Control Technology [MACT] standards) for combustion sources for potential hazardous air pollutions (HAP). This is done under Section 112 of the Clean Air Act (CAA), which requires EPA to establish emission standard for major and area sources of HAPs. These standards, if necessary, are due by November 15, 2000. Part of this process is the development of emission MACT standards for process heaters, stationary reciprocating internal combustion engines (e.g., irrigation systems) and boilers. EPA has launched an effort to gather input from small business that may be affected by these upcoming air toxics rules.

Two types of process heaters are identified:

1. Indirect-fired process heater
2. Direct-fired process heater (dryers used in cotton gins are considered direct-fired units).

Direct-fired process heaters are process heaters in which the combustion gases come in direct contact with the process material. For direct-fired process heaters the products of combustion (from gas, liquid, or solid fuels and/or waste) mix with the process emissions and exit from the same stack. The emissions are source and industry specific. The only way to properly identify air pollutants emitted from these source specific direct-fired process heaters is to have specific knowledge of the process and the raw materials used in the process. For cotton gins the emissions (NO_X, CO) are very small if natural gas is used.

After review, direct-fired process heaters were considered low priority and will not be considered at this time, if at all. This action assures that no direct-fired process heater MACT standards will be proposed within the ICCR process, and that where necessary standards for direct-fired process heaters will be addressed through the various source specific MACT rulemaking proceedings the EPA is undertaking. (There are no such rulemakings for most agriculture industries including cotton gins.) Cotton gins will either have no standard or existing controls will be considered acceptable (i.e., if any standard is developed the MACT floor requirement would be existing controls or "Good Combustion Practices" as was developed for indirect-fired process heaters). The NCGA and Bill Mayfield have been very helpful in working with the NCC on this to help supply information to a large coalition.

Accidental Release Prevention, Risk Management Program. The 1990 amended Clean Air Act (CAA) included provisions for Accidental Release Prevention (Sec. 112(r)). The objective of this EPA regulation, similar to

that of the OSHA Process Safety Management (29 CFR 1910.119) regulation, was to prevent toxic releases, fires and explosions from processes handling toxic and/or flammable materials. OSHA's objectives is to protect employees. EPA's objective is to protect the public and the environment. The final result was the Risk Management Program rule, which on June 20, 1996 (61 FR 31668-31730), was published by EPA. By June 21, 1999, each site covered under this rule must submit their completed Risk Management Plan (RMP) to the EPA. Sites must comply with the RMP if one or more listed substances are on site and these substances are at or over the listed thresholds for the substances. The list of chemicals specifically covered are indicated at 40 CFR 68.130 (also see 63 FR 639-645; Jan. 6, 1998; "List of Regulated Substances and Thresholds for Accidental Release Prevention Final Rule").

Some light hydrocarbon fuels listed as flammable substances are covered by the rule (butane, ethane, methane, and propane). Each of these substances has a threshold of 10,000 pounds (this is equivalent to 2431 gal. of propane). OSHA has exempted these fuels, such as propane, under their PSM regulation 29 CFR 1910.119 (a)(ii)).

Cotton gins, having an inventory of 10,000 pounds or more of propane or any other light fuel, are covered. The Propane Distributor Association feel that facilities using propane are already covered by other regulations and that meeting NFPA 58 should be sufficient. EPA does not agree. So there is much political action underway to get this situation resolved (Johnson, 1998; Combest et al. Congressional letter, 1998). The major question is how much needs to be added to existing programs including what kind of "worse-case" scenarios information. In October 1998, the EPA Chemical Emergency Preparedness and Prevention Office (CEPPO) issued a "Risk Management Guidance for Propane Users and Small Retailers". This can be found on the EPA website at: www.epa.gov/ceppo/acc-pre.html. Also on this website as part of the RMP Series are guidances for "Submitting Your Risk Management Plans" and "EPA's Risk Management Program, How Does It Affect Propane Retailers and Users". On March 1, 1999 (64 FR 9989) EPA issued two documents on the "method" (RMP*Submit User's Manual) and "format" (RMP ASCII File Format) for use in submission of RMPs which are available on the Internet at: http://www.epa.gov/swercepp/rmp-dev.html. (The EPA technical assistance hotline is 1-800/424-9346.) It appears some facilities will use these guidances as a basis for their RMP.

DOT- Transportation

Hazardous Cargo Designation

The U.S. Department of Transportation (DOT) regulates the movement of products on the nation's highways, railroads, and waterways. The U.S. Coast Guard, as DOT's enforcement arm for vessel shipments, required cotton shippers to prepare dangerous goods declarations for cotton exports because they were required to follow International Maritime Organization (IMO) International Maritime Dangerous Goods (IMDG) Code Regulations that classified cotton as Class 4.1 (flammable solid). Cotton also was listed as Class 9 (a miscellaneous hazardous material) by DOT for domestic waterborne shipment which required certain hazardous goods papers to accompany a shipment.

To get these designations removed, the NCC, through the Cotton Foundation, sponsored research to support a petition to the DOT and IMO to exempt certain categories of cotton from regulation. Actual tests, as well as other technical information, indicate that cotton does not self-ignite (spontaneous combustion) unless it is contaminated with significant amounts of oil and grease—wet bales cannot self-ignite. Severe flammability tests conducted on full-size bales generated data verifying cotton's minimal risk when packaged in universal density (UD) bales. In addition, tests performed on UD bales by Ed Hughs, USDA, indicated that an internal smoldering fire (fire-packed bale) does not spread but self extinquishes in a very short time even when the fire's source is within 0.5 inches of the surface. These test results, along with the industry's experience with containerized shipment were submitted to DOT on June 6, 1996 in a petition arguing that cotton compressed to universal density should not be regulated as hazardous. Supplemental information was supplied to DOT to complete the petition. Test results and other data submitted to DOT as a petition to get baled cotton deregulated as a class 4.1 flammable solid under IMO regulations for vessel shipment and as a class 9 hazardous substance under DOT regulations for domestic waterborne shipment were used by DOT to prepare a proposal which was submitted to the IMO (November 1997) to have baled cotton deregulated. At the IMO meeting in London in February, 1998, amendment 29 to the IMDG code was approved which removes baled cotton (compressed to a density of about 22.4 lbs/ft^3 or greater) from Class 4.1 (flammable solid), effective January 1, 1999. In response to an NCC petition DOT, in a May 1998 letter to NCC, granted interim approval and issued a guidance to allow transport without the former requirements in the interim until the IMO IMDG Code amendment became effective. Because of the IMO decision to deregulate cotton, DOT proposed (August 18 1998; 63 FR 44312) to remove baled cotton as a class 9 hazardous substance and therefore from the Hazardous Materials Regulations (HMR). This rule was finalized March 5, 1999 (64 FR 10741-83) and made effective immediately. Also, a final standard making the IMDG code amendments effective date of January 1, 1999 was published (63 FR 57929; October 29, 1998). This aligns the HMR with international air, sea, and land transport requirements which became effective January 1, 1999.

The result of all this, in addition to removing the hazardous cargo requirements (and their associated costs) so the bale

can shipped as ordinary cargo, has helped lower insurance rates for storage of cotton bales in warehouses and textile mill warehouses (Nevius, 1998).

OSHA-- Workplace

Introduction

Charles Jeffress, former head of North Carolina OSHA, became the new OSHA head in November 1997. Jeffress indicates that he favors targeted inspections of worksites, with high worker compensation claims as the basis, to use the limited resources of OSHA better. He believes in inspections as a valuable tool to get employers' attention and feels that safety and health management programs are the key to a good OSHA program. In 1999, OSHA has a very active regulatory agenda that could impact all sectors of the cotton industry. The agency enters the year with a $16 million budget increase and Jeffress may have more legislative support. The current OSHA regulatory activities are summarized in Table 5.

General Information for Cotton Gins

OSHA has authority over all standards affecting the workplace. The Occupational Safety and Health Act states that each employer has a responsibility to comply with the standards promulgated under the Act. Cotton gins are considered agricultural operations by OSHA, so the specific standards and regulations for cotton gins are found in 29 CFR 1928, Occupational Safety and Health Standards for Agriculture. The only general industry standards (29 CFR 1910) that apply (specifically) to gins are specifically listed under 29 CFR 1928.21 (a). These include:

- Temporary Labor Camps, 1910.142;
- Storage of annhydrous ammonia, 1910.111;
- Slow moving vehicles, 1910.45; and
- Hazard communication, 1910.1200

The OSH Act requires that each employer shall maintain a safe and healthful workplace ("general duty clause"), i.e., a place of employment free from recognized hazards that are causing or are likely to cause death or serious physical harm to employers. OSHA can cite for alleged violation under this so-called "general duty clause" [Section 5(a) (1) of the OSH Act] if there is not a specific standard to cite. Cotton gins are not covered by Federal OSHA standards for noise, lockout tagout, confined spaces and several others but could be cited for these under the "general duty clause". Recordkeeping, training, and the hazard communication standard are the most cited standards. In addition, OSHA can refer a case to the Department of Justice to bring criminal penalties against an employer. OSHA is increasingly using the "general duty clause" to cite for workplace violations and bringing criminal penalties.

You should know whether your state is a "state plan" state (i.e., administers its own OSHA program) or is under Federal OSHA, since 23 state plan states can have different regulations than Federal OSHA-- state standards only have to be "as effective as the Federal standards", but they can be more severe. See Table 4 which lists the cotton belt states with state plans.

Table 4. Cotton Belt States OSHA Enforcement

OSHA State Plan States	State Under Federal OSHA Jurisdiction
AZ	AL
CA	AR
NC	FL
NM	GA
SC	KA
TN	LA
VA	MO
	MS
	OK
	TX

Safety and Health Program Rule

This rule, to promote a safe and healthful workplace and identify and control/eliminate hazards in the workplace is a top priority for OSHA and would be the centerpiece of OSHA programs. A draft OSHA proposal was released in May 1996; a second draft was released in November 1998 (29CFR 1900.1); and a proposal is expected by April 1999. On January 4, 1999 a small business panel report indicated that this rule could cost small business 10 to 20 times more than the Agency indicated (Kent, 1999).

A draft version of the rule released by OSHA rule in November 1998 would require employers to establish workplace safety and health programs to ensure compliance with OSHA standards and the general duty clause of the Occupational Safety and Health Act. It would apply to all employers covered by the act, with the exception of construction and agricultural companies, according to the draft. Companies with existing programs may be grandfathered, so NCC is developing draft guidelines that could be used by cotton industry segments. NCGA's voluntary safety and health management program is being developed by their safety and health committee.

The core elements of the Safety and Health Program Rule according to the "OSHA Draft Proposal" are:

- Management leadership and employee participation;
- Hazard identification and assessment;
- Hazard prevention and control;
- Information and training; and
- Evaluation of program effectiveness.

An industry coalition (Alliance for Workplace Safety) led by the U.S. Chamber of Commerce will fight OSHA's attempt to promulgate this rule. The alliance is not opposed to the implementation of safety and health programs, but it believes that each business would need a specifically tailored safety and health program unique to its industry. The alliance does not believe that an OSHA one-size-fits-all regulation would work. They feel the rule would require

businesses to have safety and health programs that fit the "decisions and whims of OSHA." It would give OSHA and its inspectors wide ranging enforcement powers including enforcement for ergonomics. However, the alliance will encourage employers to consider, design and implement their own health and safety programs while fighting OSHA's planned regulation.

NCC participates in OSHA stakeholder meetings of this issue, which could have far reaching effects on industry and is part of coalitions that are attempting to make changes in the rule to make it more flexible and possibly voluntary.

California has had a standard since 1989 ("Injury and Illness Prevention") which would have to be somewhat changed if OSHA promulgates a standard like the latest draft. Also, the American Industrial Hygiene Association (AIHA) is planning to develop a voluntary model safety program rule that would complement the OSHA rule and could help small businesses.

Ergonomics

Development of an ergonomic standard is a high priority for OSHA and a top regulatory issue for the AFL-CIO. There was an Advanced Notice of Proposed Rulemaking in 1992 (57 FR 34192; 8/3/92). The Agency is working on an ergonomics proposal and expects to publish it in September 1999. A working draft version ("work in progress") of the rule, released February 19, 1999 (www.osha.gov; go to ergonomics), would not apply to agricultural industries; it would require employers to establish an ergonomics program if they employ workers in manufacturing or manual handling operations—but the rule would extend to any general industry workplace once a work-related musculoskeletal disorder (WMSD) is reported; is triggered by the report or identification of one WMSD; grandfathers some existing ergonomics programs; permits an incremental approach to fixing workplace WMSD hazards; and includes detailed provisions for employee participation.

In the draft of OSHA's Ergonomics Program Standard (29 CFR 1910.500; dated February 19, 1999) the basic obligations are:

1. You must set up an ergonomics program to prevent or reduce WMSDs for manufacturing operations, manual handling operations and where a WMSD is reported or identified in the workplace.
2. The basic elements in an ergonomic program are:
   a) Management, leadership and employee participation;
   b) Hazard identification and awareness;
   c) Job hazard analysis and hazard control;
   d) Training;
   e) Medical management; and
   f) Program evaluation

On February 19, 1999, OSHA also published a "Background on the Working Draft of OSHA's Proposed Ergonomics Program Standard" and announced the Agency would begin a small business review of the draft ergonomics proposal in early March to be completed in 60 days. Major industry groups indicate that the draft rule is "simply too complex and too detailed" and needs to be winnowed down. Considerable work must be done to lend clarity and simplicity to the draft rule, its definitions, and scope of its coverage. It places too much emphasis on engineering controls to prevent WMSDs.

WMSDs caused by heavy lifting, repetitive motion, overexertion, contact stress, extreme force, vibration, and awkward posture are of most concern. Agricultural operations where an WMSD is reported could be covered under the general dusty clause. An ergonomics regulation would be very costly to agriculture. NCC has participated in several OSHA stakeholder meetings on ergonomics for agriculture and general industry.

The California Occupational Safety and Health Standards Board adopted an ergonomics regulation April 17, 1997 which became law July 3, 1997. The measure would apply to all CA businesses with 10 or more employees and would be triggered when two workers performing identical tasks have been diagnosed with repetitive motion injuries (RMI) in a 12 month period. This controversial standard is the subject of lawsuits by groups on both sides of the issue. NC proposed an ergonomics standard November 1998 which would cover all industries. ANSI has a draft voluntary ergonomics standard that is being reviewed (Z-365).

Crystalline Silica

Revision of the crystalline silica standard is one of OSHA's 10 priority regulatory efforts. Crystalline silica, which may represent as much as 20% of soil dust, was designated by the International Agency on Cancer Research (IARC) as a known human carcinogen (for lung cancer) in Feb. 1997. ACGIH added it to its list of suspect carcinogens 1998 list of intended changes. The National Toxicology Program (NTP) has proposed to change the current listing for crystalline silica to "known to be a human carcinogen" (63 FR 57132; October 26, 1998). Crystalline silica exposure can also cause acute and chronic non-malignant respiratory disease [silicosis (restrictive lung disease) and chronic obstructive pulmonary disease (COPD)] and possibly other health risks. OSHA also has a special emphasis program (SEP) on silica for silicosis (started in 1996). The OSHA project leader, Loretta Schuman, strongly believes that the lifetime risk of silicosis from exposure to crystalline silica at the current PEL is 35% to 47%.

Crystalline silica was added to the OSHA regulatory agenda in Oct. '97 for rulemaking for a "full and comprehensive standard" (a proposal is expected in 2000). OSHA plans to update the permissible exposure limit (PEL) which is now about 0.1 mg/m^3 and could lower it, in addition to adding

workplace exposure monitoring, medical monitoring, training, and engineering controls. In addition, the Sand Association has asked (November 1998) OSHA to consider a negotiated rulemaking for crystalline silica. The industry's position is that the revision should focus on controlling exposures through personal protection, dust monitoring and other engineering solutions, not a more stringent PEL. MSHA also is expected to propose a comprehensive rule in 1999 or 2000 which OSHA may follow.

Occupational Injury and Illness Recordkeeping and Reporting Rule

OSHA requires employers to keep records of illness and injuries. These records are used by OSHA and the Bureau of Labor Statistics (BLS), among others, to develop data on workplace safety and health by industry and across industries. The occupational injury and illness records maintained by employers are an important component of OSHA's program. The records are used by employers and employees to identify and evaluate workplace safety and health hazards, and they provide OSHA personnel with necessary information during workplace inspections. The records also provide source data for Annual Survey of Occupational Injuries and Illnesses conducted by the BLS. All of the uses of the data are affected by the quality of the records employers maintain. Higher quality data leads to higher quality analyses, which in turn leads to better decisions about occupational safety and health matters. To improve the quality of records and enhance the utility of the information for all the entities using the data, OSHA needs to provide clearer guidance to employers; simplify the recordkeeping forms; and provide employees with access to the information. To do this OSHA published a proposal February 2, 1996 (61FR4030) that contained revised recordkeeping requirements and forms.

A final rule implementing a host of changes to Labor Department requirements for recording workplace injuries and illnesses is now targeted for publication in June, 1999, with the revised system in place by January 1, 2000. This is one of OSHA's priority rulemakings. The final rule will resolve a number of important issues that continue to be debated at OSHA, including the issue of how the agency will define whether an injury or illness is work-related and must be recorded.

An industry task force is proposing that employers be only required to record those cases that are "clearly linked to the workplace". Currently, two things enter into whether a case is recorded: Is it work related and does it rise to the level of severity required. OSHA feels that if it has to be 100 percent work related it would wipe out the recording of almost all cases of mixed causation (e.g., some back injuries, respiratory disease and hearing loss).

Also under consideration are the industries that will be exempted or covered by the rule. OSHA 1996 proposal would broaden the exemption for small businesses—currently, employers with 10 or fewer employees do not have to record cases—to those with 19 or fewer.

Respirator Standard

On January 8, 1998, OSHA issued a Final Rule on Respiratory Protection (62 FR 1152). It replaces the existing consensus standards (29 CFR 1910.134 and 29 CFR 1926.103) for respiratory protection that OSHA adopted in 1971, under section 6(a) of the Occupational Safety and Health Act of 1970. The revised standard (29 CFR 1910.134) became effective April 8, 1998 and start-up dates for specific provisions are found in 29 CFR 1910. 134 (n). The final rule applies to general industry, construction, and maritime but not specifically to agriculture. However, if gins offer respirators to their workers they should consider having a written respirator program.

The revised standard is intended to promote more effective use of respirators, provide greater flexibility in complying with the standard, and clarify an employer's responsibility for administering a respirator program. Employers must develop and implement a respiratory protection program. The major requirements are:

- Written plan with worksite specific procedures tailored to each workplace (procedures must address routine and reasonably foreseeable emergency situations);
- Hazard evaluation characterizing respiratory hazards and work conditions to assist with respirator selection;
- Medical evaluation to determine ability of workers to wear the selected respirator;
- Fit testing of respirators to reduce face seal leakage and ensure adequate protection;
- Training of employees in (1) proper respirator use; and (2) the respiratory hazards to which they are potentially exposed; and
- Program evaluation to ensure continued effectiveness of program.

Powered Industrial Truck Training

On December 1, 1998 (63 FR 66238), OSHA published a final rule for establishing revised mandatory training requirements for operators of powered industrial trucks (29 CFR 1910.178). The requirements apply to users of powered industrial trucks in all industries except agricultural operations. Regulated powered industrial trucks are used to carry, push, lift, stack or tier material. Accordingly, this rule covers forklifts. (Vehicles used for earth moving and over the road hauling are exempt from this rule.) This regulation does not apply to agriculture since the standard did not include a 29 CFR 1928 standard or a reference that this was a 29 CR 1910 standard that was applicable to agriculture. There is confusion in the preamble to this standard because it mentions SIC 07

industries, which includes gins. However, if cotton gins use forklift trucks, it would be prudent to have a training program.

Some of the requirements of this standard are:

Initial Training: Under OSHA's rule, initial and refresher training are required for powered lift industrial truck operators before they can operate independently. (Special rules govern trainees' activities involving the trucks.)

- For an employee hired before December 1, 1999, initial training and an evaluation must be completed by December 1, 1999.
- For an employee hired after December 1, 1999, initial training and an evaluation of the operator's performance must take place before he or she is permitted to operate the equipment.

Refresher Training: OSHA requires that each operator's performance be evaluated during the initial and refresher training and at least once every three years. Refresher training must be provided under the following circumstances:

- an operator is observed operating a powered industrial truck in an unsafe manner;
- an operator is involved in an accident or near-miss accident;
- an operator is assigned to drive a different type of truck; or
- a condition in the workplace changes that could affect the safe operation of the truck.

Confined Space

On December 1, 1998 (63 FR 66018), OSHA published amended standards for permit-required confined spaces (29 CFR 1910.146). This rule was effective on February 1, 1999. The revisions to the final rule changes several provisions of paragraphs (c), (d), (e), and (k) of OSHA's permit space standard (20 CFR 1910.146), and add a new paragraph (l). The amendments afford employees greater participation in the permit space program and provide greater protections to affected employees. This standard does not officially cover cotton gins because they are agriculture. However, it would be prudent to have a program if there are confined space risks in a workplace.

Some of the requirements of this standard are:

Testing: Before an authorized employee enters a permit-required confined space, he or she has an opportunity to observe any testing of the permit space. Pre-entry testing includes testing the internal atmosphere of the permit space for oxygen content, flammable gases and vapors, and toxic air contaminants. Employees also have an opportunity to observe any subsequent testing or monitoring of permit spaces in order to protect themselves from permit space hazards.

Written Certification: Employers have a responsibility to certify, in writing, that permit-required confined spaces are safe for entry and that all hazards in permit spaces have been eliminated. The written certification must be made available to employees before they enter permit spaces.

Rescue: Employers must also satisfy OSHA's criteria for the emergency rescue of persons in confined spaces. Employers must select a rescue team that is capable of providing needed rescue services; and this team must be equipped and available to respond to emergencies promptly.

Employers whose employees will provide rescue services must:

- train employees to perform assigned rescue duties;
- provide employees with necessary personal protective equipment (PPE);
- train employees on the use of PPE; and
- train employees on basic first aid and cardiopulmonary resuscitation (CPR).

Employees who will perform rescue services must practice permit space rescues at least once every 12 months. Training must include simulated rescue operations in which the employees remove manikins or actual persons from permit spaces.

Cotton Dust

The final revised cotton dust standard, promulgated in 1978 and amended in 1985, specifically exempts cotton ginning [29 CFR 1910.1043(a)(2)]. In 1998 OSHA undertook a review of the cotton dust standard as required by section 610 of the Regulatory Flexibility Act and E.O. 12866 to determine the effectiveness of the standard and to determine if changes are necessary (6/23/98; 63 FR 34140). NCC testified at the July 30, 1998 hearing and submitted comments in September. The comments offered suggestions to make the standard less burdensome on industries covered as well as reminding OSHA that there was no basis to considering expansion of coverage of the standard, since OSHA over a 15 year rulemaking had thoroughly evaluated and included all cotton processing and handling industries where there was information showing a problem.

Flammable and Combustible Liquids (29 CFR 1910.106)

This project responds to a Presidential initiative of March 1995 to revise confusing or overly detailed standards by rewriting them in plain language and to the President's Executive Memo of June 1998. With this project, OSHA is initiating rulemaking that will revise the regulations contained in 29 CFR 1910.106 addressing flammable and

combustible liquid storage. The purpose of this rulemaking will be to revise this standard into plain language. A proposal is expected by March 1999.

Fire Brigades

Firefighting exposed member of fire brigades to a significant risk of harm. To mitigate these risks, OSHA promulgated a standard for fire brigades in 1980 (29 CFR 1910.156). However, the standard is now more than 18 years old, and does not reflect current advances in technology and safety. This action would revise the existing fire brigade standard to reflect the latest technology in safety, particularly with respect to personal protective equipment and emergency procedures. It would also address gaps in coverage, since the existing fire brigade standard does not cover wildland fire fighting or crash-rescue type fire fighting. OSHA will be working closely with State Plan States to assess the potential impact of the proposed rule on municipal fire departments. This is in the category of long term issues and does not have a date for a proposal.

Diesel Exhaust (Particulates)

The National Toxicology Program (NTP) will list diesel particulates as a carcinogen in the 9th report on Carcinogens to be issued in 1999 (63 FR 57132; October 20, 1998). Mining will be the first industrial sector required to control diesel particulate matter from diesel engines in the workplace. The Mining Safety and Health Administration (MSHA) proposed regulations on April 9, 1998 (63 FR 1742) and October 29, 1998 (63 FR 58104) that would limit exposures to diesel particulate matter (DPM) for underground coal and metal and nonmetal mines, respectively, through a combination of engineering and work practice control methods. The agency defined DPM as a "very small particle in diesel exhaust". MSHA states that there is clear evidence that exposure to high concentrations of DPM can result in a variety of serious health effects which include: (1) Sensory irritations and respiratory symptoms; (2) death from cardiovascular, cardiopulmonary, or respiratory causes; and (3) lung cancer. In addition, the Agency is supplementing the rulemaking records with additional studies by Christie et al., Johnston et al., and Steenland et al. to further support their finding of adverse health effects (64 FR 7144; February 12, 1999). MSHA's proposal would not establish any specific controls, but, "An operator could filter the emissions from diesel-powered equipment, install cleaner- burning engines, increase ventilation, improve fleet management, or use a variety of other available controls". According to the MSHA proposals, a final limit of 160 mg/m^3 of air would take effect in five years. However, an interim limit of 400 mg/m^3 would go into effect following an 18-month period of MSHA education and technical assistance. The comment period on these two proposals has been extended to April 30, 1999 (64 FR 7144; February 12, 1999). OSHA is expected to follow MSHA's lead on this.

Summary

It can be seen from the list of new and potential regulations discussed that there is much activity and the cotton industry will be very busy with regulatory agency activities. Fortunately, there are very many outstanding engineers and safety and health professionals in the ginning industry to assist in these efforts. Also, through the efforts of NCGA and the regional gin associations, cotton gins have very good health and safety programs and are controlling external emissions.

Reference

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Table 5. OSHA RULEMAKING

On November 9, 1998, OSHA published its Regulatory Agenda (63 FR 61302-14, 61974-75, 62005-17). Section 1 shows the Current Regulatory Agenda issues important to the cotton industry and the current status of each.

On December 13, 1995 OSHA released its Priorities List for protection of worker health and safety. They gave special priority to five issues; those are seen in section 2 (Top New Priorities) of the table. These issues will be added to the

Regulatory Agenda as current rulemakings are completed. (Crystalline silica was recently moved to the regulatory agenda in section 1.)

Additional priority issues (from the priorities list), seen in section 3, will be addressed through voluntary guidelines and industry standards. OSHA has said it will work with industry and labor groups to encourage worker protection without developing new rules on these issues at this time.

ISSUE	STATUS
1. CURRENT REGULATORY AGENDA	
• Safety and Health Program Rule (for general industry); agriculture not covered	draft proposal 11/98; NPRM due 4/99 ; "Centerpiece of OSHA's 1999 plan"
	[CA standard 1989 - Injury and Illness Prevention]
➪ medical surveillance (ANPR 9/88; withdrawn 3/95)	could be part of S&H Program Standard
➪ monitoring (ANPR 9/88; withdrawn 3/95)	could be part of S&H Program Standard
• Ergonomics	ANPR 8/03/92 (57 FR 34192); Proposed rule due in 9/99; Several stakeholder meetings in 1998; draft rule 1/6/99 and 2/19/99; ANSI draft 1998;CA Standard final -- effective 7/97; NC proposal 11/98
• Silica (crystalline)	IARC has classified as human carcinogen (10/96, published 6/97); ACGIH added to list suspect carcinogen 1998 list of intended changes; NTP designated as human carcinogen 1999. OSHA rulemaking underway (long term, about 2 years); possible negotiated rulemaking 1999; proposal 2000; OSHA Special Emphasis Program (SEP) for Silicosis 10/31/96
• Simplified Recordkeeping (occupational injury/illness reporting requirements)	Proposal 2/2/96 (61 FR 4030); final action due 6/99, with implementation action Jan 1, 2000
• Tuberculosis	Proposed rule 10/17/97 (62 FR 54160); covers health care workers
• Respirators (29 CFR 1910.134)	ANPR 1982; proposal 11/94; final standard (1/8/98; 63 FR 1152)
• Powered Industrial Truck Operator Training (29 CFR 1910.178)	covers forklift truck; final rule 12/1/98 (63 FR 66239)
• Confined Space (revisions to clarify rescue and emergency services, flexibility in retrieval line attachment, employee rights to observe evaluations and results) (29 CFR 1910.146)	proposed 11/94; final rule 12/1/98 (63 FR 66018)
• Indoor Air	proposal 4/94; hearings; OSHA reviewing comments; 11/96 court declined to compel regulation of tobacco smoke; final action long term
• Hazard Communication (29 CFR 1910.1200) (Internal OSHA Task Force)	NACOSH held 4 hearings in 1996 to discuss issues relating to simplifying MSDSs, recordkeeping, training effectiveness, nuisance dust, etc.
• Cotton Dust (Section 610 Review) (29 CFR 1910.1043)	Review under section 610 of Reg. Flex. Act, EO 12866; Review need for standard and other aspects of rule including industry changes in technology, economic conditions, etc.; began review 1998 (6/23/98; 63 FR 34140) hearing 7/98; comments 9/98; report due 1999
• Control of Hazardous Energy Sources (lockout/tagout) (Section 610 review)	Began review on effectiveness of standard, need for update, etc. 10/01/96, end 10/97; report due 1999.
• PELs for Air Contaminants Update (10-12 new PELs) (29 CFR 1910.1000)	(n-hexane in 1996 notice, not on current list) public meeting 2/22/96; proposal due 03/99 (will also contain OSHA template for risk assessment
• Grain Handling Facilities (29 CFR 1910.272)	Changing definition of a storage facility as related to confined space. (Proposal 12/95). Final action 3/8/96; Section 610 review began 10/97
• Process Safety Management of Highly Hazardous Chemicals	adding new chemicals and raising issue of reactives - NPRM due 1999.
• Fire Brigades (29 CFR 1910.156) revise and update	Notice of intent to form negotiated rulemaking due 10/97; appointment of members 6/98; long term
• Flammable and Combustible liquids storage (29 CFR 1910.106) revise and update	NPRM early 1999 to get comment to make less complex and remove unnecessary parts, put in plain language
• Requirement to pay for personal protective equipment	NPRM early 1999
2. TOP NEW PRIORITIES (10/96 published 6/97): To be added to OSHA's regulatory calendar as others are completed	
• PELs Update (more extensive/on regular basis)	Agriculture proposal 6/92 (still active) included cotton dust
• Noise/Hearing Conservation	for constr uction and other non-covered industries (e.g., agriculture)
• Metal Working Fluids (oil mist)	could affect respiratory disease/endotoxins; Standards Advisory Committee (SAC) named 7/97; mandatory standard or voluntary guidelines
3. ADDITIONAL PRIORITIES: These will be addressed through guidelines, voluntary industry initiatives, informational campaigns, and other means, without developing new rules at this time.	
• Diesel Exhaust	MSHA proposal (4/9/98; 63 FR 17496 and 10/20/98; 68 FR 57132) (OSHA will follow MSHA); NTP added to list as carcinogen in 1999.
• Workplace Violence	3/96 non-mandatory guidelines for health-care and social service workers. 10/27/97 Guide to Federal Agencies; OSHA holding add'l stakeholder meetings; proposed guidelines late-night retail workplace
• Motor Vehicle Safety	proposal 7/90; withdrawn 3/95
• Occupational Asthma (including latex allergy)	could affect all organic dusts
• Solvents	
• Reproductive Hazards	