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Lane County Board of Commissioners

DRAFT- FOR INTERNAL REVIEW

June XX, 2007

Environmental Quality Commission
811 Sixth Ave., Portland, OR 97204-1390

Dear Members of the Commission:

On behalf of the Lane County Board of Health and the Lane County Board of Commissioners, we write to urge the Commission to exercise its authority under ORS 468A.610(9) to order a temporary cessation of open field burning in the Willamette Valley.[1] This action is needed to protect the lives and health of Lane County residents and others throughout the state who otherwise will be subjected to the public health danger of smoke inhalation and related toxic substances generated by field burning this summer.

The annual practice of field burning of grass seed residue,[2] conducted under the auspices of the Oregon Department of Environmental Quality and the Oregon Department of Agriculture, injects tons of fine particulates[3] and chemicals associated with incomplete combustion into the public airshed. It therefore presents a danger to public health and safety, particularly for downwind residents who already suffer from respiratory illnesses including asthma and chronic

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[1] In Oregon, grass seed is grown by 1,400 growers on over 500,000 acres, 460,000 of which are in the Willamette Valley. Oregon Seed Council, *Oregon Seed Industry – Fact Sheet* (updated 12/6/2004). The Oregon Departments of Environmental Quality (DEQ), the Agriculture (DOA), and Human Services (DHS) report that about 150 growers in the Willamette Valley burn their fields. *Open Field Burning In the Willamette Valley* (updated 2/13/2007). Accordingly, the vast majority of Oregon grass seed growers do not engage in field burning.

[2] Acreage of grass seed fields burned in Oregon, although reduced from levels of the 1980s, remains substantial. In 2006, nearly 52,000 acres were subjected to thermal residue treatment, of which approximately 49,000 acres were open-burned. Oregon Department of Agriculture, *Summary of the 2006 Field Burning Season* (Dec. 2006) 5-7.

[3] A recent study of emissions produced by Kentucky Bluegrass seed field burning noted that the 56 to 58 lbs of PM 2.5 produced per ton of residue consumed greatly exceeded that reported for most other agricultural burns, as well as that produced in wildfires and forest fires. Johnston and Colob, Washington State University, *Quantifying Post-Harvest Emissions from Bluegrass Seed Production Field Burning* (March 2004) 26. Where residues had not been reduced by baling, burning consumed a total of 3.2 tons of total material per acre. *Id.* at III. Research provided by the Department of Environmental Quality to Representative Paul Holvey in April, 2007, shows that during the field burning season, 40 percent of fine particulate pollution in the Willamette Valley is attributable to field burning, while during the four days of greatest burning, when about 50 percent of field burning occurs, smoke from the burning fields contributes 64 percent of fine particulate emissions. (DEQ research retained in the files of the Western Environmental Law Center). While the Department of Agriculture, which manages the field burning smoke program, intends for much of this smoke to disperse and not impact local communities, DEQ and DOA both acknowledge that impacts at times occur despite best intentions. According to other research released by Rep. Holvey's office, on the four days of major field burning, the ensuing smoke contributes 770 tons of fine particulates, 4,885 tons of carbon monoxide, and more than 676 tons of toxic air pollutants. Holvey letter to the Oregon Agriculture and Natural Resources Committee (April 30, 2007).

obstructive pulmonary diseases, those who suffer cardiovascular disease or diabetes, children under 18 – whose lungs are still developing,[4] and elderly residents.

Oregon's present field burning program was developed in the early 1990's without full knowledge of the dangers presented by smoke that entrains fine particles. The medical evidence, now, is overwhelming. Particulates less than 2.5 micrometers in diameter (PM 2.5) are too small to be filtered effectively by the upper respiratory system.[5] They can travel to the alveoli at the base of the lungs and impact the cardiopulmonary and cardiovascular systems. Exposure to PM 2.5 has been found to aggravate asthma, chronic bronchitis, cystic fibrosis and emphysema, and has been implicated in reduced lung function, irregular heartbeat, heart attack[6] and premature death in people with cardiovascular disease.[7] A 2006 study in the Journal of the American Medical Association found that even short-term exposure to PM 2.5 increases the risk for hospital admission for cardiovascular and respiratory diseases.[8] Oregon state agencies similarly acknowledge that field burning can result in serious public health impacts.[9] While additional studies of the health impacts of field burning smoke could quantify the numbers of additional illnesses and deaths attributable to Oregon's program,[10] there is ample evidence presently in existence. Decision-makers must not be side-tracked from their responsibility to terminate this harmful practice.

Under state law, the Oregon Department of Agriculture (ODA) regulates the practice of field burning in the Willamette Valley to reduce smoke impacts on populated areas, but its

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[4] Particulate pollution has been linked to infant death, premature birth, and low birth weight. American Academy of Pediatrics Committee on Environmental Health, Ambient Air Pollution: Health Hazards to Children. *Pediatrics* 2004; 114: 1699-1707. According to the American Lung Association of Oregon, "[c]hildren's lungs develop mostly after they're born and air pollution from burning can affect the ability of [their] lungs to develop normally, leading to a lifetime of breathing problems. Children are also outside more than adults, so they risk breathing more of this pollution." Letter to Oregon House of Representatives Health Care Committee (April 6, 2007).

[5] In addition to both coarse and fine particulates, the smoke from grass seed burning "contains a complex mixture of chemicals, known carcinogens such as benzene and acrolein." Lane County Medical Society letter to state legislators (April 5, 2007). The smoke also contains chemicals that are usually associated with the process of incomplete combustion, including polycyclic aromatic hydrocarbons (PAHs), phenols, and volatile organic compounds (VOC). Grass Seed Field Smoke and Its Impact on Respiratory Health, *Environmental Health* (June 1998) 10-11.

[6] Increased Particulate Air Pollution and the Triggering of Myocardial Infarction, *Circulation* (June 12, 2001) 2810-2815.

[7] EPA, *Fact Sheet: Final Revisions to the National Ambient Air Quality Standards for Particle Pollution (Particulate Matter)*, 1, (September 21, 2006), http://epa.gov/pm/pdfs/20060921_factsheet.pdf (last visited January 26, 2007). Oregonians may be particularly vulnerable to field burning smoke in light of the state's relatively high incidence of asthma. Oregon Asthma Program, *Oregon Asthma Surveillance Summary Report*, 12 (March 2007), http://oregon.gov/DHS/ph/asthma/docs/report.pdf (last visited January 26, 2007). Oregonians have the 4th worst prevalence of asthma in the nation. Behavioral Risk Factor Surveillance System, *Prevalence Data: Asthma 2005*, http://apps.nccd.cdc.gov/brfss/list.asp?cat=AS&yr=2005&qkey=4416&state=All (last visited January 26, 2007).

[8] Journal of the American Medical Association, *Fine Particulate Air Pollution and Hospital Admission for Cardiovascular and Respiratory Diseases* (March 8, 2006).

[9] The Oregon Departments of Environmental Quality (DEQ), Agriculture (DOA), and Human Services (DHS) note that although field burning events are too brief in duration to violate federal air quality standards, exposure "can still pose health risks" including, for the general public, "eye irritation, scratchy throat, runny nose, headaches, and allergic reactions" and serious problems "for people with pre-existing respiratory problems" or for "sensitive populations such as young children and the elderly." *Open Field Burning In the Willamette Valley* (updated 2/13/2007).

[10] *Open Field Burning In the Willamette Valley*, op. cit. note. 1, states that the "Oregon Department of Agriculture, in conjunction with researchers at Oregon State University, is currently planning to conduct a human health risk assessment of field burning in the Willamette Valley."

success is limited by "unexpected wind shifts, rapidly changing mixing heights, rapidly decreasing transport wind speeds and directions, other meteorological factors and inefficient lighting techniques."[11] Incursions into heavily populated areas of the Willamette Valley are common during the burn season. The Lane Regional Air Protection Agency (LRAPA) reports that one-third of the 1,030 air pollution complaints it receives annually on average are related to field burning.[12] Eugene, Springfield and other highly populated areas of Lane County are frequently impacted by smoke intrusions, a function of prevailing southerly winds and upper valley air stagnation. Surrounding communities of relatively lower population density, including Sweet Home, Mill City, and Harrisburg, among others, also suffer heavy intrusions because they are frequently in the pathway of the smoke plumes. Oregon's smoke management plan suffers the "critical defect" that it is virtually impossible to predict wind behavior over a period of a few hours and that "the outcome of any smoke management plan...comes down to a choice as to which group of people is going to be the target."[13]

Since 1990, in conjunction with the grass seed industry, the state has funded over $300,000 annually for research into alternatives to field burning.[14] The state has also provided tax credits for growers to purchase equipment to promote alternatives to burning.[15] Markets for grass seed straw and practical, reasonable alternatives to burning have been developed.[16] And yet, although state public policy is "to reduce the practice of open field burning while developing and providing alternative methods,"[17] the numbers of acres burned has remained virtually unchanged since 1998,[18] while the population in downwind towns and cities has increased.

State law prohibits Lane County and other local governments from directly protecting the health of their residents by barring regional agencies, including the Lane Regional Air Protection Agency (LRAPA), from issuing their own restrictions on field burning.[19] State law also requires that permits for burning "shall be issued and burning shall be allowed for the maximum acreage specified" in the statute.[20] However, as noted, the law also authorizes the EQC to order a temporary emergency cessation of the program upon a finding of extreme danger to public health or safety. ORS 468.610(9). We urge you to make the finding of a public health threat and

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[11] Oregon Department of Agriculture, Natural Resources Division, Smoke Management Program, *Summary of the 2006 Field Burning Season*, 7-8 (December 2006), www.oregon.gov/ODA/NRD/docs/pdf/smoke_fb_sum2006.pdf, (last visited January 26, 2007).

[12] LRAPA also reports that two-thirds of the complaints received by the Oregon Department of Agriculture are from the Eugene-Springfield areas and other parts of the southern Willamette Valley. LRAPA letter to Representative Paul Holvey, (November 15, 2006).

[13] Declaration of Eric Skelton, Director of the Spokane (WA) County Air Pollution Control Authority and National President of the Association of Local Air Pollution Control Officials, discussing Washington and Idaho Smoke Management Plan's impact on Spokane County. *Safe Air for Everyone v. Wayne Meyer, et al.,* Case # 02-0241N-EJL (June 1, 2002).

[14] ORS 468A.585; DEQ, DOA and DHS report, *supra.* note1.

[15] DEQ, DOA and DHS report, *supra* note 1..

[16] OSU Extension, *The Search for Solutions* (Jan. 1989); CH2M Hill, *Opportunities in Grass Straw Utilization* (Feb. 1991); USDA and OSU Agricultural Experiment Station, *Low-Input On-Farm Composting of Grass Straw Residue* (Oct. 1998).

[17] ORS 468A.555.

[18] *See* ORS 468A.610; and Oregon Department of Agriculture, *Summary of the 2006 Field Burning Season, supra* note 2, at 17.

[19] ORS 468A.595(4); Still, in light of LRAPA's mission "*{t}o protect public health, community well-being and the environment,*" the agency urged the legislature in 2006 to "craft legislation to eliminate the practice [of field burning] in the Willamette Valley at the earliest possible date." LRAPA Letter to Representative Paul Holvey (November 15, 2006).

[20] *See* ORS 468A.610 (2) and (8).

exercise your power under ORS 468A.610(9) as the most direct means of protecting Lane County residents and other Oregonians this summer and next.[21] We note, in addition, that the relevant statutes invest in the Commission authority and responsibility:

(1) To cease the issuance of burn permits after a hearing and then a finding that "other reasonable and economically feasible, environmentally acceptable alternatives have been developed." ORS 468A610(8)(b).

(2) To "prohibit, restrict or limit" field burning, by rule, if necessary to carry out the policy of ORS 468A.010. ORS 468A.595(1).

(3) To "provide for a more rapid phased reduction," again by rule, of field burning in Willamette Valley counties. ORS 468A.595(2).[22]

Such determinations and rules, all long overdue, must be undertaken with state public policy in mind to "restore and maintain the quality of the air resources of the state in a condition as free from air pollution as is practicable, consistent with the overall public welfare of the state." ORS 468A.010.[23] The full statutory scheme illustrates that state law places the Commission at the center of the decision-making process over whether Lane County and other state residents will be protected, both in the short-term and in the long-run, or whether they will suffer again and again from the ill effects of smoke incursions and related toxins that predictably attend the summer field burning program. However, because the burning season and its consequential danger to public health is nearly upon us, specific emergency action pursuant to ORS 468A.610(9) is needed as a first step. A commencement of rulemaking to permanently end this archaic and harmful practice is warranted, but an immediate moratorium now is needed to protect public health.

We have been informed, through the testimony of neighbors, physicians, and local leaders, letters in local papers, sentiment conveyed to state legislators, and the sharp upward trend in complaints compiled by the Oregon Department of Agriculture – 1,182 received from Willamette Valley residents in 2006, exceeding the 1,106 complaints received in 2005, 475 in 2004, 206 in 2003, 705 in 2002, and 608 in 2001[24] – that public patience with field burning has been exhausted. Willamette Valley residents have written recently of being driven from their homes during field burning season,[25] of smoke-induced tearing too severe to enable them to locate the proper number so as to call-in a complaint,[26] of concern that a loved one driving in smoke-darkened conditions would be in an accident,[27] of suffering chronic sinus infections,[28] of exacerbated asthma with each smoke intrusion,[29] of headaches and nosebleeds,[30] of swollen

[21] With Eugene hosting the U.S. Olympic Trials in 2008, more attention will be focused on Lane County air quality.
[22] The Commission is also obliged to provide for "a more rapid phased reduction" of burns in Multnomah, Washington, Clackamas, Marion, Polk, Yamhill, Linn, and Benton Counties. *See* ORS 468A.610 (2) and (8)..
[23] Toward that end, state and local government agencies are required to coordinate their air quality programs, working together to promote public welfare by restoring the air. *Id.*
[24] *Id.* at (8).
[25] Statement of Dixie Maurer-Clemons of Eugene (Mar. 1, 2007).
[26] Statement of Maxine Kovarik, Springfield (Feb. 27, 2007).
[27] Statement of Penny Spencer, Creswell (Mar. 2, 2007).
[28] Statement of Dorothy Bucher, Eugene (Feb. 24, 2007).
[29] Statement of Pam Perryman, Eugene (Feb. 10, 2007).
[30] Statement of Ronald and Doris Gates, Springfield (Feb. 1, 2007).

glands, wheezing, fatigue, and migraines,[31] of burning lungs,[32] of children battling bronchial and nasal congestion,[33] of black ash as big as a fist drifting into ones yard,[34] of being trapped at home during 90 degree weather without air conditioning, unable to open windows for fear of the smoke,[35] of smoke so thick it set off a school fire alarm,[36]of an elite track star coughing up blood after a meet that coincided with a burn day.[37] These are just a few of the examples of affects on the lives of Oregonians.

This year, the Lane County Board of Commissioners and citizens throughout the Willamette Valley urged the State Legislature to protect public health by ceasing the grass seed burning program. Toward that end, Representative Paul Holvey introduced HB 3000, a measure to end open field burning in Oregon. The measure was favorably reported out by the House Health Committee, but later held by the Agriculture Committee, without a vote, past the deadline for reporting measures to the House floor. We therefore appeal to the Commission almost as a last resort.

Action by the Commission to halt field burning would follow precedent established by the state of Washington. In 1996, the Washington Department of Ecology issued an emergency ruling that reduced the number of acres of grass fields that could be burned. A subsequent Washington State University report to the Department of Ecology's Air Quality Program concluded that the financial benefits of ending field burning, including reduced health care costs for the at-risk population of persons with existing cardiopulmonary conditions, would outweigh potentially reduced returns for growers.[38] In 1998, after The Department of Ecology concluded that mechanical residue management constitutes a practical alternative agricultural method for all phases of seed production, the agency banned open grass field burning.[39]

Moreover, grass seed field burning is illegal in Idaho. In 1972, Idaho submitted a State Implementation Plan (SIP) under the Clean Air Act, which stated, "No person shall allow, suffer, cause or permit any open burning operation which does not fall into at least one of the categories of Section 3." Field burning was included in the types of burning allowed by Section 3, but was significantly limited. In 1993, the Environmental Protection Agency (EPA) approved amendments to the Idaho SIP that contained a general prohibition on open air burning. In 2003, an amended SIP was filed, but did not change the language regarding the general prohibition to open air burning. In 2005, Idaho amended its SIP once again. This amendment would have permitted open burning of crop residue in agricultural fields. The Environmental Protection Agency approved Idaho's amendment of it's SIP, and a lawsuit was filed to contest the approval. The 9th Circuit Federal Court of Appeals reversed the EPA's approval of Idaho's SIP. The Court found that the approval was based on an erroneous premise that the preexisting Idaho SIP

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[31] Statement of Victoria Whitman, Eugene (Feb. 8, 2007).
[32] Statement of Jeff Wyman, Eugene (Mar. 8, 2007).
[33] Statement of Hewitt and Patricia Berrien, Eugene (Mar. 7, 2007).
[34] Statement of R. Gunn, East Marion County (Apr. 1, 2007).
[35] Statement of Terry Sitton, Sweet Home (Apr. 4, 2007).
[36] Statement of Steve Nielsen, Mill City (Apr. 6, 2007)
[37] Statement of Glen and Thoda Love, Eugene (Mar. 18, 2007).
[38] Estimates of the Benefits and Costs from Reductions in Grass Seed Field Burning (Dec. 27, 1996). In fact, revenues for the Washington Grass Seed industry have increased since the ban was imposed, just as in Oregon the grass seed industry has grown even as acreage burned declined from pre-1991 burn levels.
[39] RCW 70.94.656(3); WAC 173-430-045. The Department of Ecology is authorized to grant limited exceptions to allow open field burning only if a grower, among other things, "establishes that mechanical residue management is not reasonably available on specific portions of a field under specific production conditions due to slope."

did not ban field burning. The Court remanded the case to the EPA for it's consideration of Idaho's proposed amendment as a change in a preexisting SIP, rather than a clarification of the prior SIP. Therefore, at this time, open burning of crop residue is still illegal in Idaho. Evidence presented in that case demonstrated that field burning smoke inundates large portions of rural Idaho and surrounding states, that doctors regard the smoke to have severe consequences for individuals with respiratory ailments, that such persons have fled their homes during burning season, and that a coroner's report linked at least one fatality to field burning.[40]

These developments now leave Oregonians as the only Pacific Northwest residents without effective protection from grass seed field burning, despite suffering from many, if not all, of the same problems identified in Idaho and Washington.

On behalf of the public health of residents within and around the Willamette Valley – particularly those whose present medical conditions or age render them highly vulnerable to injuries that result from the inhalation of fine particulates and chemicals entrained in field burning smoke – we urge you to take prompt, decisive action. Specifically, we urge you now to make the finding that field burning presents an extreme danger to public health, and to order a temporary emergency cessation of the practice in the Willamette Valley at least through the summer of 2008.

If you do not find that there is an extreme danger, warranting an order to temporarily cease the practice of grass seed burning immediately, we would ask you to begin a rule adoption process for Lane County and the Southern Willamette Valley to phase in a reduction or elimination of open field burning pursuant to ORS 468A.595(2).

Thank you,

Faye Stewart, Chair
Lane County Board of Commissioners
Lane County Board of Health

[40] *Safe Air for Everyone v. US EPA*, No. 05-75269, 475 F.3d 1096, 1101(9th Cir. 2007), reaff'd 2007 WL 1531819 (9th Cir. May 29, 2007).