

OZONE ALERT ACTION PLAN  
LOUISIANA STATE UNIVERSITY  
BATON ROUGE CAMPUS

GENERAL

The **Ozone Alert Action Plan** for Louisiana State University's Baton Rouge Campus is designed to support efforts by the Baton Rouge region to combat the rise of ozone levels to the severe level. The action plan outlines the efforts the campus will voluntarily make to keep ozone levels in the LSU area below this level. This program of activities is entirely voluntary on the part of students, faculty and staff. The efforts are coordinated by the Office of Occupational and Environmental Safety.

BACKGROUND

*Clean Air*

The Clean Air Act establishes certain acceptable limits, or health "standards," for air pollutants of particular concern. Chief among these is the pollutant ozone. Ozone is the prime component of smog, the typical air pollution of urban areas. Ozone is produced by a chemical reaction between nitrogen dioxide and volatile organic compounds (VOCs). Nitrogen dioxide and VOCs come from automobile exhaust, the use of volatile oil-based paints/solvents, industrial factories, power plants, and the use of any gas-powered or diesel-powered equipment. In Louisiana, ozone formation is largely dependent on summer weather. On hot, windless summer days, these chemicals "cook" in the presence of sunlight to form ozone. The "ozone season" extends from May 1st to October 1st.

*Health Effects of Ozone*

Ozone is associated with numerous health effects in humans. Eye irritation is characteristic of ozone pollution. Ozone has a greater impact on the respiratory system, where it irritates the mucous membranes of the nose, throat and airways; 90 percent of the ozone inhaled into the lungs is never exhaled. Exposure to ozone can cause coughing, chest pain, and throat irritation. Ozone can also increase susceptibility to respiratory infections. In addition, ozone impairs normal functioning of the lungs and reduces the ability to perform physical exercise. For example, healthy individuals who exercise heavily for brief periods (one to two hours) may experience respiratory distress when ozone levels exceed the national standard. Recent studies also suggest that even at lower ozone concentrations some healthy individuals engaged in moderate exercise for six to eight hours may experience symptoms.

All effects of ozone are more severe in individuals with sensitive respiratory systems. In particular, studies show that exposure to moderate levels may impair the ability of individuals with asthma or respiratory disease to engage in normal daily activities.

The potential chronic effects of repeated exposure to ozone are of even greater concern. Laboratory studies show that people exposed over a six to eight hour period to relatively low

levels develop lung inflammation. Animal studies suggest that if exposures are repeated over a long period (i.e., months, years, lifetime), inflammation of this type may lead to permanent scarring of lung tissue, loss of lung function, and reduced lung elasticity. For these reasons, EPA recently revised the national ozone standard to a more stringent 8-hour standard of 0.08 ppm.

*Louisiana Compliance*

Louisiana is not in compliance with EPA's health standard for ozone. Despite increased efforts to reduce ozone, we continue to exceed the standard in five parishes that encompass the Greater Baton Rouge urban area. Recent trends analyses show a steady improvement in air quality in the Baton Rouge area. In 1995, we experienced 11 "ozone exceedance" days -- i.e., days in which monitored levels of ozone exceeded the national standard. In 1999, that number had dropped to 2 exceedance days. Although the number of exceedance days is partially driven by weather patterns -- Weather is less conducive to ozone formation in some years -- the trend is encouraging. It suggests that controls such as regulations on industry and mobile sources, transportation controls, and the voluntary public Ozone Action Program are working in the battle to reduce ozone and its risk to public health.

The Air Quality Index, or AQI, is a scale used to report actual levels of ozone and other common pollutants in the air. The higher the AQI value, the greater the health concern. As shown in the table below, the AQI scale has been divided into categories that correspond to different levels of health concern.

AIR QUALITY INDEX		
Index Values	Descriptors	Cautionary Statements for Ozone
0 to 50	Good	None.
51 to 100	Moderate	Unusually sensitive people should consider limiting prolonged outdoor exertion
101 to 150	Unhealthy for Sensitive Groups	Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
151 to 200	Unhealthy	Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
201 to 300	Very Unhealthy	Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.

## EMPLOYEE EDUCATION, NOTIFICATION AND PARTICIPATION

The Director, Occupational and Environmental Safety is assigned as the Ozone Action Program (OAC) Coordinator. The role of the OAC is to develop the program, provide assistance in education and training of employees, and to alert affected people on the days when the ozone will likely exceed the severe threshold to facilitate voluntary action.

The following actions are suggested where appropriate and feasible to increase the effectiveness of the ozone reduction action plan (Some activities should be ongoing while others are suggested for an ozone alert day):

### *Program goals/actions*

1. All administrative offices will promote employee/student education/awareness of ozone issue and helpful individual actions on a voluntary basis
2. Participation in conferences, seminars, and workshops sponsored by various agencies will be encouraged for leaders in this program
3. A campus committee to coordinate the action program will be developed by the coordinator to help guide the program
4. The coordinator will provide posters/flyers/handouts to explain program as available from the Ozone Action Alert Program

### *Education of students/new employees*

1. Employee/student alerts (e-mail, network boot up message, intercom, bulletin board, flags, etc.) will be provided upon notice from the Department of Environmental Quality (DEQ) of an ozone alert.
2. If funds are made available from non university sources, incentives for participating employees/students (e.g. raffle prizes, meals/drinks, certificates, caps/T-shirts) may be provided to improve effectiveness.

### *Operations and Maintenance Activities*

The operations and maintenance groups will, to the extent feasible and practicable, observe the following recommendations on an ozone alert day (and on a continuing basis as appropriate):

1. Postpone maintenance activities which use small engines
2. Postpone fleet refueling until the evening
3. Use alternate fuel (low emission) vehicles
4. Restrict indoor and outdoor paint jobs on alert days
5. Switch to low VOC solvents and architectural coatings
6. Establish a Task Force or Quality committee to focus on reduction of ozone-forming emissions

## *Commuter Actions*

As vehicles contribute significantly to ozone production, all commuters will be encouraged (and accommodated as appropriate) to follow the suggestions below to reduce emissions on ozone alert days (and on a continuing basis where feasible)

1. Encourage commute alternatives for employees/students rideshare - carpool/vanpool/telecommute/work at home
2. Use public transportation
3. Walk/bike to campus where practical
4. Use flexible work hours to reduce traffic congestion
5. Encourage employees/students not to travel by auto at lunch time
6. Encourage on campus lunch through incentives by Chartwells
7. Encourage brown bag lunches
8. Carpool or use public transportation to common dining areas
9. Consider parking preferences for rideshare vehicles

## PROCEDURES FOR OZONE ACTION DAY

Upon notification from the DEQ that an ozone action day has been called, the following actions will be taken by the coordinator:

1. Print high visibility fliers and distribute them on campus through campus mail
2. Post the fliers on doors in high use buildings conspicuous locations, such as on Union entry doors.
3. Notify campus media outlets - KLSU, Reveille, University Relations.
4. Broadcast by email the ozone action message to employees and others on the email list.
5. Monitor traffic and other indicators of compliance during the day
6. Alert department heads of non compliance noted during the observance

Note: Department heads and others are requested to undertake actions within their departments to make the program more successful.