

**MEMORANDUM**

**Agenda Item: # 6**

To: Planning Commission  
 From: Mark Donaldson, Executive Director  
 Date: June 5, 2008

**RE: Amendments to the Knox County Zoning Ordinance - Performance Standards (4.10) - 6-A-08-OA**

**REQUEST**

Knox County Commission at its May 27, 2008 meeting requested that MPC study the Industrial zone district in the Knox County zoning code and recommend appropriate amendments. Further, recently there have been requests to MPC staff to look at strengthening the regulations that apply to industrial development in the County. Citizens and business development professionals have both expressed concerns about the current regulations, particularly with the Industrial (I) zone district.

**BACKGROUND**

Knox County zoning code contains four zone districts that could be considered industrial zone districts: Business and Technology Park (BP), Employment Center (EC), Light Industrial (LI), and Industrial (I). Currently within the county there are 10,465 acres of land zoned with these designations, making up about 4 percent of all land area outside the City of Knoxville and Town of Farragut, as follows:

Land Area within Knox County Industrial Zone Districts	
Zone District	Acres
Business and Technology Park	1,315
Employment Center	0
Light Industrial	332
Industrial	8,818
<b>ALL INDUSTRIAL ZONES</b>	<b>10,465</b>

Business and Technology Park (BP) and Employment Center (EC) are the two newest zone districts. They have some design standards and require approval of a development plan by the Planning Commission prior to any development. Business and Technology Park (BP) zoning is now allowed only within the designated Technology Corridor Overlay District located along Pellissippi Parkway. Employment Center (EC) zoning was developed since 2001 in response to the approval of the Knoxville/Knox County Growth Policy Plan, but has not yet been approved for any land.

Light Industrial (LI) and Industrial (I) are the oldest zone districts and do not require development plan approval prior to development. Land zoned Industrial (I) makes up 84 percent of all land zoned for industrial uses.

Performance standards that apply to all commercial and industrial land uses are found at Article 4.10 (Section 1) of the zoning code. The purpose of performance standards is to create regulations that mitigate the impacts related to activities of these uses with respect to adjacent uses, which is often low density residential development. The current list of regulations include noise, radiation hazards, fire and explosive hazards, glare and heat, electromagnetic radiation, industrial sewage and waste, vibration, and air pollutants.

In looking at the package of regulations applicable to industrial land uses in Knox County, an amendment to the Performance Standards is the first step proposed. These proposed amendments are attached for your consideration. At your July 10 meeting staff intends to present a strategy to address the long and very outdated list of permitted uses and uses permitted on review, and propose some specific criteria and/or standards that may be applied when approving uses-on-review.

Odor, lighting and landscape screening from adjacent land and roads are three areas that are commonly found in the list of performance standards used by many other communities, but not currently addressed in the Knox County zoning code. The proposed amendments provide a simple set of standards that will address many of the potential conflicts between adjacent industrial and residential land uses.

In addition to the three new categories of performance standards, the existing format has been amended to make a statement of general principle for each category and document the standard and method of measurement that will be used to establish acceptable performance.

**STAFF RECOMMENDATION**

Staff recommends approval of the proposed amendment to Article 4.10 (Section 1) of the Knox County Zoning Code.

# Knox County Zoning Ordinance

## Proposed Amendments to Performance Standards

### ARTICLE 4 SUPPLEMENTARY REGULATIONS

#### 4.10 SUPPLEMENTARY REGULATIONS APPLYING TO A SPECIFIC, TO SEVERAL, OR TO ALL ZONES

These supplementary regulations are listed and described in this one article rather than repeated several times throughout the Ordinance as they are applicable to specific, several, or to all zones. The regulations pertain to certain specific uses, or relate to unusual conditions, thus warranting a more convenient placement than that which would be possible by placing them in Article 5, Zone Regulations.

#### SECTION 1 PERFORMANCE STANDARDS FOR COMMERCIAL AND INDUSTRIAL USES

The purpose of this subsection is to establish regulations and standards for the installation and operation of commercial and industrial uses based on consideration of the objectionable characteristics of such uses and the districts in which they are permitted. Further, this subsection prescribes the procedures and methods of measurement of industrial characteristics subject to the performance standards established hereunder:

##### 4.10.01 Noise

A. Principle. No person shall operate, cause to operate or allow to operate any source of sound in such a manner as to create a sound level at any point on or beyond the boundary of any lot or tract which exceeds the limits set forth in these standards. These standards shall not apply to noise not directly under control of the property user, noises resulting from the construction or maintenance of buildings or facilities including site preparation, the noise of safety signals, warning devices and railroads, noise lasting less than five seconds provided that the noise is not repeated more than ten times per hour, noise of mobile equipment operating near the boundary line provided the mobile equipment is not operated more than two hours during any twenty-four hour period and noise from vehicles entering and leaving the premises provided the sound level of these vehicles does not exceed the sound level of other vehicles using the public street or highway.

B. Standards. The sound pressure level resulting from any use or activity shall not exceed the maximum permitted decibel levels for the designated octave bands set forth in these standards.

Center Frequency in Hertz	Sound Pressure Level in Decibels (Re: 0.0002) *(microbar)
63	77
125	71
250	63
500	57
1,000	51
2,000	45
4,000	40
8,000	39**
Measurements must be made with a sound level meter which meets USASI Standards, S1.4-1961 set on slow meter response.	
* Rounded to the nearest whole dB.	
** Based upon the assumption that the level for the next highest octave band would also be 39 dB.	

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### **4.10.02 Radiation Hazards**

A. Principle. No activities shall be permitted which emit dangerous radioactive radiation at any point on or beyond the boundary of any lot or tract.

B. Standards. The handling of radioactive materials, the discharge of such materials into air and water, and the disposal of radioactive wastes, shall be in conformance with the applicable regulations of the U.S. Atomic Energy Commission set out in Chapter 1 of Title 10 of the Code of Federal Regulations which apply to byproduct material, source material and special nuclear material, as those terms are defined in section 11e., z., and aa. of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2014(e), (z) and (aa)).

### **4.10.03 Fire and Explosive Hazards**

A. Principle. All activities involving the use and/or storage and/or disposal of flammable or explosive material shall be provided with adequate safety and protective devices against hazards of fire and explosion as well as with adequate fire fighting and suppression equipment and devices standard to the industry involved.

B. Standards. All explosive material shall be stored and used in accordance with the rules and regulations of the Bureau of Mines of the State Fire Marshall and Chapter 30 (Fire Prevention and Protection) of the Knox County Code of Ordinances.

### **4.10.04 Glare and Heat**

A. Principle. Any operation producing intense glare or heat shall be performed within an enclosure so as to completely obscure such operation from view from any point along the property line, except during the period of construction of the facilities to be used and occupied.

B. Standards. Exposed sources of light shall be shielded so as not to be visible outside their premises.

### **4.10.05 Electromagnetic Radiation**

A. Principle. No activity, operation or use shall cause electromagnetic radiation interference that adversely affects persons or the operation of any equipment at any point on or beyond the boundary of any lot or tract.

B. Standards. Activity, operations or uses causing electromagnetic radiation interference shall be in conformance with the regulations of the Federal Communications Commission.

### **4.10.06 Industrial Sewage and Waste**

A. Principle. No discharge shall be permitted at any point into the public sewers, private sewage disposal system, surface or subsurface waters so as to contaminate, pollute or harm such waters or cause floating or submerged debris, oil, scum, unsightliness or be harmful to human, animal, plant or aquatic life.

B. Standards. A developer or builder shall obtain the written approval of the appropriate official of the State Water Pollution Control Board, of the State Health Department, and of the County Health Department; and it shall be filed with the Director of Code Administration and Enforcement prior to issuance of building permit.

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## Proposed Amendments to Performance Standards

### **4.10.07 Vibration**

A. Principle. No use, operation or activity shall cause or create earthborn vibrations which is transmitted through the ground and is discernable in excess of the standards below.

B. Standards. At no point on or beyond the boundary of any lot or tract in a commercial or industrial zone shall the vibration produced by the activities conducted on such lot or tract be in excess of two inches per second. Such vibration shall be measured in accordance with the provisions of U.S. Bureau of Mines Publication No. 5968.

### **4.10.08 Particulate Matter, Fly Ash, Dust, Fumes, Vapors, Gases, Smoke, and Other Forms of Air Pollution, Open Burning, Toxic and Noxious Matter.**

A. Principle. No person, use, operation or activity shall emit any particulate matter, fly ash, dust, fumes, vapors, gases, smoke or other forms of air pollution in such quantities so as to substantially contribute to exceeding local, state or federal air pollution standards.

B. Standards. All persons, uses, operations and activities shall comply with the requirements and standards set forth in the Knox County Air Pollution Control Regulations.

### **4.10.09 Odors.**

A. Principle. After the effective date of these regulations, no person shall cause, suffer, or allow any emissions of gases, vapors, or "objectionable" odors beyond the property line from which such emissions occur to be in sufficient quantities and of such characteristics and duration as to be injurious, or tend to be injurious, to human health and welfare, plant or animal life, or to property, or which unreasonably interferes with the enjoyment of life or property.

B. Standards. In accordance with Knox County Air Quality Management Regulations, an odor shall be deemed "objectionable" when air occurring beyond the property line contains such odorous matter as may be detectable when diluted with seven or more volumes of odor-free air.

### **4.10.10 Outdoor Lighting**

A. Principle. Lighting used for parking lots, outdoor storage, product display or security reduce the impacts of glare, light trespass and overlighting, promote safety and security and encourage energy conservation and shall not interfere with the operation of motor vehicles in the public right-of-way or adjacent uses of land.

B. Standards. The light source shall be shielded and shall be arranged so that lighting is directed away from any boundary of the lot or tract adjacent to any property zoned to permit residential uses.

### **4.10.11 Landscape Screening**

A. Principle. Landscape screening shall mitigate the impacts of development on the enjoyment and values of the surrounding property, on sensitive areas, and on the primary road network. Any business or industrial use that is adjacent to property developed for residential use within the Agricultural (A) zone district or zoned for residential use (E, RAE, RA, RB and PR) shall provide screening along the boundary of the residential property. Parking and loading areas shall be screened from adjacent property developed for residential use within the Agricultural (A) zone district or zoned for residential and office uses (E, RAE, RA, RB, PR, OA, OB and OC) and public streets.

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## Proposed Amendments to Performance Standards

### B. Standards.

1. Any business or industrial use of property, except a parking or loading area, shall plant and maintain a Type "A" landscape screen, as provided by the MPC, within a landscape buffer strip a minimum of 15 feet in width adjacent to property developed for residential use within the Agricultural (A) zone district or zoned for residential and office uses.
2. Any parking or loading area located on a lot or tract used for business or industrial purposes shall plant and maintain a Type "B" landscape screen, as provided by the MPC, within a landscape buffer strip a minimum of 12 feet in width between the parking or loading area and any adjoining adjacent property developed for residential use within the Agricultural (A) zone district or zoned for residential and office uses.
3. Any parking or loading area located on a lot or tract used for business or industrial purposes and adjoining a public right-of-way shall plant and maintain a Type "C" landscape screen, as provided by the MPC, within a landscape buffer strip a minimum of 8 feet in width.

#### **4.10.12 Issuance of Permit**

Before issuing a building permit for a commercial or industrial use, the Director of Code Administration and Enforcement shall be given information by the applicant sufficient to enable said Director of Code Administration and Enforcement to assure himself that all performance standards and site development standards set forth in these regulations and the Knox County Air Quality Management Regulations can and will be complied with at all times.

#### **4.10.13 Enforcement**

Where in the opinion of the Director of Code Administration and Enforcement there is a probable violation of any provision of this Subsection, he is empowered to have a qualified technician perform such investigations, measurements, and analysis as may be necessary to determine whether or not there is in fact a violation of these regulations. Upon confirmation of a violation, the offending industry or activity shall bear the cost incurred by Knox County in retaining the qualified technician.