BEFORE THE ARKANSAS BOILER ADVISORY BOARD

IN RE: ARKANSAS TECH UNIVERSITY
Russellville, Arkansas

ORDER

This matter came for hearing before the Boiler Safety Advisory Board on May 7, 2007. Arkansas Tech University, Russellville Arkansas (ATU) requested a variance from the regulations of the Arkansas Department of Labor, Boiler Inspection Division (ADL) with respect to the boilers on its campus and the attendance requirements for boiler operators. The ADL referred the matter to the Boiler Safety Board for advice and recommendation. Present on behalf of the ADL were Gary Myrick, Chief Boiler Inspector, and Denise Oxley, Chief Legal Counsel. Present on behalf of Tech were David Mosley, Vice President for Administration & Finance; Dennis Hill, Physical Plant Director; and Sam Cummings, President of Pettit & Pettit Consulting Engineering, Inc.

FINDINGS OF FACT:

1. Ark. Code Ann. § 20-23-104 provides:

(a) All boilers subject to the provisions of this chapter shall be continuously monitored by mechanical and electronic devices approved by the Director of the Department of Labor. When a plant is in operation or when any public building is occupied, the boilers shall be under regular attendance by a boiler operator unless otherwise exempt.

(b) Boilers that are manually operated shall be under constant attendance whenever they are in use for any purpose.

(c) All steam boilers fifty horsepower (50 hp.) and over, as rated by the manufacturer in any location, and steam boilers used in hospitals, hotels, schools, theatres, and office buildings, but not limited to these places, shall be under regular

attendance by a licensed operator who holds a certificate of competency issued by the Boiler Inspection Division

2. The regulations of the ADL provide, in pertinent part:

(E) Operator Attendance

1. It should be noted that nothing will replace the need for one or more boiler operators being in attendance when the boilers are in operation.

2. High Pressure Steam Boilers

a. Manual boilers shall be maintained by **constant attendance** by a boiler operator. (See definition of constant attendance in Rule 010.01-026).

b. High-pressure steam boilers, which meet CSD-1 recommendations for local alarms and safety devices, shall be maintained by **regular attendance** by a boiler operator. (See definition of regular attendance in Rule 010.01-026).

c. High pressure steam boilers, which meet CSD-1 as in paragraph 2 above, plus have installed remotely actuated alarms to detect low water condition, high pressure, high water condition, and loss of operating boiler, etc., shall be maintained by **periodic attendance** by a boiler operator provided the operator has the prior approval of the Chief Boiler Inspector. (See definition of periodic attendance in Rule 010.01-026).

d. High temperature, high-pressure water boilers fall under the same guidelines as those for high-pressure boilers in (a), (b), and (c) above.

e. Remote monitoring for high pressure boilers (safety valve is set at greater than 15 psi) shall only be approved with a formal request, in writing, to the Chief Inspector; it must describe the system, the equipment, what is presently installed, and what the plans are for remote monitoring.

Administrative Regulations of the Boiler Inspection Division, Rule 010.01-018(E)(July 1, 2006).

3. The ADL's regulations define "periodic attendance" to mean that the "[b]oiler operator must inspect the boiler for proper operation every four hours to take and record any required readings. Boiler is equipped with the usual local operating and safety devices which include alarm lights and buzzers. In addition, there must be remotely actuated alarm devices to detect: (1) low water condition; (2) over pressure condition (set to operate before the safety

valve operates); and (3) loss of operating boiler." Administrative Regulations of the Boiler Inspection Division, Rule 010.01-026(July 1, 2006).

4. ATU seeks a variance to update its boiler safety devices to utilize current technology to comply with CSD-1 requirements and provide remote electronic monitoring of all its boilers at a central location at the Physical Plant Department.

5. ATU proposed to meeting the following conditions:

a. All steam and hot water boilers shall have an electronic monitoring system reporting low water, over pressure (set to operate before the safety valve operates), and loss of operating boiler, in place and operation twenty-four (24) hours a day, seven (7) days a week. Electronic monitoring shall be reported electronically to the Physical Plant during normal operational hours. After hours and on weekends, notification will be through the electronic monitoring system to four (4) Physical Plant Department employees by cell phone. All alarms will be recorded in an alarm log at the central monitoring system.

b. All boilers, whether steam or hot water, will be visually monitored and logged twice daily by a licensed boiler operator.

c. Licensed boiler operator(s) shall be on stand by in all after-hour situations and able to respond physically at the alarm location within one (1) hour of an alarm. The licensed boiler operator will be able to immediately access via computer information in the central monitoring system, including alarm location and type. Security personnel shall be trained and shall respond immediately to such an alarm in after hours situations solely to ensure gas cut-off.

d. All steam boilers will have a push-type kill switch located at each boiler room door. The kill switch and the cut-off valves will be well-marked at each boiler room.

e. Daily checks of the alarm system will be conducted to ensure operational status.

f. All boiler safety devices must be manually reset at the boiler location.

g. Upon a boiler safety device actuation, a fuel shutoff valve will close the natural gas fuel supply to the boiler and alarm the central monitoring system and a local alarm bell.

h. In addition to electronic monitoring, video monitoring will be maintained in student housing facilities so that visual monitoring can take place immediately in real time.

i. The record of any boiler alarm and shutdown and subsequent action shall be maintained on file for at least one year.

CONCLUSIONS OF LAW:

1. The ADL is authorized to establish regulations and standards for the installation and operation of boilers. Ark. Code Ann. § 20-23-30(a)(2).

2. Rule 010.01-013 deals with variances, and provides in pertinent part:

> A. The Boiler Inspection Division may, in any particular case gran an exception or variance from the literal requirements of the minimum standards for construction, installation, repair and operation set out in the ASME Codes as adopted in Rule 010.01-012. A variance shall be granted only when both of the following conditions are present:
>
> 1. Existing conditions or undue hardship prevent compliance with the literal requirements of the rules; and
> 2. Equivalent safety will be secured.

3. The board concludes that it would constitute an undue hardship to require literal compliance with physical monitoring every 4 hours given the proposed use of current technology

4. The board concludes that safety will not be compromised provided that ATU complies with the conditions listed in paragraph 5(a) through (i) in the above Findings of Fact and the Board specifically imposes those conditions upon approval of the requested variance.

RECOMMENDATIONS:

1. The board recommends that the variance be granted as provided in paragraph 5 of the above Findings of Fact, provided that ATU complies with the following conditions:

a. ATU will meet all conditions contained in paragraph 5(a) through (i) of the above Findings of Fact;

b. ATU will establish a formal written monitoring and response policy/procedure and all employees monitoring the remote station and all on-call personnel will receive formal training on the response procedure.

c. The written policy shall specifically provide that if the electronic monitoring system fails or breaks down, all boilers will be monitored and attended by licensed boiler operators in the time frame established by ADL for regular attendance until such time as the electronic monitoring system is fully restored.

d. ATU shall comply with all other rules and regulations of the ADL regarding the installation and operation of boilers.

7. The Chief Boiler Inspector shall review ASU's monitoring system and written procedures for compliance with this variance request.

8. The Chief Boiler Inspector shall approve future installations of boilers on the ATU campus for monitoring in conformity with this variance.

BOILER ADVISORY BOARD
STATE OF ARKANSAS

By: _____
James L. Salkeld, Ex-officio Chairman

The recommendations of the Arkansas Boiler Advisory Board are hereby accepted with a variance order to be finalized once the final acceptance inspection by the Chief Boiler Inspector is complete. Final inspection was completed on September 15, 2008, and this order is entered now for that date.

IT IS SO ORDERED.

12-29-2008

_____
James L. Salkeld, Director
Arkansas Department of Labor

Approved as to form:

Denise P. Oxley, 84-117
Chief Legal Counsel
Arkansas Department of Labor
10421 West Markham
Little Rock, AR 72205
(501) 682-4504
fax: (501) 682-4535
denise.oxley@arkansas.gov