

WALK-THRU PERFORMED AND
REPORT WRITTEN FOR:
CARE Committee, Long Lake, Minn.

REPORT of OBSERVATIONS and FINDINGS FROM WALK-THRU of BOILER ROOMS

LOCATIONS: Orono High School
795 Old Crystal Bay Road N.
Long Lake, Mn. 55356

Orono Intermediate School
685 Old Crystal Bay Road N.
Long Lake, Mn. 55356

Schumann Elementary School
765 Old Crystal Bay Road N.
Long Lake, Mn. 55356

DATE OF WALK-THRU: Friday, October, 28, 2005
3:30 p.m. to approx. 4:45 p.m.

WEATHER: Clear, slightly windy, High 50's

BUILDING HEATING EQUIPMENT ONSERVED:

Orono High School

1-Low pressure steam boiler, approx. 165 hp, G/P atomizing
burner - dual fuel.

1-Low pressure steam boiler, approx. 165 hp, Ray burner

Midstate Services, Victor E. Niska, 113 South 3rd. Street – Box 221, Waverly, Minn. 55390,
(763) 658-3009, Fax (763) 658-3007, Cell (612) 741-7510, email: vicniska@kdllink.net

Orono Intermediate School

1-Low pressure steam boiler, approx. 130 hp, G/P atomizing burner - dual fuel.

1-Low pressure steam boiler, approx. 130 hp, G/P atomizing burner - dual fuel.

Schumann Elementary School

1-Low pressure steam boiler, approx. 160 hp, atomizing burner - dual fuel.

WALK-THRU PERFORMED BY:

Midstate Services

Victor E. Niska, Account Manager

Aaron Niska, Technician

DATE REPORT WRITTEN:

October 31, 2005, by Victor E. Niska

GREETED AT DISTRICT OFFICE BY:

Superintendent Ms. Karen Orcutt

Ass't Superintendent for Business, Mr. Neil Lawson

Coordinator of Buildings and Grounds, Mr. John Oslund

SHORT CONFERENCE:

John Oslund, Victor E. Niska and Aaron Niska met briefly in the Conference Room of the District Office to plan strategy for walk-thru.

Questions by District:

“WHAT DID WE WANT TO SEE?”

“WHERE DID WE WANT TO GO?”

Midstate stated our assignment was to walk-thru 3 boiler rooms and observe 5 low-pressure steam boilers. John commented that the steam boilers were old, but had been well cared for and that no immediate emergency exists.

Midstate's question to District while in the Conference Room – *“What is the District's plan for the new boilers?”* - *Stay with low-pressure steam or go to hot water.* Answer: Go to hot water heat if money is available, and 'unknown' for the remainder of the answer.

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WALK-THRU:

Midstate Services, Victor and Aaron were accompanied by John Oslund, Coordinator of Buildings and Grounds, Pete, Head Custodian of High School and Steve, Maintenance man for District. Victor and Aaron met Pete and Steve in the custodial area at the Intermediate School.

OBSERVATIONS:

All five low-pressure steam boilers were within the range of 35 to 65 years old. This age is very typical of steam heating boilers in schools as well as other types of buildings. Four boilers had either air atomizing or pressure atomizing dual fuel burners, all the burners are about 8 to 12 years old. One boiler at the High School had a Ray oil burner on it, which is an older burner.

Four of the boilers had repair tag displayed on the side of the boilers noting repairs within the last 10 years. All of these repairs were for the replacement of the mud legs on the boilers. This is a very common repair for steam boilers that do not have a good removal method for the sediments that accumulate in the steam generation process. In the years from 1997 to 1999, Midstate Services performed problem solving services for the Orono Public Schools in the Intermediate and High School buildings. A major heating system problem was solved in a newly constructed building and a survey was performed in the remainder of the building. A simple piping revision needed to keep mud legs clean were recommended and explained to the maintenance persons in charge. These piping revisions are very effective in other locations. It was noted during this walk-thru that the recommended revisions were not implemented.

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The one boiler at the High School was not completely assembled or operational, the boiler was probably still open from summer cleaning. The fireside was open and looked very typical, one abandoned tube, and the remaining looked good. We were told that the mud legs were replaced on this boiler about 10 years ago; however, there was not a label visible on the boiler jacket, nor was any documentation of repairs available.

Midstate Services requested, from the District tour personnel, access and review of the BOILER ROOM OPERATORS LOGBOOK. Midstate was informed that no such record book or records are available or being kept. Minn. Stat. 5225.1110 Sub.1g. states that law requires such a logbook. This logbook would tell the history and trends of the condition and reliability of the boilers. Repairs or need for repairs could be gleaned from such records. Water and chemical usage would be known. A complete and knowledgeable picture could be obtained from a logbook.

Midstate Services requested equipment records of repairs, operational history, repair history, availability of repair parts or equipment inventory. We were informed that these types of records do not exist.

No records were available noting the tune-ups or analysis of the burner operations, better known as the efficiency of the burners.

Several places in the boiler rooms, written records were found by Victor and Aaron for boiler operations and water testing results up to the year 2001, and the more current records were not available.

Midstate Services' observations on the tour of the 3 boiler rooms and the 5 boilers is very typical of what we see in most public school facilities. One improvement from the 1996-97 time to the 2005 tour is that the boiler rooms are much cleaner and better organized.

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EXISTING FUTURE LIFE REMAINING:

It is Midstate's opinion that the existing low pressure steam boilers have a remaining life at least 12 years to as many as 18 to 20 years depending upon the amount of maintenance and prudent care given to them. Procurement of parts is not an issue, as parts are very standard and boilers a lot older are in operation in many locations throughout the country today.

CREDENTIALS:

Midstate Services, Victor E. Niska, Account manager

Current holder of a Chief "C" – State of Minnesota Boiler License

20+ years of experience of operations and maintenance of steam heating systems in various sizes of building

10+ years in consulting services performing systems analysis, project management, owner's representative, system implementation and improvements for heating and cooling.

15+ years in Public School District support service administration to include budgeting, maintenance systems setup, analysis of operations and improvements, project design construction and commissioning.

END OF REPORT

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