February 13, 2019 Meeting

The February 13, 2019 Waterloo Technical Society (WTS) meeting was called to order by Vice President Stevenson at 7:25 pm. Vice President Stevenson welcomed visitors and noted that this was the fifth meeting of the 105th year of the Society.

A total of 28 members and guests attended.

Treasurer's Report. Ken Friend reported a beginning balance of $975.17. Income of $20.00 from memberships with expenses of $20.00 for the January speaker's meal, no other expenses leaving a new balance of $975.17. Treasurer Friend's report stated a total of 8 honorary and 40 paid members yielding a membership roster of 48 members.

Current Officers. Officers for the 2018-2019 year (year 105) are:

President:	Vacant (Gary Dorhout resigned due to poor health)
Co-Vice Presidents:	Jerry Mohling and James Stevenson
Treasurer:	Kenneth Friend & Paul Anderson
Dinner Reservations:	Derek Eagles & Steve Lang
Secretary:	James Stevenson
Publicity/Recognition:	Todd Whiting
Auditing:	Bill Mitchell & Jim Garrett
Nominating Committee:	Open
Web Site:	Tim Schoenfelder / Jim Volgarino

Old Business. The topics for this year were reviewed. The dates, speaker and topics for the 105th WTS are:
Speakers for the 2018-2019 Meeting Year (Year 105)

12 Sep 2018—Austin Maginnis—Tiny House Project at UNI

10 Oct 2018 – Steve Lang – Early Electronic Digital Computers

14 Nov 2018 – Jim Volgarino – History of Tunis Speedway

9 Jan 2019 – Chuck Nielson – Airgas Gas Supply

13 Feb 2019 – Chad Emerson – Emerson Crane

13 Mar 2019 – Vasko Popovski – Advanced Heat Treat (Mike Woods)

10 Apr 2019 – Mark Albright—MidAmerica Energy, LNG Waterloo, Tom P.

8 May 2019 – AECOM Engineering Services, Waterloo, IA

(Architecture, Engineering, Construction and Operations Management)

Discussion on the May 2018 motion to donate $250 to Tiny House Program at UNI concluded with a decision to identify where donations have been made and prioritize alternatives for donations for action at the November 14, 2018 meeting. President Dorhout and Treasurer Friend are to make a list and members to identify possible recipients. Item tabled until the January 2019 meeting. No discussion on this topic. Tabled until February 13, 2019 meeting.

New Business. No new business discussed.

Guest Speaker. **Chad Emerson**, of Emerson Crane Rental, will discussed equipment, maintenance, training, inspections, special projects, rigging, equipment costs, support vehicle needs, and projects his company has undertaken.

Emerson Crane Rental is a local family's owned business, located at 3488 Wagner Rd, Waterloo, Iowa. They offer 24/7 crane services of 5 cranes, with capacity of 33 to 275 ton lift capacity. The company has 5 cranes, 3 semi-trailers, 2 step-deck trailers and 3 flat bed trailers to move equipment to the site and lift to place customer equipment.

When selecting a crane the issue of weight to be lifted, distance of the movement both horizontally and vertically, rigging needed to separate cables to stabilize the load, and hazards like electrical lines, winds, ground stability and orientation of the load before (horizontal) to after (vertical) such as lifting a wind mill mast or oil storage tank. Cranes can weigh up to 80,000 lbs but Department of Transportation limits the weight on the roads to 20,000 lbs per axle.

Crane Specifications. The five cranes available from Emerson and the year acquired are:



2006 National 1400 can lift 70,000 lbs at a 10 foot radius. It is a 33-ton boom truck with a 127' main boom reach. This $180,000 crane rents for $160 per hour.



2007 Link-Belt HTC 8660 is a 60-ton hydraulic truck crane with a 110' main boom, 51' jib and maximum tip height of 161'. This $250,000 crane rents for $200 per hour.



2008 Link-Belt HTC 8675. This 75-ton hydraulic truck crane has a127’ main boom, 64’ jib with two 16’ inserts and maximum tip height of 220'. This $750,000 crane rents for $250 per hour.



2014 Grove TMS 9000E. This 110-ton hydraulic truck crane has a 142' main boom, 56' jib with two 16' inserts and maximum tip height or 230'. This $900,000 crane rents for $400 per hour.



2015 Grove GMK 5275. This 275-ton all terrain crane has a 223' main boom, 69' jib and two 26' inserts with a maximum tip height of 350'. This $2,000,000 crane rents for $550 per hour.

Projects. Chad related how diverse the projects have been. The first 3-D printer that the University of Northern Iowa purchased for its Technology Casting Center was lifted by an Emerson Crane to the third floor. Once it was lifted with special rigging to keep the slings spaced to avoid tipping while suspended, a fork truck with especially long forks, provided a platform to grab the load and bring the printer through an opening that was six inches wider than the printer.

While most people think of lifting a load to a height and setting it in the same orientation at another nearby location, this is not always the case. Two projects, one for a storage tank at Northland Oil and another windmill mast, had a horizontal tube or tank raised and while hoisted oriented from a horizontal attitude to a vertical one. Spotters used two-way radios to instruct the two operators to ensure safe and precise location of the load.

Getting a load onto the slings and placing the rigging to keep control of it presented new challenges when the 84,000 pound Freedom Rock was hoisted, place on a drop bed trailer, and transported to a new site.

Sometimes it is necessary to lift the load to a significant height then move it inboard to a final location. This was the case when a new HVAC unit was placed atop the Isle of Capri Casino. The crane had to be place away from the main entrance to avoid restricting access to the Casino for gamblers. Once the unit was lifted seven stories, it had to be brought to the center of the roof for mating with the facility duct work.

Emerson Cranes employs CCOs (Certified Crane Operator), OSHA Annually-Inspected Cranes, basic rigging needed to perform the lift(s). They offer additional rigging equipment, personnel platforms and Qualified Rigger/Signal Personnel when needed.

Meeting adjourned at 8:50 pm.

Next Meeting. The next meeting will be March 13, 2019. Vasko Popovski will speak about Heat Treatment of Metal Firearm Components.

Respectfully submitted,

James R. Stevenson, Vice President and Secretary