

MINNESOTA STREETCAR MUSEUM

MINUTES

Board of Directors Meeting
10:00 AM – Saturday – June 20, 2020
Computer Tele-Conference using Zoom Application
Minneapolis, MN

Present: Ben Franske Dave French Aaron Isaacs
 Karen Kertzman Darel Leipold Myrle Mackenzie (Phone only)
 Jim Vaitkunas John Dillery (joined at 10:19 AM)

Absent: Chris Heck

Others Present: Todd Bender Dick Zawacki Bill Graham
 Pat Cosgrove

The meeting of the Minnesota Streetcar Museum’s Board of Directors was called to order by Board Chair **Aaron Isaacs** at 10:04 AM. The meeting was held using the Zoom web-based tele-conference application.

The agenda for this meeting was approved with no changes or objection.

The minutes for the Board of Directors meeting held on March 28, 2020 was approved as follows.

MOTION: Made by Karen Kertzman; 2nd by Ben Franske
The minutes of the Board of Directors meeting held on April 25, 2020 is approved.
VOTE: YES – 7; NO – 0. *Motion approved.*

Review and approval of electronic e-mail votes.

- Cancellation of June public operations – May 16, 2020

MOTION: Made by Jim Vaitkunas; 2nd by Karen Kertzman
The electronic vote taken on May 16, 2020 to cancel public streetcar operations for the month of June 2020 is affirmed.
VOTE: YES – 7; NO – 0. *Motion approved.*

- MSM Policy #11 – Reopening of MSM Car barn Maintenance Facilities – May 27, 2020

MOTION: Made by Dave French; 2nd by Ben Franske
The electronic vote taken on May 27, 2020 to approve MSM Policy #11 – Reopening of MSM Car barn Maintenance Facilities is affirmed.
VOTE: YES – 7; NO – 0. *Motion approved.*

Board Chair’s Report/Update. Chair **Aaron Isaacs** reported that the principal reason for this Board meeting is to review and discuss the recommendation of the Museum’s Operations Committee to cancel public streetcar operations for the month of July 2020.

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Corporate Secretary's Report. Secretary **Jim Vaitkunas** reported that with the low level of activities in the Museum, there is nothing much to report.

Treasurer's Report. Chair **Isaacs** reported that Treasurer **Chris Heck** was unable to attend the Board meeting. He further added that because of the low level of financial activities, there was no point in providing any detailed financial reports. **Isaacs** did report that as of this Board meeting there was approximately \$387,000 in the Museum's various banking accounts.

Chief mechanical Officer's Report. CMO **Dick Zawacki** updated the Directors on several mechanical department projects.

- **Shop operations.** Work has begun at the Isaacs Car barn and Shop with the volunteers following the protocols established in MSM Policy #11. Currently, work is being done on No. 1239's wiring and interior work on No. 1300. As of this meeting, the Excelsior shop crew has not yet returned to work in the shop but other tasks such as grounds keeping and grass cutting was being done, which gives us the appearance of someone being around the property. **Zawacki** commented that he has discussed getting work started with **Howie Melco**, but no firm start date has been set.
- **Traction Motor work.** The work on the two motors for No. 1239 is nearing completion with the last task the installation of the grounding brush on the motor's armatures to prevent the pitting of the armature shaft. We didn't anticipate the problem and installing the brushes is insurance against future problems. The cost was \$2,500 per motor. Chair **Isaacs** commented that there no need right now to approve the \$5,000 expenditure for this additional work since the 1239 project is still under budget. **Zawacki** then reported that the work to rebuild the damaged motor for Winona No. 10 continues with slow progress.
- **Baker heater for No. 1239.** The Isaacs shop volunteers are working on installing the Baker Heater in No. 1239. It turns out that Mesaba No. 10 has a complete Peter Smith heater with all associated piping and the expansion tank. **Jim Willmore** asked if they could take the expansion tank from Mesaba No. 10 to use in No. 1239. Chair **Isaacs** recommended that the shop remove the tank from Mesaba No. 10 and use it in No. 1239. When the Museum starts restoring Mesaba No. 10, the tank can be returned. While the Board doesn't have to approve the move, **Isaacs** stated that unless someone at ESL objects to using the tank, that seems to be a good solution.
- **Additional two motors for No. 1239.** **Zawacki** reported after the last Board meeting, he had mentioned to the L&S Electric people that the work on the two additional motors for the rebuilt trucks under No. 1239 would happen in 2020. However, with the Museum's financial situation resulting from the Covid-19 pandemic, he recently informed L&S that we would not be sending the motors to them until 2021.

Cancellation of public streetcar operations for July 2020. Chair **Isaacs** reported that the Operations Committee held a meeting using Zoom to discuss whether the Museum should consider opening for limited public operations in July 2020. After much detailed and vigorous discussion, the consensus of the members was that MSM needs to cancel

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public operations for July and take a wait and see attitude towards opening in August. The committee identified several major tasks that need to be done prior to the beginning of limited service for the public, the primary one being availability of operating personnel to fill the schedule. A survey was sent to all operating personnel to gauge how many will be willing to operate. **Chris Heck** is tasked with compiling the results of the survey.

One of the principal hurdles we have is how does the Museum sell fares for rides. ESL will continue to use their existing tablet-based system, but we still must figure out how CHSL will handle fare sales. Other decisions made were:

- reduced schedules at both railways;
- thirty-minute service will be scheduled to run on the hour and half-hour.
- streetcars will be sanitized between runs; and,
- enforce social distancing of the passengers and the operating crew.

Chair **Isaacs** then raised a recent situation in which a family has inquired whether they can charter a streetcar when the family group is small, and they don't plan to practice social distancing. After several minutes of discussion, the Directors agreed that we could allow a charter so long as it is for a single group following usual Covid-19 sanitation protocols. Further, the full charter rate would be charged.

Ben Franske suggested that we should consider parking a streetcar at CHSL's Linden Hills station platform and at the Water Street platform at ESL for a few hours with a minimum crew to answer any questions from people who drop by. The purpose of this is to maintain visibility with the community and to announce the limited operations schedule if the Board chooses to start operations in August 2020. The Directors generally agreed that that was a good idea.

Director **John Dillery** asked if people would be able to go inside the parked streetcar and the answer was they would not. Director **Karen Kertzman** commented that doing this would depend on availability of crew. Chair **Isaacs** replied that that was correct, but it would be the Operations Department to determine that crew were available to staff the "display" streetcar.

MOTION: Made by Jim Vaitkunas; 2nd by Karen Kertzman
Scheduled streetcar operations for the public is cancelled for the month of July 2020. Limited charter service is authorized based on the situation of the group asking for the charter. Regular charter rates will apply for all charters. Streetcars are authorized to operate for static display and maintenance purposes at CHSL and ESL.
VOTE: YES – 8; NO – 0. *Motion approved.*

Operations of Streetcar Service starting August 1, 2020. Chair **Isaacs** then solicited input from the Directors on whether the Museum should plan to start reduced schedule streetcar operations on August 1st, which happens to be a Saturday. Director **Vaitkunas** commented that the key question in this is availability of operating crews. It appears that the streetcars will be ready and hopefully the sanitizing materials are either on-hand or on

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order. Chair **Isaacs** replied that as soon as we collect and review the operator survey information, we'll distribute it to all principal managers.

Director **John Dillery** commented that he has misgivings about the Museum operating in 2020. He feels that the public will be apprehensive about taking a streetcar ride. The current Covid-19 restrictions take all the fun out of riding our streetcars. **Dillery** commented that he personally does not plan to volunteer wearing a mask. Chair **Isaacs** then stated that the number of calls he has received asking about when we will start operations indicates that there is interest by people to ride our streetcars.

Chair **Isaacs** then reported that he has arranged with the Mattel Corporation to get a quantity of masks. This was an offer Mattel made through the HeritageRail Alliance for free masks for several HRA members. Director **Karen Kertzman** commented on the situation in Excelsior which can be best described as virtually no one is wearing a mask in public. Chair **Isaacs** replied that it would be up to the individual railway to decide what to do, or whether to operate, if the passengers generally are not wearing masks.

Other Business. Chair **Isaacs** had several additional items to discuss.

Replacement of bad ties at Como-Harriet. Chair **Isaacs** stated that a recent survey of the track at CHSL revealed about 15% of the ties were bad, with at least 16 of them that were under joints. The slow speed and axle loading of our streetcars means we don't have a safety issue. However, with bad ties under joints it's prudent for us to consider some spot tie replacements. **Isaacs** has directed Chief Engineer **Keith Anderson** to investigate the cost of a modest tie replacement project to replace about 100 ties this year. Doing 100 ties would cost upwards of \$20,000 but it would be worth it. In about two years and when funds are available, we would then contract for a bigger track-work project to both replace more ties and re-ballast the track.

Overhead parts status. Chair **Isaacs** asked **Jim Vaitkunas** on the status of getting the parts for the overhead work at ESL. **Vaitkunas** replied that he's more-or-less given up on dealing with the Halton County museum as they move too slow and communication is sketchy. **Vaitkunas** then stated that he'll establish contact with the Northern Ohio Railway Museum point-of-contact and try to finalize getting the overhead parts we'll need from them.

Recent Work on CHSL's Electrical Systems. Chair **Isaacs** then invited Director **Ben Franske** to update the Directors on work he and others have done to CHSL's 208-volt 3-phase A/C electric service and 600-volt control systems.

Problems with CHSL's 3-phase Electric Service That Occurred in June 2020.

Franske stated that much has been going on with 208-volt power service from Xcel Energy at Como-Harriet Streetcar Line this June! On the morning of June 4, 2020 MSM Security Manager **Karl Jones** alerted **Franske** that there was an internet communications outage at the CHSL car barn though things seemed to be working at the depot. Early that afternoon I visited the car barn and discovered that one phase of our three-phase industrial power supply to the barn was not working. This means that 1/3 of the circuits in the barn

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did not have power (including the network communications equipment) and we would be unable to produce the 600V DC overhead power which runs our streetcars. A call from Xcel initially revealed that it was a planned outage because a new transformer was being installed to power a new apartment building being built down the alley from the carbarn, and we were told there would be a full outage the next day (all phases).

Shortly after this call we lost power to the security alarm panel (which was not previously affected) and **Franske** went back to check on the situation in the early evening [of June 4th] to find that Xcel had disconnected all power to the Isaacs carbarn. This was unacceptable as we need power to a small air pump that pumps air pressure in the sprinkler system to balance out city water pressure. After a day of wrangling with Xcel Energy by **Steve McCulloch**, and a call to the Minnesota Public Utilities Commission by **Chris Heck**, power was restored temporarily.

By 5:30pm on June 5th, an Xcel crew was on site and I spoke with the crew there. It was at this point when it became clear that the issue with the transformer installation was entirely unrelated (though we will have a planned outage for that at some point in the future). What had happened was the failure of one of the cables installed in the 1970s underground next to the alley behind the carbarn. That caused one phase to ground fault blowing a fuse. It is interesting to note that the underground cables used to provide electric service to the George Isaacs Carbarn and Shop were installed in the early 1970s with a rated service life of 25 years. So, the cable that shorted to ground was over 20 years beyond its normal service life.

At 9:00 PM **Franske** returned to the barn to check on the progress restoring power and found about 5 Xcel trucks, an excavator, directional boring machine, and crew of about 10 working on pulling in new underground feeder cables to the carbarn. By just after 11:00pm **Karl Jones** and I were able to remotely verify power had been restored, between 37 and 48 hours after the initial partial outage started and about 36 hours after reporting it to Xcel Energy.

Upgrades to the 3-Phase AC and 600-volt DC Electric Controls at CHSL. The power outage motivated **Franske** to get busy with a few power monitoring and control projects we've been planning at the museum for the past few years, since we had some issues one summer with our own internal fuses blowing and losing our overhead power supply.

We have two projects planned, one of which the first phase is complete on now and we'll continue working on next year and the other of which is undergoing implementation and testing. The first project is to replace the control circuitry which runs the 600V DC power supply at CHSL.

The overhead power system at CHSL was designed by **George Isaacs** in the 1970s, updated a few times as the barns expanded, and the last major updates or service work was done in the mid-1990s. We have a stack of schematic diagrams showing how the system was designed to function as well as some of the changes made to it over time but nothing showing the entire system as it was wired. In addition, there had been some heat fatigue

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to insulation on some of the wiring making it brittle and subject to cracking and additional safety enhancements we could make.

So, with operations suspended and the project planned for this year and parts already on hand **Franske** undertook a few days of work to rebuild the control system in its entirety and upgrade it to modern control technology at the same time. While the basic operation of the panel remains the same the “guts” have been replaced and instead of controls directly actuating relays they are all interpreted by an industrial Programmable Logic Controller (PLC) now.

This allows us to do some basic electrical checks, such as checking that we have all three phases of power, before the system will power on. Because of the way the DC supply was designed it relies on having all three phases to generate a full 600V and to properly cool the supply so running on less than three phases is unwise other than for short bursts in an emergency.

It also allows us to add future capabilities in a “phase two” to take place next year, including the ability to monitor the status of the supply and the incoming power phases remotely and to have an emergency overhead shutoff switch at the depot which can be activated by a depot agent if an operating crew needs to have the power shut off quickly.


As mentioned, aside from a few cosmetic changes there are no real changes to how the control panel operates and foremen should be able to figure it out easily. There will be an updated memo on troubleshooting and the basics of operation which will be attached to the control panel. Also, to “lock out” the power supply you must do so at the back of the ready barn at the main disconnect for the 600V system and not at the control panel. Per OSHA safety regulations this is how it always should have been, but we have removed the locking apparatus from the control panel location now so that you can only do it from the main disconnect switch.

The last project is to gather data on our incoming power quality and power usage for both the overhead and shop at CHSL. Over the winter **Franske’s** team installed a new internal meter panel in the back of the ready barn and are taking the opportunity over the operations shutdown to wire that. Because of limited documentation on the meters we purchased for the project it’s taking a bit of trial and error to get things going. But once complete, we will be able to remotely monitor (and alert people to problems with) power at CHSL including incoming voltage of all three phases, real-time amperage used by both the overhead and the shop, total harmonic distortion, power factor, kilowatt-hours used, phase angle, etc.

While neither of these projects will prevent us from the type of situation we experienced earlier in June, both of them allow us to do better remote monitoring of the power situation at CHSL so that we can be more proactive at reporting issues and faults to either museum personnel or Xcel Energy without having to be on site all the time. One remaining project still in the theory and planning stage is to improve the real-time monitoring of the DC side of the overhead system (line voltage

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Adjournment. The meeting was adjourned at 10:55 AM.


JAMES A. VAITKUNAS
Corporate Secretary