

Golden Gate Live Steamers, Inc.

Safety and Operating Rules

February 2021

Observance of these rules is required.
Only members and guests willing to abide by them will be allowed to operate equipment at the Club track.

All GGLS members share responsibility for maintaining safe operations and conditions at Club facilities.

The Board of Directors and the Safety Committee thank you for your cooperation

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FORWARD

The Golden Gate Live Steamers, Inc. SAFETY AND OPERATING RULES are issued by the authority of the Board of Directors and under the direction of the Chairman of the Safety Committee. This Manual contains information, rules and procedures required for safe and effective operation. These rules are not a substitute for sound judgment. Emergency condition, available facilities, adverse weather or terrain, or considerations affecting the lives and property of others may require modification of the procedures contained herein. It is your responsibility to read this manual and to have a complete knowledge and understanding of its contents.

Section 1 – General Procedures

1.1 Conduct

All East Bay Regional Park District regulations must be obeyed. Thus, the GGLS facility is smoke, drug, and alcohol free.

Abuse of this rule by members, guests, and the public will not be allowed and will be reason for prohibiting operation and/or removal of equipment from the track. Use of abusive and intemperate language will not be condoned. All persons exhibiting any type of negative behavior may be subject to ejection from the premises.

1.2 Visitors

Visitors, when permitted within the steaming bays and roundhouse area, shall be escorted by a GGLS member. Members or guests who need to get close to tracks for photography shall have an escort to keep a lookout for oncoming trains or equipment movement.

1.3 Children

Children shall be supervised and accompanied by their parents or legal guardians at all times. A boisterous playground atmosphere will not be tolerated and may result in ejection from the facility.

1.4 Dogs

All dogs must be on a leash as per Park regulations and may not ride the trains. Dogs are not allowed in the steaming bays or in Club buildings. Owners must clean up after their dogs.

1.5 Handcars

Handcars and other non-motorized vehicles shall operate only when steam or motorized equipment is not on the tracks. When permitted to operate they may operate on the outer loop. Also, they may operate on the flat part of the inner loop around the club house and roundhouse using the cutoff by the roundhouse. **They are not permitted on the trestle at any time.**

1.6 Engines Running Light

All engines running light shall be considered as a train and be subject to all safety and operating rules

Section 2 – Equipment

2.1 General Restrictions

All equipment running on the club track is subject to inspection by a member of the Safety Committee at any time. Failure to

submit to, or pass, such inspection may result in removal of the equipment until any deficiencies are corrected.

2.2 Ash pan

Steam locomotives shall have an ash pan installed to prevent dropping of burning ashes or oil along the right-of-way. Except in emergency, ashes shall be dumped only at the steaming bay on the tray provided or at the pit near the roundhouse. Engineers shall be responsible for extinguishing burning ashes dropped on the track.

2.3 Signaling Devices

(See Appendix One for GGLS whistle and hand signal conventions)

2.3.1 Daylight Operations

All locomotives shall be equipped with a whistle, horn, or other sounding device producing audible signals. All locomotives shall carry a red flag that should be placed standing in the center of the track 50 feet behind disabled equipment in case of electronic block signal system failure.

2.3.2 Night time Operations

All trains operating after sunset shall be

equipped in the following manner:

1. Working headlight
2. Lighted cab
3. Marker light or lantern on the rear of the last car
4. Brakemen shall have a lighted lantern or flashlight suitable for giving hand signals
5. Rule 2.3.2 shall apply for operations during periods of low visibility.

2.4 Safety Chains

All trains shall have steel safety chains or cable of 1/8" minimum thickness between the locomotive and any car behind the engine, occupied or not. This rule applies to visitors as well as members.

2.5 Wheel Dimensions and Coupler Heights

Wheel dimensions, gauges, and profiles for all locomotives and equipment shall conform to GGLS standards (**Refer to Appendix two for the table of dimensions.**)

2.6 Emergency Shutdown

Boilers shall have the capability to shut off heat immediately in the case of emergency. Oil and LP Gas fired boilers shall have a valve or other means to stop the flow of fuel to the burner. Solid fuel fired boilers shall have a

means of dropping the grates or smothering the fire with steam or water.

2.7 Boiler water feed

All steam locomotives shall have at least two devices for feeding water into the boiler. At least one of these devices shall be operable when the locomotive is not in motion.

2.8 Sight Glass

Steam boilers shall have at least one water level gauge located such that water showing at the bottom of the glass is covering the crown sheet by 1" for 3 3/4 scale or larger locomotives, 5/8" for 2 1/2", 1.6", and 1 1/2" scale, and 1/2" for 1" scale and smaller locomotives when the locomotive is level. The top of the water gauge must be connected to the top of the boiler directly. The water gauge must be capable of being "blown down" from both the upper and lower boiler connections separately and shall be checked during the annual inspection.

2.9 Brakes

All trains shall be equipped with a braking system. It is the responsibility of the engineer to know the braking effectiveness. Train speed and following distances shall be based on the

ability to stop the train within a safe distance.

2.10 Safety Valves

All steam locomotives submitted for certification shall have a minimum of two safety valves installed. One safety valve shall be adjusted to release at the maximum operating pressure or less. The second safety valve shall be adjusted to release at a maximum of 5 psi greater than the first safety valve. An exception to this rule may be granted for 3/4" and 1/2" scale locomotives operating on the high track by the locomotive inspector and such exception shall be noted on the appropriate records.

Under no operating conditions shall the safety valves allow the boiler pressure to exceed 5% over the maximum operating pressure.

Both safety shall be tested during the annual inspection. Any temporary manifold or piping arrangement shall include a separate relief valve set no more than 10% higher than the rated boiler pressure and shall be active during the test process.

2.11 Operating Controls

Controls on all locomotives should be arranged for easy access and ready use.

Controls for brakes shall be readily accessible.

Remote controls and tether controls for electric or gas powered locomotives shall be equipped with a “dead man” to prevent runaways. Forward/Reverse levers for “diesel” locomotives shall have an automatic return-to-center function on release.

2.12 Locomotive Certification

All Steam operated locomotives at GGLS shall carry a boiler inspection number tag. This tag must remain readable and visible at all times or the locomotive will not be allowed to run. This number refers to the inspection sheet in the GGLS log book.

The duration of the certification shall be one year.

While gasoline and electric powered locomotives, handcars, and other equipment do not require an inspection tag, they are subject to inspection by the Safety Committee. This may occur if said equipment has frequent derailments, or other problems deemed unsafe. Wheel and locomotive weight checks may be required for new locomotives.

A list of locomotive certification inspectors is posted on the GGLS Bulletin board.

2.13 Locomotive certification standards

These are listed on the inspection sheet. Any locomotive that has passed the criteria listed is eligible for certification by the inspector. All locomotives that have undergone boiler work of any kind must be reinspected regardless of the date of previous certification.

While minor leaks associated with boiler accessories are almost always present, any leaks that prevent the test pressure from being achieved may require correction before the inspector can certify the boiler and locomotive for GGLS operation.

In general, weeps around the mud ring or boiler stays, dome joints, and boiler tubes at the test pressure will require service and retesting. Bulges, unusual sounds or sudden drops in test pressure may require closer scrutiny. Tube sheets must be visible to the inspector.

2.14 Certification Procedures

Locomotives to be certified shall be fitted with a 1/4" flare fitting to fit the GGLS inspection pumps. The owner shall provide all connections required and fill the boiler with water prior to pressure testing. The boiler should not contain any air after filling. Safety valves should be removed where

practical and the holes plugged. After the pressure test, the boiler shall be steamed to test the safety valves.

2.15 Certificate of Inspection

GGLS members are not required to have a locomotive inspection wallet card in addition to the inspection sheet in the record book. A card is available on demand for those who expect to visit other clubs and need to show certification.

Only locomotives owned and operated by GGLS members at the GGLS facility are eligible for GGLS locomotive inspection and certification. However, we subscribe to reciprocity and do not require inspections for equipment visiting from other Live Steam organizations who conduct certifications

Section 3 – Operating Procedures

3.1 Unloading

Locomotives and equipment may be unloaded at the hydraulic lifts provided by GGLS. In the interest of reducing congestion in the loading areas, vehicles shall be relocated immediately and before moving equipment to the steaming bays.

3.2 Departure from the Steaming Bay

Prior to steam locomotives departing their bay for the main line, the following shall be accomplished:

1. Steam shall be brought up to operating pressure
2. Safety valves and pressure gauges shall be checked and operating correctly
3. Water glasses shall be blown down
4. Feed water devices shall be checked and in working order
5. Whistle or other audible signaling device shall be tested and operating correctly
6. Brakes shall be checked and operating correctly

3.3 Direction of Movement

All traffic is fixed in one direction starting at the turntable in a counterclockwise direction

3.4 Speed limits

Maximum speed at any time shall be FIVE (5) miles per hour. At this speed the time to travel 100 feet (the distance between mile posts) is 13.7 seconds. The maximum speed for any train shall be further limited by its ability to stop within the forward visibility afforded. Reduced speeds shall be observed when proceeding to and from the steaming bays.

Repeated violations of the speed limit is cause for removal from the track

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3.5 Separation of Trains

A train following another shall maintain, as a **minimum**, a separation equal to its own stopping distance

3.5.1 Block Signals

Block signals shall govern train operation and TAKE PRECEDENCE over any other rules of speed or separation. Trains shall comply with block signals as follows:

1. Signal target marked with an “A” when RED may not be passed until it either turns to Yellow or goes blank
2. RED - Train shall come to a complete stop prior to reaching the signal. Train may then proceed slowly until the rear of the train in the next signal block becomes visible.
3. YELLOW - Means the block after next is occupied. Train may proceed into the next block with caution.
4. GREEN - Means the next two blocks are unoccupied. Train may proceed at normal speed.
5. FLASHING or NO LIGHTS - The signal is not working. Train may proceed with normal

visual running procedures.

3.6 Switches

Through traffic at a switch shall have the right-of-way. When running parallel to another train, slow down and check points at crossovers to avoid train convergence.

3.7 Realignment of Switches

Engineers and brakemen are responsible for the alignment of switches in proceeding in the direction desired. Normal settings of switches is for through traffic in all cases. Engineers may realign switches to the normal settings as a matter of courtesy, but it is not required.

3.8 Backing

Prior to backing, the engineer shall give the correct signal (See Appendix One) The brakeman shall observe the rear of the train for clearance of obstructions and give the signal to proceed to the engineer. Engineers shall proceed at greatly reduced speed. In cases where the engine is running light, the engineer shall assume the duties of brakeman as well.

3.9 Stopping

Trains shall not stop on any bridge, crossing, switch or on the outside track except in an

emergency or in compliance with the signal system.

3.10 Approaching Stopped Trains

Engines approaching stopped trains in congested traffic shall come to a complete stop at a distance equal to their own stopping distance from the preceding train. After a complete stop, the following train may approach the preceding train with caution and at reduced speed.

3.11 Duties of the Brakeman

A train stopped on the main line shall call out a brakeman to protect the rear of the train for a distance of 50 feet or along the far side of a blind curve.

3.12 High Track Riding Cars

Riding cars on the high track may be of any scale but shall be 4 3/4" gauge. They shall be of the flat car configuration with the engineer and any passenger sitting "side saddle" facing to the left side of the track.

3.13 Propane Fueling

Transfer of propane fuel between storage tanks and tender or train tanks for both ground

track and high track equipment is prohibited. Exceptions may be granted on an individual basis by the Safety Chairman.

3.14 Access to the Roundhouse Area with high track bridge in place.

1. All trains must come to a complete stop before crossing under the high track.
2. The engine shall then be pushed under the high track to a point where the engineer can resume normal operation of the train

3.15 High Track Safety

1. When there are engines running on the High Track, the bridge sections must remain in place and undisturbed, or they may be moved momentarily to allow taller ground track engines to cross into and out of the roundhouse area after notifying high track operators.
2. When there are engines running on the High Track, any person who removes the bridge section must replace it before leaving.
3. Items shall not be left lying on the High Track or resting against the side of the track or its supports.
4. Chairs, tables and large items should be placed no closer than two feet away from the High Track

Section 4 – Passenger Transport

4.1 Transport of the General Public

Transport of the general public shall be limited to the drop center approved passenger cars owned by GGLS. Other “T” bench cars owned by GGLS for use by members shall only be used to transport members or guests of members.

The General Public shall not be allowed to ride on the High Track. High Track passengers may be allowed on approval of the Safety Committee. When allowed, passengers and/or equipment shall not be placed between the Operator and the Locomotive.

4.2 Engines and Engineers of trains transporting the general public

1. Any engine passing the annual safety inspection may pull the GGLS cars transporting the General Public whether the engine be owned by GGLS or a GGLS Member.
2. Operation of trains transporting the General Public shall be limited to GGLS members, 18 years or older.
3. Operators in training on GGLS equipment, regardless of age, will be accompanied by a

trained operator who shall be seated on the tender directly behind him/her.

4.3 Conduct of Passengers

Passengers shall remain on the train during unscheduled stops unless otherwise directed. Engineers and brakemen are responsible for orderly passenger conduct.

The train crew shall inform the passengers that:

1. Feet and hands must be within the limits of the car
2. Every passenger must be seated facing forward
3. Photography while train is in motion is prohibited
4. Leaning out may cause a derailment

4.4 Boarding of Passengers

Passengers of the General Public shall board and disembark only at Tilden Station or other locations approved by the Safety Committee, i. e., as during public Open Houses, Club Meets, etc. Private passengers may embark or disembark anywhere along the track providing proper safety procedures are followed.

4.5 Duties of Brakemen

All trains carrying passengers shall have a brakeman. The brakeman shall be equipped

with a signaling device and a red flag. It shall be the brakeman's responsibility to protect the rear of the train and to assist the engineer in the operation of the train.

Section 5 – Signaling Procedures

Signaling procedures, UNLESS OTHERWISE SET FORTH IN THESE RULES, are not enforced. Engineers are encouraged to use signaling and applicable hand signals follow for those wishing to use them. Also see **Appendix One**.

5.1 General Hand Signals given by the hand, flag, or lantern

1. STOP - Swung at arm's length down from shoulder and across the track
2. PROCEED - Raised and lowered vertically and parallel to the track
3. BACK - Swung vertically in circles across the track
4. REDUCE SPEED - Arms held horizontally to the chest with a slight motion of the hands.

Section 6 – Safety Chairman

6.1 Chairman

The membership shall elect a Safety Chairman who may request volunteers for the Safety Committee and appoint Engine Inspectors. In addition, any member of the Board of Directors may act in the capacity of Safety Committee member. The Safety Chairman shall appoint an alternate if he is not to be in attendance at any event.

6.2 Boiler Inspectors

The Chairman shall post a list of boiler inspectors on the bulletin board in the Clubhouse.

6.3 Removal of Trains

Any member of the Safety Committee may flag an engine or equipment and have the engine or equipment removed from the track at any time.

6.4 Operations Inspections

The Safety Committee may conduct engine speed and brake tests from time to time at their discretion or to check engines and equipment that seem to be running unsafely

6.5 Protest of Actions

Action or inaction of the Safety Chairman or the Safety Committee may be protested. The

proper channels for protest is to contact the GGLS Ombudsman, who shall determine the merit of the protest. The Ombudsman may ask for the matter to be brought up to the Board of Directors for action.

Any GGLS member is encouraged to review these Safety Rules and to contact the Safety Chairman or the Board of Directors to suggest changes or corrections.

6.6 Emergencies as Justification

Any member, visitor, or guest who quotes an emergency as justification for breaking the Safety 'Rules shall appear before the Board of Directors at the next scheduled meeting to justify his actions

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6.7 Infraction of the Rules

Any member of the Safety Committee, or any petition of five members in good standing, on written notice, may call a member before the Board of Directors at the next scheduled meeting for infraction of the Safety and Operating Rules.

6.8 Accidents

Persons involved in any accident involving injury of any kind, or damage to club property, or damage to private equipment not his own

shall file an accident report with a Safety Officer or Board Member.

6.9 Exceptions

In general, no exceptions to these rules will be made. However, the Safety Chairman may grant exceptions to certain rules on a case by case basis.

6.11 Failure to Appear

Failure to appear before the Board of Directors when summoned or otherwise required to do so shall be interpreted as a default and the Board may then take any action deemed appropriate without further recourse on the part of the individual.

Section 7 – Security of Property

7.01 Protection of GGLS Facilities

A checklist of procedures for closing down GGLS buildings, operating equipment, and the whole layout area is posted in several locations. The posting includes a list of extra steps in winter months to keep water pipes from freezing.

These procedures may be altered from time-to-time to reflect physical changes of the facility as well as changing needs for the protection of the property

Section 8 - Fuel Storage

8.01 Inside Storage

No fuel of any kind may be stored in any GGLS building.

Wood for the clubhouse stove shall be stored in places approved by the Safety Chairman.

8.02 Permitted Fuel Storage Locations

Propane may be stored in the storage cage by the Roundhouse. Coal supplies may also be stored in the cage. Gasoline and fuel oil may be stored in the base of the signal stand near the hydraulic lift.

One exception is that oil reservoirs in tenders need not be drained at the end of the day before engines are returned to GGLS provided storage buildings. Also, tenders do not have to be emptied of remaining coal or wood.

8.03 Battery Storage and Charging

Electric powered engines or other engines that use storage batteries to start their engines are allowed in the Roundhouse and other equipment storage buildings.

Unattended charging of storage batteries in the roundhouse is permitted for AGM type sealed batteries using battery maintenance devices

drawing no more than 2000 ma, or potted, sealed chargers drawing no more than 8000 ma.

Unattended charging of storage batteries of the unsealed variety in the roundhouse is not permitted.

Appendix One

GENERAL HAND SIGNALS

Hand signals may be given with the hand, flag, or lantern as follows:

- A. STOP — Swung at arm's length down from the shoulder and across the track
- B. PROCEED — Raised and lowered vertically and parallel to the track
- C. BACK — Swung vertically in circles across the track
- D. REDUCE SPEED — Arms held horizontally to the chest with a slight motion of the hands

SIGNALS OF THE ENGINEER

Whistle signals should be used by the engineer whenever practical to give, ask for, or acknowledge information about the movement of his train. When double-heading, the lead engine should give the signals when possible. The whistle should not be used unnecessarily.

	O	Short Blast
	—	Long Blast
A.	O	Apply brakes, stop
B.	OO	Answer to any other signal not otherwise provided for
C.	OOO	When standing, back up
D.	OOOO	Call for signals
E.	— —	Release brakes, proceed
F.	— — — —	Crew return to train
G.	— OOO	Brakeman guard rear of train
H.	— OO	Call attention to GREEN classification signals
I.	— — O —	Approaching a public crossing of restricted visibility or a train on an adjacent track
J.	—————	Approaching station or railroad crossing
K.	OOOOOOOOO	Warning to people on track; general alarm

SIGNALS OF THE BRAKEMAN

Communicating signals should be used by brakemen when necessary to convey a message to the engineer while the train is running. Communicating signals are sounded on the brakeman's whistle of sufficient loudness for the engineer to hear above the noise of the engine. Brakeman's Signals are as follows:

- | | |
|------------|--|
| A. O O | When standing, proceed |
| B. O O | When running, stop |
| C. O O O | When standing, back up |
| D. O O O | When running, stop at the next station |
| E. O O O O | When running, reduce speed |

COLOR SIGNALS

Color signals may be lights, flags, tags, or any other recognized signaling device. Their **normal** meanings (exceptions covered below) are as follows:

- A. RED — Stop
- B. YELLOW — Proceed with caution at reduced speed and prepare to stop at the next signal
- C. GREEN — Proceed. (GREEN signals on the head end of a locomotive indicate

Appendix Two

GGLS STANDARDS

Scale (In. to ft.)	1-1/2	1	3/4	1/2
A Track gauge (1)	7- 1/2	4- 3/4	3- 1/2	2- 1/2
B Back to Back (2)	7- 1/8	4- 7/16	3- 9/32	2- 9/32
C Wheel gauge (3)	7- 7/16	4-11/16	3-15/32	2-15/32
D Wheel width (min)	3/4	9/16	7/16	9/32
E Flange thick (max)	.156	.125	.094	.063
F Flange depth (max)	.187	.156	.094	.075
G Contour of flange	rounded			
H Inside radius (max)	1/16	3/64	1/32	.025
TW Taper of wheels	2-1/2 degrees max.			
TF Taper of flanges	10 degrees \pm 3 degrees			

IBLS STANDARDS

Scale (In. to ft.)	1-1/2	1	3/4
A	7.50 (min)	4.75 (min)	3.50 (min)
B (1)	7.120	4.437	3.281
C (2)	7.440	4.690	3.470
D	0.750 (min)	0.505 (min)	0.406 (min)
E	0.156 (max)	0.125 (max)	0.094 (max)
F	0.187 (max)	0.140 (max)	0.094 (max)
H	0.094	0.062	0.047
	\pm .015	\pm .010	\pm .008
TW	2°50' max.		
Tolerance notes	(1) All + .020 -.000		
	(2) All + .000 -.020		

