Show Report – York Black Hall 2014

The Trackers were invited to present a layout in the Black Hall of the TCA Eastern Division York Meet for the 4th time in the club's history. This time we sought to present some new, innovative designs and ideas, as we had an audience of thousands of train aficionados as our audience. Planning for the event began in November 2013, with the idea of presenting a multilevel "over and under" layout design. Several iterations were reviewed before settling on the final design which both filled the hall, and presented a single, interconnected layout that enabled both command and conventional running. The final layout design consisted of 3 parts, the over and under element itself, which consisted of a run of modules, doubled front to front up the centerline of the layout to create a 6 track mainline, looping over itself in an arrangement similar to an interstate cloverleaf. The center of the layout expanded from the 6 track configuration around the throat of Mike Fistere's 9 track yard. The third part of the layout was connected via Dave Sealing's T modules, and housed a loop for conventional running, as well as an extension of the outer loop of the layout. Final layout dimensions were 110' x 28'. Over 900 feet of track was in the layout.

Setup

Setup began Tuesday afternoon. Mike Fistere and Chuck Pestacchi arrived first, to unload and setup the yard, Justin Krause and Steve Kehn arrived shortly thereafter with the purpose built yard inlet module, switch interlocking, and a trailer full of modules. By the end of Tuesday, the yard, yard inlet and interlocking were all setup and in place, as well as a set of super-elevated, wide radius corners that would make up the end of the layout were set up. Official setup began at 8 am Wednesday. Trackers arrived in droves all morning, with all pieces of the layout being on site by 11:30 am. Assembly of the layout progressed faster than expected, which turned out to be a very good thing. The layout was physically assembled by 1 pm, just in time for the arrival of lunch. The afternoon was spent electrically connecting the layout and testing.

Both of the club's power cabinets were used to power the layout. The Virginia cabinet powered the command controlled portion of the layout, while the Maryland cabinet powered the conventional loop. This was the first use of the new wiring harness in an actual show. The trial run at Tech Day, April

12 showed that the harness was very effective in resolving some of our long standing electrical problems. Power was supplied to the layout in 7 different places through the use of Justin Krause's 1 into 6 splitter board. A total of 375 feet of feed wiring supplied power directly to the far corners of the layout in order to minimize voltage drops and also to boost the command control signals. Testing continued through the afternoon, where the continuity circuit in the power cabinet again showed its value. The problem was troubleshot to a contact in a harness connector that was not fully seated in the housing. Re-seating the contact fixed the issue and the continuity light remained on the rest of the show.

In the conventional portion, the inputs of both power cabinets were combined, in order to carry power from the Virginia cabinet to the far end of the outer loop, and power from the Maryland cabinet to the conventional loop. At first, some TMCC interference was observed. It was discovered that , despite turning off all of the outer loop power supply in the Maryland cabinet, the outer loop return to the cabinet also needed to be disconnected. An extra club harness, with outer loop contacts removed was used to disconnect the cabinet return cable from the outer loop, and insulating pins were installed in between the T-modules to fully isolate the conventional loop from the command loops, which eliminated the signal interference.

Issues were also noted running TMCC on the middle loop of the command portion. Legacy did not exhibit the same problems, and DCS showed no issues. After trying several fixes, the issue was chased to a bad channel in the TIU on Thursday morning. The transformer was outputting the expected 18 Volts, but the TIU was intermittently putting out 6 volts or less. After swapping the TIU channel for another one, the issue by and large went away.

Show Operations

The show ran differently from most typical shows. All trains running command control originated and terminated in the yard, which required crossing lines for all but the inner loop. This operation required the constant attention of two people, "Yardmaster" to control operations in the yard, throwing switches and keeping the yard throat clear, and a "Dispatcher" to run the interlocking switches to the mainlines as well as direct traffic in and out of the yard. With 6 trains running almost all the time, the Dispatcher and Yardmaster had to work in unison to keep the trains moving, the yard traffic orderly and keep the mainlines moving. Numerous trackers pitched in to the effort in both capacities, and all parties did a fantastic job keeping things going. Less than a handful of trains wound up on the wrong track or headed in the wrong direction. The other part of the equation was coordination of operators running trains being available for instruction from the Dispatcher and/or Yardmaster, this proved problematic at times, especially when the crowds got heavy and instructions could not be effectively passed. Most operators remained within range of the Yardmaster/Dispatcher locations and were able to respond to requests to slow down and allow traffic in/out of the yard, stop to clear breakaways, etc. Additionally, spotters were utilized at the far end (conventional end) of the layout to fix minor issues and alert the dispatcher to any issues. Thanks to all who worked the layout during the show:

Yardmasters: Andrew Israel, Phil Barbara, Nik Masiyoski, Bob Easton, and Dave Sealing

Spotters: Steve Kehn, Jack Frost Glenn MacKinnon, Rick Eudy, Martin Dougherty, Joe Helsing, Jim McDermott, Bill Hakkarinen, Jack Frost, Craig Schelle, Ralp Fox, Ed Beaver, Don Roberts, Joe LoCascio, and Harold Pavelka

All three command systems were in use during the show, and the new wiring harness showed its true strength. Despite the size of the layout, DCS signal strength was nearly 10's over the entire layout. The only minor issue was at the absolute far end of the layout where the length of the layout exceeded the remote's radio range to the locomotive. Intermittent TMCC issues were noticed on an individual locomotive basis. Most locomotives had no issues, while others exhibited the TMCC flickering headlight indication of low signal reception. Some Legacy locomotives showed the same symptom, but the issue was more prevalent with TMCC. As the issue was only certain locomotives, and not global, the issue was likely due to the size of the layout and the limited power of the TMCC radio receiver in the locomotive. Issues with all command systems was observed in the yard. Attempts were made to enhance the ground in the yard, and a reference wire (green wire) was also added under the yard to improve TMCC/Legacy reception. The yard has its own transformer and TIU and is not electrically associated with the remainder of the layout. Accordingly, all that could be done was attempt to improve reception.

The over and under didn't prove to be any issue for the trains. Very few traction tires were lost through the show, and the only issues climbing the grade were due to the use of too much train, and not enough engine. Even long trains, when properly powered, were able to climb the 1.6% grade without issue.

For the first time ever, the club was able to run 3 tracks with no restrictions. The layout had been designed around the goal of running any train, on any track at any time, and this was accomplished. All of the command portion corners were wide radius, of a design which uses the same radius for all three loops, but offsetting the start of the curves by 4.25" (non-concentric). This design expands the track spacing in the center of the corners to approximately 6", which prevents overhang related collisions. All 8 of the 90 degree corners in the command portion used this design, with an average radius of O-108. The 22.5 degree corners that opened around the yard were also non-concentric, and arranged "inverse" with the largest radius curve on the inside of the corner, the smallest radius on the outside, in relation to the center of curvature. This arrangement expands the spacing between the tracks in the curve, to allow for more room. Combined with large diameter curves (O138, O120, O104, respectively), clearance was sufficient for all equipment. Throughout the entire show, numerous large locomotives were run, including the undisputed king of overhang, a C&O M1 turbine. There were no overhang related issues during the show.

Track was cleaned at the start of each day, prior to powering up. Late in the day Thursday, the signal strength began to degrade, and the track was cleaned after about 4 hours of operating. Operations improved after cleaning, so Friday and Saturday the track was regularly cleaned, by hand and by track cleaning car, every several hours.

Crowds were heavy through the entire show, from opening Thursday through close on Saturday. Comments from the crowd were all positive and numerous people commented directly to various Trackers that the layout was impressive. The power cabinet, which was on display outside the layout, was a frequent topic of discussion (a few people even asked if we built them for sale), as well as the new harness, which was presented on a display board for show attendees to look at. Several vendors passed through the hall and all were impressed by the layout.

Many modules in the show were either brand new, recently built, or refurbished ahead of the show. The entire command portion of the show was all permanent three track modules, no temporary trackage was needed to fill gaps. Thanks go out to everyone who worked over their modules in the months leading up to the show, the end result was truly "one for the ages".

Teardown

At the conclusion of the show, a brief meeting was held to go over tear down procedures, in order to get everything home to the right place. Tear down was done in an impressive 2 hours. Thank You to everyone who came out and helped

Show Layout