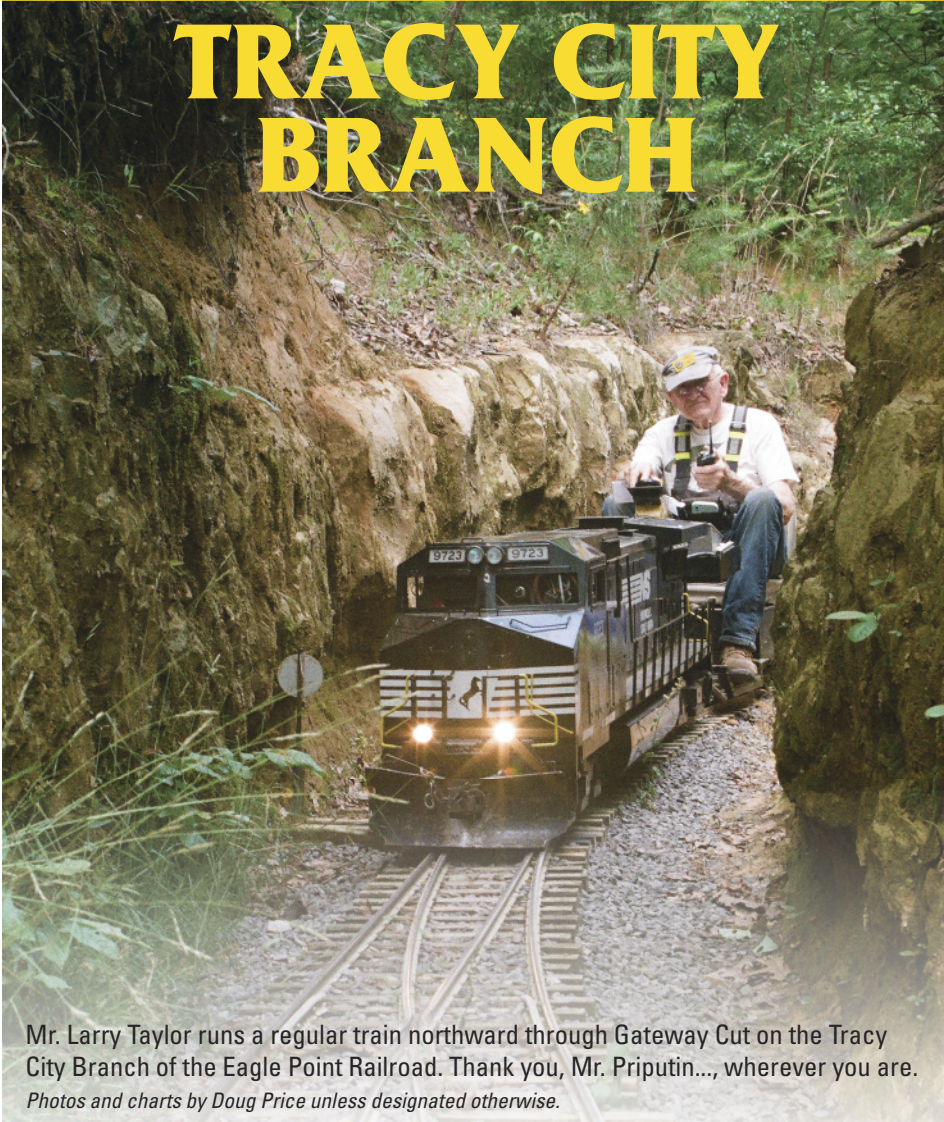


# DISPATCHING THE TRACY CITY BRANCH



Mr. Larry Taylor runs a regular train northward through Gateway Cut on the Tracy City Branch of the Eagle Point Railroad. Thank you, Mr. Priputin..., wherever you are.

Photos and charts by Doug Price unless designated otherwise.

## BY JEFF BENTON

**In** June and October of 2021, the Eagle Point Railroad conducted its first radio dispatching sessions in many years. This line is a 1/8th scale, 7.5-inch gauge recreational railroad on roughly 38 acres of forested mountainside in south central Tennessee. These recent radio dispatching sessions (or "meets" as they are more commonly called) resembled the sort of role-playing game more commonly found on indoor, bench-top model railroads. (See the April 2012 issue of *The Dispatcher's Office* for introductions to ride-on model railroad operations.)

### An overview of the district

While the radio dispatching was limited to the Tracy City Branch of the E.P. (Eagle Point) Railroad, the rest of the railroad was also available for operation. The branch is 5-1/2 scale miles long. A map of the branch is in the upper left half of Figure 1. From the end of the line at Henley, it runs downhill to Cowan where it joins the double-track E.P. mainline.

Although the layout of this branch follows the full-sized Tracy City Branch of the Nashville, Chattanooga, and St. Louis Railway, during radio dispatching operations its traffic is more like that of a portion of a moderately busy mainline. Feeding this increased traffic level are the freelanced railroad con-

nections at and near the end of the branch. The principal connection, at Henley, is with the E.P.& W. (Eagle Point & Western). There is also an interchange track for the E.P.N. (Eagle Point Northern) at Laager, near the top center of the map in Figure 1. Most of the branch is on a 2.5% grade.

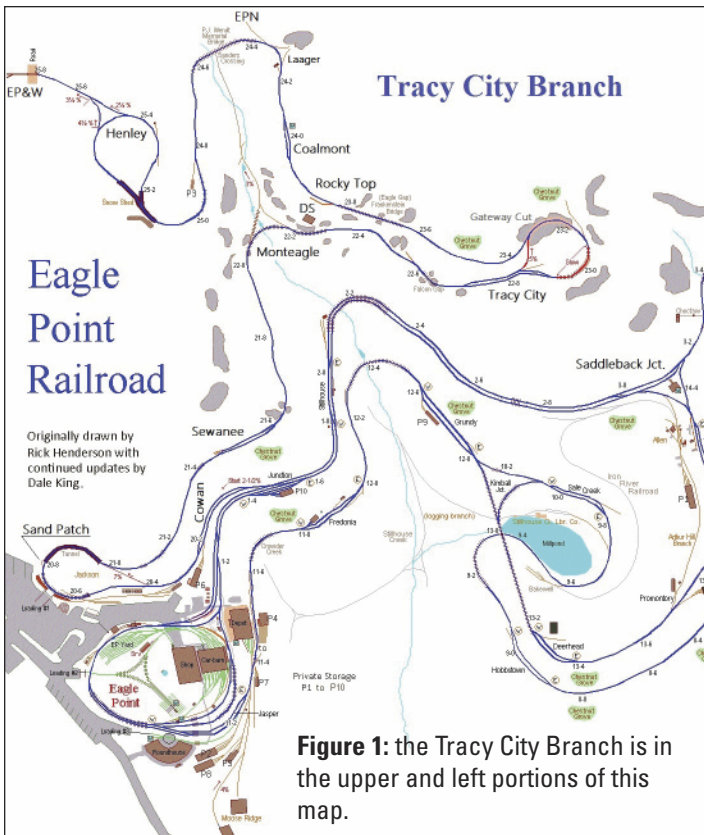
The increased traffic level, beyond that of the prototypical branch, is reflected in the timetable. See Figure 2 for the morning timetable used in June. Note that the time is not compressed, scaled, or sped-up with a fast clock. Those are actual 60-second minutes in the timetable. Actual running time between passing sidings is between two and three full-duration minutes. Railroading in 1/8th scale is a whole 'nother kinda meal; it's not fast food.

### Inspiration for the radio dispatching

These radio dispatching operations were inspired by those on the C.& I.G. (Comanche & Indian Gap) Railroad. (See the July 1997 issue of *The Dispatcher's Office*.) The operation of that ride-on model railroad features multi-person crews who are well out of sight of other train crews on the railroad. These crews switch and run trains in dark territory, aided by a dispatcher.

As on the C.& I.G., the Tracy City Branch dispatcher uses DTM (Direct Traffic Management) to coordinate main track train movements. Do not confuse DTM with DTC, Direct Traffic Control. (See page 66 of Tony Koester's *Realistic Model Railroad Operation*, Kalmbach, 2003, for a brief justification of DTM. For DTC, see page 251 of *A Compendium of Model Railroad Operations* published by the OPSIG.) The principal defining elements of this DTM are the use of tokens on a schematic panel to help visualize traffic and the use of radios for direct communication between the dispatcher and the conductors. Both of these elements are evident in Figure 3, which shows one of the Tracy City Branch dispatchers in the office at Rocky Top. Rocky Top is in the upper center of the map in Figure 1.

Originally, these operations were in-



**Figure 3:** The dispatchers' office. The dispatcher is IN!

tended to very closely approximate those on the C.& I.G. However, the desire to combine these new branch operations with the preexisting card-order activities drove two significant departures from C.& I.G. practice.

The 2nd-class trains were added to provide new regular trains that blend with the 1st-class trains of the traditional card-order meets, now long in service. The 2nd-class trains have to

The first was the inclusion of 2nd-class trains; the second was the addition of a communications operator at Cowan.

clear the 1st-class trains, 'natch, but the 1st-class trains would not have to know anything about the newly added 2nd-class trains. In this way, 1st-class crews could continue to use the same traditional schedules they had always used.

The operator at Cowan makes sure that all crews are properly prepared for the radio dispatching operations on the branch. One of these operators is seen in Figure 4, at his post in

Cowan. His equipment includes copies of the timetable, loaner watches, and loaner radios. He is the dispatcher's surrogate at the entrance to the branch and relays his instructions to crews there.

**A touch of train order**  
Because the Cowan operator relays the dispatcher's instructions, he is required to write them down. Once he has copied the train crew's instructions, he must repeat what he's written back to the dispatcher to prevent errors.

Eagle Point Railroad Tracy City Branch Timetable 5, Effective May 30, 2021																	
Read Down							Read Up										
Northward							Southward										
Second Class		First Class					First Class		Second Class								
66 Expediter Lv. Daily	18 Lv. Daily	16 Lv. Daily	62 Merchant Lv. Daily	308 Lv. Daily	306 Lv. Daily	302 Lv. Daily	Miles	STATIONS	Sidings (feet)	405 Arv. Daily	407 Arv. Daily	409 Arv. Daily	17 Arv. Daily	65 Merchant Arv. Daily	19 Arv. Daily	67 Courier Arv. Daily	
AM	AM	<b>Start:</b>	<b>Start:</b>	AM	AM	<b>Start:</b>		Saddleback J.	SB wye	AM	AM	<b>Lunch</b>	AM	AM	<b>Lunch</b>	<b>Lunch</b>	
<b>10:49</b> <sup>407</sup>	10:33 Lv	9:38 Lv	9:24 Lv	11:11 Lv	10:11 Lv	9:11 Lv		Tr. City Jct.	JT	9:48 Ar	<b>10:48</b> <sup>66</sup>	11:48 Ar	10:19 Ar	10:25 Ar	11:19 Ar	11:53 Ar	
10:51	10:35		9:26				0.0	Cowan	OW	87	9:45 <sup>16</sup>	10:45	<b>11:45</b> <sup>67</sup>	<b>10:14</b> <sup>306</sup>	10:20	<b>11:14</b> <sup>308</sup>	<b>11:48</b> <sup>2</sup>
10:53	10:37 F	9:45 <sup>405</sup>	9:30	11:14 <sup>19</sup>	10:14 <sup>17</sup>	9:14 F	0.2	Sand Patch	PA	0			10:09 F			11:11 F	
10:56	<b>10:42</b> <sup>407</sup>	9:48 F	9:33	11:17	<b>10:17</b> <sup>65</sup>	9:17	1.5	Sewanee	RV	72	9:42	<b>10:42</b> <sup>18</sup>	11:42	10:08 S	<b>10:17</b> <sup>306</sup>	11:10 S	11:38
10:57	10:43 F	9:50 S		11:20	10:20	9:20	2.1	Monteagle	ME wye	9:39	10:39	11:39	10:06 F			11:08 S	
10:59	10:45 S	9:54 Ar	9:38 <sup>405</sup>	11:21	10:21	9:21	2.8	Tracy City	TC	102	<b>9:38</b> <sup>62</sup>	10:38	11:38	<b>10:05</b> Lv	10:12	<b>11:06</b> S	11:35
<b>11:03</b> <sup>19</sup>	10:48 S	AM	9:41	11:24	10:24	9:24	4.0	Coalmont	CM	57	9:35	10:35	11:35	AM	10:09	<b>11:03</b> <sup>66</sup>	11:32 Lv
11:09 Ar	10:54 Ar		9:47 Ar	<b>11:27</b> <sup>67</sup>	10:27 Ar	9:27 Ar	5.5	Henley	HN loop	9:32 Lv	10:32 Lv	11:32 Lv		10:05 Lv	10:58 Lv	<b>11:29</b> <sup>308</sup>	
AM	AM		AM	AM	AM	AM					AM	AM	AM	AM	AM	AM	AM
			Train #3			Train #3			Main Line Nos.			Train #4		Train #4		Train #4	

There is water at Sand Patch and Coalmont.  
**Meets are in bold italics.** Trains of the same class MUST meet opposing train before proceeding. Second Class trains MUST wait for First Class trains, but not vice-versa.  
 Northward trains are superior to Southward trains of same class except at **MEETS**.  
 Use Channel 7 on the Tracy City Branch. (Use Channel 5 to reach the mainline Trainmaster.)  
 Regular trains will announce their departures from Saddleback Junction and their northern terminals (Tracy City or Henley) on Channel 7.  
 Trains numbered in the triple digits are limiteds or expresses with few stops other than at meets. They have the same times as trains #3 & #4 in the traditional schedules.  
 Trains numbered in the teens are locals stopping at almost all stations.  
 Trains numbered in the 60s series are (typically) freight trains.  
 Train #16 turns on the Tracy City loop and returns as Train #17. Be prepared to flag ahead around the loop if the dispatcher has not provided turning instructions.  
 Train 2 (leaving Stillhouse for Eagle Point at 11:47 am) is from the main-line schedules ("timetable"). Check with the mainline trainmaster to see if it is running.  
 S = Station stops. F = Flag stops.  
 Trains more than 20 minutes late lose all timetable authority and can only proceed thereafter as extra trains.  
 Trains with 2nd sections (additional engine and cars following) must explain 2nd section to all trains met.  
 All times are Central Time Zone times. Trains may arrive early. Trains may NOT leave early.

**Figure 2:** the morning timetable for the June 2021 meet.

Figure 5 shows some sample instructions. In

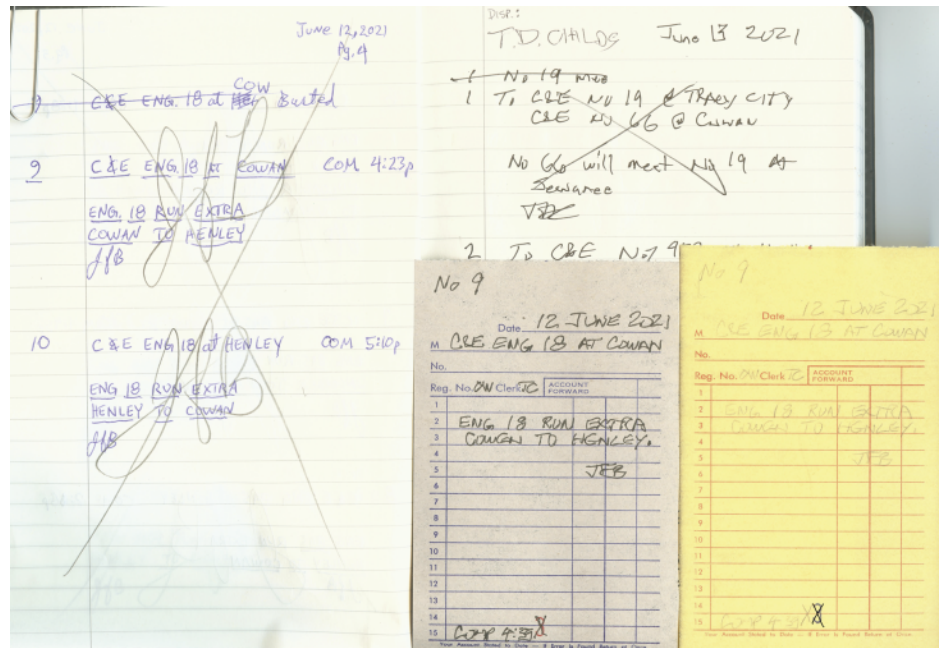


**Figure 4:** the operator at Cowan radios the dispatcher while a train prepares to exit the branch southward.

back is the dispatchers' "order book". In front, at right, are written instructions for Engine 18 to run extra to Henley. The instructions are copied onto restaurant wait staff order pads so as to provide a carbon copy for the engineer as well as the original for the conductor. At stations other than Cowan, the dispatcher talks directly to the conductor via radio. Only so many folks are willing to fill a desk-job role and radios provide more direct access to the dispatcher for those with questions.

Yes, some operational elements are less than fully authentic; all recreational railroading is a compromise. With everyone using radios, it is easy for crews to listen in on instructions intended for others. Also, the dispatcher has a clear view of the track at the station of Monteagle. See Figure 6. This is not unwelcome. It is nice to see a little bit of the traffic sometimes. Note that the train in the distance corresponds to the purple token at the wye on the dispatcher's panel.

During the first tour of play (the "meet"), in June, two different styles of dispatching were overlaid onto the DTM infrastructure. The dispatcher on the first day issued instructions in the style of DTC. On the following days, the dispatchers issued their instructions in the style of TT&TO (Time-



**Figure 5:** the dispatcher's order book and "flimsies" for Order #9 on June 12th. Tim Childs photo.

Table & Train Order). (Again, see Figure 5.) The style of dispatching on any given day is left up to the dispatcher. If someone shows up to dispatch with enough Track Warrant Control forms for all the crews, then we'll give that a try too!

### Single-Order versus Duplicate-Order dispatching

TT&TO, as practiced in the twentieth century, uses classical Duplicate Orders while DTC essentially uses the Single-Order dispatching of the nineteenth century. The first train order, sent by Charles Minot back in 1851, was Single-Order dispatching. The C.& I.G. uses verbal instructions instead of written orders but these instructions mimic Single-Order dispatching. The differences between Duplicate-Order and Single-Order have a large impact on the dispatching and conducting experiences.

In Duplicate-Order dispatching, orders specifying relative movements involving two or more trains are all worded identically to each of the trains involved. In Single-Order dispatching, the individual orders to each train are very different. A classic example for these two styles is the meet order.

The Duplicate-Order version of the meet order is exemplified by Order

No. 1 of June 13th, 2021, in the upper right of Figure 5. Train No. 19 and Train No. 66 both get these instructions in exactly the same form and wording. They are both included in the address at the top. They are to meet at Sewanee.

The Single-Order version of this meet, here now with extra trains, would have 66 wait at Sewanee while 19 continued past it. (See map in Figure 1.) The initial conditions when setting up a meet would also be different for Single-Order; a meet on the C.& I.G. usually would not be set up at a station unless one of the extras were already stopped there. So let's say Extra 66 North has gotten to Sewanee. Then the Single-Order instructions are:

*To Extra 66 North at Sewanee:  
Extra 66 North wait at Sewanee.  
After Extra 19 South goes by, call dispatcher.*

*To Extra 19 South, somewhere north of Sewanee:  
Extra 19 South run to Cowan (regardless of opposing train).*

Thus each train gets very different instructions to achieve the meet at Sewanee using Single-Order dispatching. The two different styles or methods have far-reaching implications.

In Duplicate-Order dispatching, extra trains typically get their initial clearances to the ends of their runs, either to Henley or to Cowan in the case of the Tracy City Branch (again, see Figure 5). In C.& I.G.'s Single-Order dispatching, extras generally get (verbal) clearances to only a few stations down the line from where they currently are. In this way, using Single-Order dispatching, extras are repeatedly stopping until the dispatcher can see the best place to get them by each other. With Duplicate-Order, the dispatcher must estimate running and working times to select what will likely be a good place for extras to meet. (See "Timing and Use of Clock in Operation" on page 26 of the March 1966 issue of *Model Railroader* magazine.)

Because of the need to estimate travel times for a meeting place, the Duplicate-Order dispatching is more of a time-based approach to coordinating mainline train movements than is typical Single-Order dispatching. The Single-Order meet is essentially space-based coordination. When the two trains get close, one waits in a given space while the other moves past it.

To estimate a good place for extras to meet, using Duplicate-Order instructions, the dispatcher typically wants to

know where the extras have work and in what sequence they will work these stations. (The sequence might not be obvious if the turn works what would have been facing-point spurs on the out-bound trip as trailing-point spurs on the return trip.) Using the Single-Instruction dispatching on the C.& I.G., the dispatcher usually only wants to know the first station where an extra has work. Getting all of the work locations before starting an extra invites the conductor to think about how he will get the work done at the various stations. It also tends to front-load all of the extensive, detailed communications into the start of the trip. After that, most exchanges are brief on-sheet reports.

In Single-Order dispatching, the on-sheets are built into the clearance limits. Every time a train reaches its limit, the conductor calls the dispatcher. If he wants to go further, he must call the dispatcher. This is handy in that nobody has to remind the conductors to tell the dispatcher where they are.

The price for these forced automatic on-sheets is more elaborate communications and read-backs all up and down the line. For example, after the Single-Order meet in Sewanee, the dispatcher still has to issue instructions for the train waiting in Sewanee to ad-

vance it up the branch. In Duplicate-Order dispatching, the trains meet and then move on. The first day's dispatcher on the Tracy City Branch issued a total of 20 instructions (i.e., "orders" without the flimsies) for 30 trains using Single-Instruction dispatching. The dispatcher on the second day, using Duplicate-Instruction dispatching, issued only 10 orders for the same number of trains. They both "had a blast".

### Getting used to it!

How did all this work out? Amusingly enough! June being the first time any of us had done radio-dispatching operations on the Tracy City Branch, things did not go precisely according to plan.

Game Day 2 dawned with scattered sun and showers and moderate temperatures. Prior to this day, I'd dispatched an evening and a maintenance afternoon on the C.& I.G., my alma-mater railroad. This day, June 12th, was my first game day ever in the chair.

Shortly after 10:30am, I was inquiring after the crew for Train No. 18, a second-class passenger train due out of Saddleback Junction at 10:33am. (See Figure 2 again.) I got no answer. By 10:37 I asked Cowan if he'd seen No.

18 and I got "negative". Shortly afterward, though, I got a report of an engine swap for No. 18 in the Eagle Point Yard. So No. 18 would be delayed. No. 18 would eventually leave Cowan 10 minutes late.

At 10:52am I got report of an "on the ground issue" with the engine for Train No. 66 in Eagle Point Yard. So No. 66, a second class freight, would also be delayed. No. 66



**Figure 6, above:** No. 66 arrives at Monteagle at 11:08am.

**Figure 7, right:** No. 308, represented by the black token, gets by "a bunch of trains" at Tracy City.

Jeff Benton photos.



would eventually leave Cowan 6 minutes late on its schedule. By the time No. 18 got by Tracy City, it had fallen back to 14 minutes late and was thus running on the time of No. 66, just out of Cowan by then.

With both No. 18 and No. 66 being northward trains, with no other trains on the branch at this point, there was at this time no issue. I knew, however, that the crew and equipment for Train No. 19 would be supplied by that of No. 18. So No. 19 would also be delayed. No. 19 was scheduled to meet No. 66 at Coalmont at 11:03am. See the second note under the schedules in Figure 2: both trains would have to wait for each other at this meet in Coalmont. Would I have to change this meet?

With a running time difference of 8 minutes between these two trains (14 minutes of delay for No. 18 minus the 6 minutes of delay for No. 66), it looked as if I might indeed have to change the scheduled meeting point to avoid additional delay to No. 66 while it waited to meet the opposing train in Coalmont. I was, however, aware of the unfortunate phenomenon of issuing instructions to trim up operations only to have the inherent time required by the mechanics of issuing said instructions cause further delays. Then, issuing further instructions to fix these new additional delays, caused by the first instructions, only makes matters worse. In this way, the operations can deteriorate further into an ever-worsening spiral of delays.

At 11:05am, I got "No. 66 by Sewanee." So now it too had fallen back later and was then 9 minutes late, narrowing the difference between the anticipated delay of No. 19 and its own delay. No. 18 had a 4-minute layover built into the schedule at Henley, before it returned as No. 19, southward. If the crew could keep moving, they could use this time to reduce their delay to 10 minutes when they left Henley to head back south. At this point, anticipating only 1 minute difference between the trains' delays, my gut said

don't issue any instructions. Let 'em roll and meet in Coalmont, with each of them roughly 10 minutes late.

No. 66 was by Monteagle at 11:08am. See Figure 6 again. No. 66 is the train on the bridge in the background, corresponding to the purple token on the board. No. 66 was then 11 minutes late. No change to the plan. Both trains would be in Coalmont at about the same time. All I had to do was sit back and listen.

Yup.... Wrong. At 11:09am I was informed that No. 66 had work in Tracy City. Ummmm.... No! Train No. 66 is a scheduled through freight -- it does *not* have work in Tracy City. Or rather, it should not have had work in Tracy City. Instead of spending time arguing with the conductor of No. 66, I pulled over the order book (as in Figures 3 and 5) and prepared to issue an instruction for the two trains to meet in Tracy City.

No. 66 indicated he was ready to copy. After some effort, I rallied No. 19 ("yes, you're No. 19 now") and he was ready to copy. I issued my third "order" of the day: "No. 66 meet No. 19 at Tracy City." Right away I got my read-back from No. 19's conductor. Then No. 66 needed the order read out again. Over my shoulder, I heard No. 19 start to roll in Coalmont. I hadn't issued the "complete" (like "that is correct") yet. I yelled at No. 19 to stop and I heard it stop. "Everybody stand by!" I said.

Next I repeated the instruction to No. 66, who asked "is he on his way now or do we have time to run up to R.I. Arsenal and drop off the car?" This distracted me but then I recovered.



**Figure 8:** in every sense of the words, a first class train running on time. Note the fire extinguisher. *Jeff Benton photo.*

"First could I get a read-back?" I asked.

"I understand, 66 to meet 19 at Tracy City."

"Okay, that is complete at 11:13am."

What a time for the radio to die! I reached for my next radio and conducted a radio test with good results. Not having heard No. 19 go by, I scrambled up the slope behind the office to the track. There I explained to No. 19 that I had to hear back from the train that was being restricted before I could let him proceed. He had not gotten my "complete" because of the radio failure. I gave him my "complete" face-to-face and he proceeded down the hill toward Tracy City, 13 minutes late on his schedule.

Next I heard "No. 308 at Sewanee" from my new radio. Train... No. 308....! Not unlike Harry Callahan, "in all this excitement I kinda lost track..." of the first class train! Did I feel lucky?! "Oh, that's gonna be fun," I thought. Now what?

"No. 66...," said the conductor of No. 66, "after we meet do we have permission to start dropping off our car?"

"I advise you to avoid the superior train! We have a first-class train approaching Monteagle right now. It would be good to prepare for that."  
*Continued on page 39*

**Tracy City Branch continued**

Sorry, this isn't DTC-style today. This is TT&TO-style dispatching!

"We have two right here, yes," said No. 66, "right here."

"Third is on his way!" I answered. Then I was hearing rumbling beneath the floor of the office. No. 308 was going by. Then the radio was silent. It's not all that far to Tracy City.

About a minute and a half later, I got: "No. 308 passing a bunch of trains at Tracy City." See Figure 7 for this. Yes, the second-class trains had gotten the message and cleared for the northward superior train. Soon after that it was "No. 66 departing Tracy City" followed by "No. 19 departing Tracy

City." (The Rock Island Arsenal spur is directly off of the main, north of the passing track at Tracy City, hence 66's rapid departure.)

No. 19 was 16 minutes late. No. 66, being more than 20 minutes late, had lost its schedule. No. 19 retained its schedule and eventually left the branch, at Cowan, 15 minutes late. What had been No. 66 became an extra proceeding on dispatcher's instructions. The first class train, No. 308, arrived in Henley on time.

And it was fun! If you'd like to try some of this, please join us. The dates for these radio dispatching meets are at the "Schedule" link on the home page of the Eagle Point website at: <http://csme-epr.com> **DO**

**NAME THE TOOL FROM PAGE 15**

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