

The
Nickel City Line
Railroad Company



Formal Operations Handbook

March 2005

*This manual is dedicated to the
Nickel City Line
Brotherhood of Model Railroad Trainmen
Local #1*

*Without whom the Nickel City Line would not
be the fun model railroad it is today!*

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INTRODUCTION

The Nickel City Line is a freelanced HO Scale model railroad set in the Appalachian and Allegheny Mountains of Pennsylvania. The railroad, founded in 1851, was established to serve the mining interests of wealthy English industrialist, Sebastian E. Nickel. Nickel established Nickel Township as a base of operations for his mining interests. The town quickly grew in size to become Nickel City.

The railroad links the towns of Rigway, Pennsylvania in the West with the towns of Harrisburg and Shippensburg, Pennsylvania in the East. While mining operations for coal and ore continue today, the route established by the Nickel City Line, is one of the fastest routes through central Pennsylvania. These routes are leased by several railroads including Amtrak, Chessie System, Norfolk Southern and the Pennsylvania railroads.

The NCL hauls a multitude of freight, coal, ore, intermodal, fuel, chemicals and passengers on a daily basis. At least 21 trains travel over the mainline in a 24 hour period. Every day is filled with different situations and challenges. So join our operations group for a day of fun and challenges on the Nickel City Line.



FORMAL OPERATIONS

What are formal operations? Simply put it is moving freight and passengers from Point A to Point B within a given period of time. Each train has an assigned job. Each job has a series of tasks. Trains follow instructions provided by switch lists and their movements are directed by a Dispatcher and a Yardmaster. There are local trains which switch industries in every town; through freights which either pass through or make one stop at Nickel City Yard to pickup and setout cars; intermodal and coal trains which stop at specific industries along the layout; and passenger trains which must keep on schedule in order to keep their passengers happy.

Time flies literally during formal ops sessions. We use a 6:1 fast clock (6 minutes of scale time to every minute of real time) so that a session can cover a 24 hour period in 4 hours.

Operators earn certifications. Besides having fun and learning new skills, operators earn credit hours towards certifications in five categories. There are also groupings of categories that qualify operators for advanced certifications. Hours earned on the Nickel City Line are also applied towards the National Model Railroad Association's (NMRA) Chief Dispatcher Achievement Program. If you are an NMRA member, this is an added bonus for you.



CERTIFICATION PROGRAM

The Nickel City Line Certification Program is designed to train and reward operators for hours of operations in various positions on the railroad. There are five categories in which operators can certify in: Engineer, Yardmaster, Hostler, Towerman and Dispatcher.

All new operators start off as Trainees. Trainees are assigned to the Extra Board. If a vacancy is available on the operators list, a Trainee will move up and perform one or more assigned tasks. Each Trainee starts out with 0 hours in all categories.

As trainees put in more hours on the railroad they earn hours towards a number of certifications. A Trainee will receive a certificate for each 10 hours completed in each of the five categories mentioned above. For the first 10 hours in a single category, a Trainee becomes “Certified” in that particular category. For example, when a trainee completes 10 hours in the Engineer category, the trainee receives a certificate as a Certified Engineer.

When a Certified member completes 20 hours in a single category they receive an “Advanced” certificate in that category. When a Advanced member completes 30 hours in a single category they receive a “Master” certificate in that category.

Trainees can also obtain Operator certifications for completing minimum hours in multiple categories. The three Operator certifications are: Certified Railroad Operator, Advanced Railroad Operator and Master Railroad Operator. To meet the requirements of each category, the operator must complete the following:

Certified Railroad Operator:

- Complete 50 hours of operation.
- Obtain certification in 4 of 5 categories (Engineer, Yardmaster, Towerman, Hostler or Dispatcher).
- Two of the four categories certified in must be Hostler and Dispatcher.

Members who meet the requirements for Certified Railroad Operator also meet the hour requirements for the NMRA Chief Dispatcher Achievement Program Certification.

Advanced Railroad Operator:

- Complete 90 hours of operation.
- Obtain certification in 3 of 5 categories (Engineer, Yardmaster, Towerman, Hostler or Dispatcher).
- Two of the three categories certified in must be Hostler and Dispatcher.

Master Railroad Operator

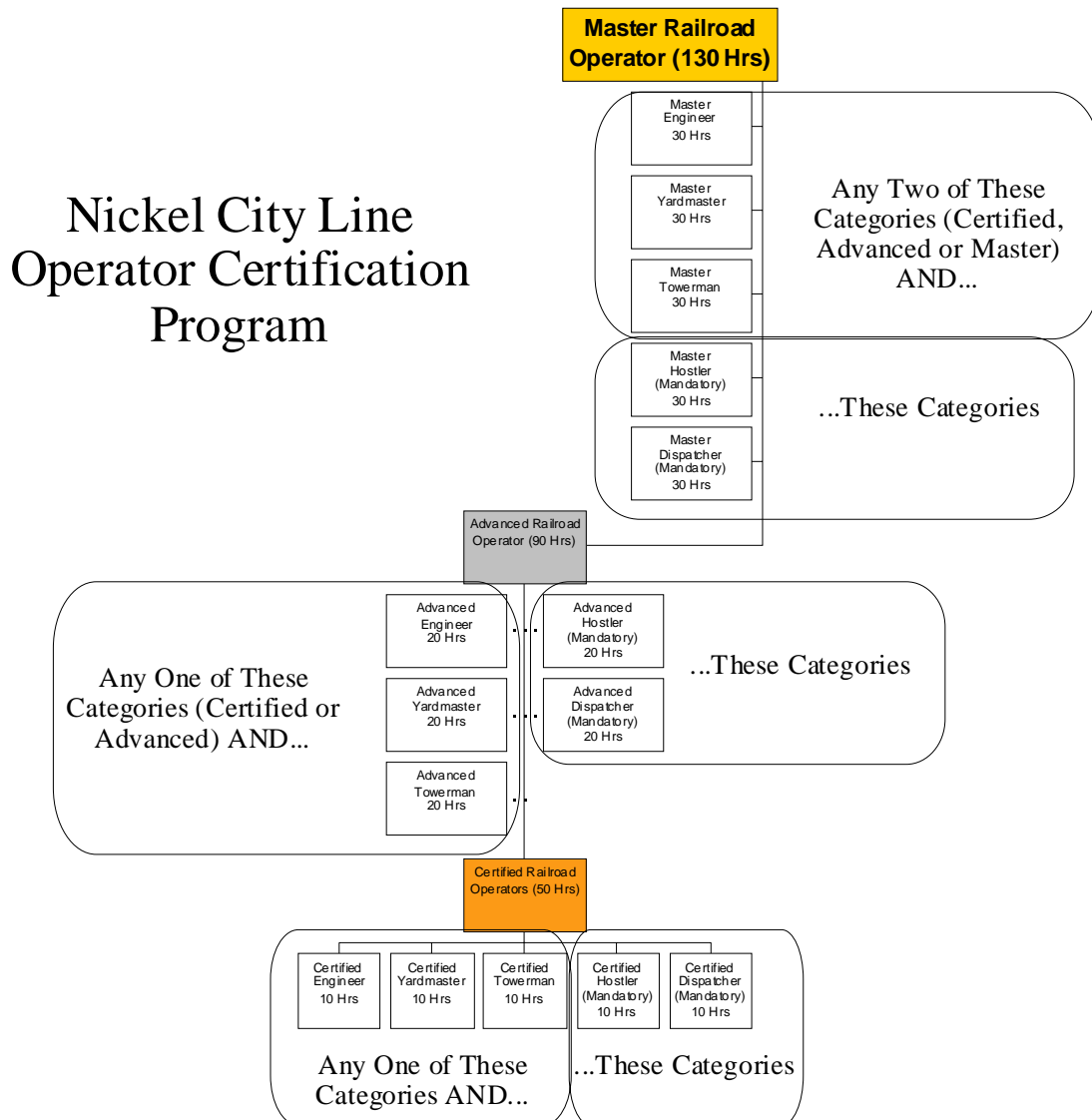
- Complete 130 hours of operation.

- Obtain certification in 3 of 5 categories (Engineer, Yardmaster, Towerman, Hostler or Dispatcher).
- Two of the three categories certified in must be Hostler and Dispatcher.

Seniority on the railroad is determined in the following order: Operator Certification Level, number of hours on the railroad, certification within a single category, number of hours within a single category.

Figure 1 maps out the certification program.

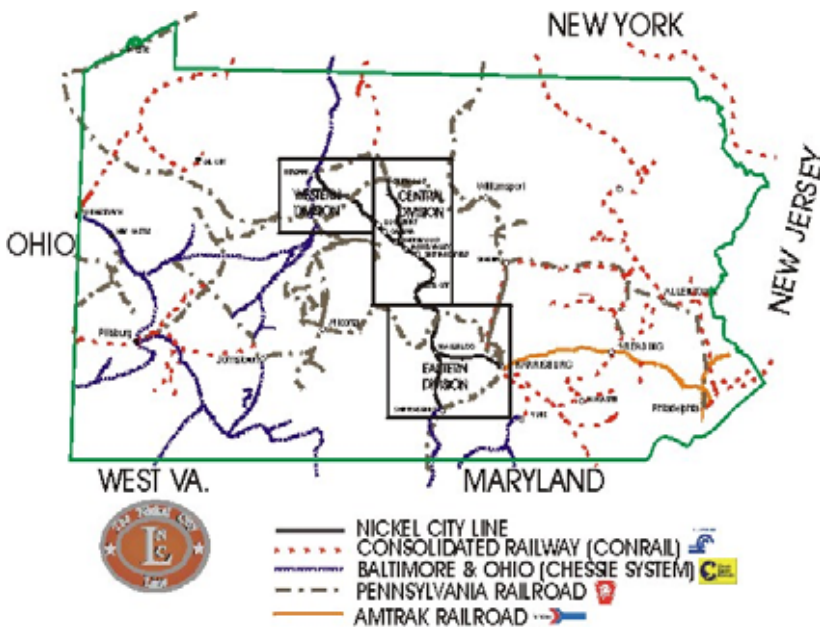
Figure 1 – Nickel City Line Certification Program



THE LAYOUT

The layout is an 18-foot by 18-foot triple deck design that provides staging on the lowest level, single track mainline operation on the main level, and duel track operations on the upper deck. Trains, block detection, turnout routing, fast clock operation and signaling are operated by the Digitrax Digital Command Control System. DCC throttles are either plug in or radio equipped.

The area modeled is known as the Central Division which encompasses Nickel City and the towns of Sheppardsfield, Laurel Valley, Mills River, Underwood, Canova, Chessie City, Bristow and Monserrat. Each town has one or more industries or serves as an interchange point between East and West Divisions.



interchange point between East and West Divisions. The areas of Harrisburg, Emporium, Driftwood and Rigway are not modeled but are provided on the layout in the form of staging yards. There are three staging yards that serve as these locales. The East Staging Yard is known as Harrisburg, the North staging yard is Emporium / Driftwood and the West staging yard is Rigway.

A more detailed description of each town and staging yard is provided below:

Starting East and moving to the West you can follow along by looking at the schematic diagram in Appendix A and the layout diagrams in Appendix B.

Harrisburg –

This is the East staging yard located behind the Dispatcher’s panel. The yard contains 6 staging tracks known as E1 through CR1E. Dispatchers refer to these track numbers when routing trains in and out of this yard. For operations purposes, the tracks also have alias names as well. Each name refers to a final destination in the ops session and a number. The number corresponds to the track number in the yard. Here are the track numbers and their alias names:

East Staging - Harrisburg Yard

- E-1 – Harrisburg 1
- E-2 – Harrisburg 2
- E-3 – Harrisburg 3
- E-4 – Baltimore 4



E-5 – Baltimore 5

CR1E – Nickel City Commuter Yard

Nickel City –

Nickel City is the focal point of the railroad. The City is divided into two regions, Nickel City and Nickel City East. Nickel City contains the main freight yard. The yard contains 3 mainline tracks (Tracks 1 – 3) and 9 yard tracks (4 – 12). Tracks 1, 2 and 3, serves a passenger station as well as through freight traffic. The yard tracks are broken down as follows:

- Track 4: Arrival / Departure
- Track 5: Arrival / Departure
- Track 6: Arrival / Departure
- Track 7: Run around – Keep Clear at All Times
- Track 8: Break Down Track
- Track 9: Make Up Track
- Track 10: Short Term Storage Track
- Track 11: Long Term Storage Track
- Track 12: Intermodal Track Only.



Nickel City East is where a number of industries are located. A list of the industries is provided below:

- Nickel City Lumber – lumber yard
- Artic Freeze – frozen foods
- Nickel City Transfer Company – freight transfer company
- Sherman’s Warehouse – merchandise storage
- Mountain Tire Company – tire manufacturer
- Kandl Oil Company – home fuel heating oil distributor
- Alleghany Brewery – beer manufacturer
- Foote Factory Shoes – shoe manufacturer
- Nickel City Power and Light Power Plant – coal fired power plant
- Nickel City Locomotive Shops – light and heavy locomotive repairs
- Nickel City Locomotive Fuel Facility – locomotive fueling and service facility



Sheppardsfield –

Sheppardsfield is a slightly more rural mountain community which has two mainline tracks (Tracks 1 and 2) and a small yard siding (Track 3). A passenger station is served by Tracks 1 and 2. Three industries are located in the small yard served by Track 3. These industries are:

- Sheppardsfield Shipping and Transfer – freight transfer company
- Allied Metalworks – metal fabrication facility



Sheppardsfield Team Track – A platform servicing numerous small industries without direct access to rail.

From this point forward until Canova, the trackage runs as single track territory.

Laurel Valley –



Laurel Valley contains one industry, the Laurel Valley Coal Company. The coal mine has one yard lead which branches off into four yard tracks.

Mills River –

Mills River is a small agricultural community. There is one industry that is served by rail which is Mills River Feed and Grain. It has a small siding.



Underwood –

The town of Underwood serves as the interchange point between lines running North and West. Underwood has no industries but it does have a train station. The tracks in Underwood branch off into two tracks (Tracks 1 and 2) which both serve the train station. Track 1 and 2 both head West to Monserrat and either can be used as a passing track for trains headed West. However, only Track 1 can route trains North to Emporium / Driftwood.

Emporium / Driftwood

This is the North staging yard located below Nickel City Yard headed north from Underwood. The yard contains 6 staging tracks known as N1 through CR1W. Dispatchers refer to these track numbers when routing trains in and out of this yard. For operations purposes, the tracks also have alias names as well. Each name refers to a final destination in the ops session and a number. The number corresponds to the track number in the yard. Here are the track numbers and their alias names:

North Staging – Emporium / Driftwood Yard

N-1 – Emporium 1

N-2 – Emporium 2

N-3 – Buffalo 3 (Temporary)

N-4 – Rochester 4 (Temporary)



N-5 – Rigway 5 (Temporary)

CR1W – Buffalo Station (Temporary)

Temporary denotes that these tracks are being used for West Staging service on an interim period until completion of the West Staging Yard.

Canova –

Headed West from Underwood trains must negotiate the Canova Grade, a long and winding stretch of single track mainline with grades of up to 5%. This grades winds through the mountains until it reaches the town of Canova. Canova is a small mountain community served by a train station and a small freight house. At this point the single track line reverts back to double track territory.



Chessie City –

Chessie City is another small mountain town which is known for some usually abundant clay deposits. As a result, the town has established a small siding and industry for manufacturing raw kitty litter material. The industry is known as Purina Kitty Litter Manufacturers.

Bristow –

Another small mountain town, this area has a small siding which serves a scrap yard for the industry known as Bristow Scrapworks.



Montserrat –



Monserrat is a slightly larger town in the mountains. The double track mainline reverts back to single track territory past this town. Monserrat has a train station and several industries that are served off a small yard. The industries are still under development as of the writing of this manual, however the basic layout includes a freight house, a small locomotive fueling facility, a grain silo, and a plumbing supply company.

Rigway –

This is the West staging yard located on the upper deck of the layout in the utility room. The yard is still under construction but is designed for 5 staging tracks known as W1 through W5. Dispatchers will refer to these track numbers when routing trains in and out of this yard. For operations purposes, the tracks will also have alias names as well. Each name will refer to a final destination in the ops session and a number. The number corresponds to the track number in the yard. Here are the proposed track numbers and their alias names:

West Staging - Rigway Yard

W-1 – Monserrat Commuter Yard1

W-2 – Rigway 2

W-3 – Buffalo 3

W-4 – Buffalo Terminal 4

W-5 – Rochester 5

THE JOBS

Participants in formal operation sessions assume a variety of jobs during each session. The following are a list of jobs and a description of their associated duties:

Engineer:

a) Mainline Passenger or Freight Engineer:



Shall run their train in a manner that simulates the prototype, following the rules of the model railroad being used, and operating according to the signal system (if present) or by direct instruction of the Dispatcher. The NCL will install a signally system in the near future. In the meantime, the railroad operates by Dispatcher Train Control

(DTC). The Dispatcher controls all mainline switches and verbally authorizes train movements between designated points via two way radio.

b) Wayfreight Engineer:

Will meet the requirements of Mainline Engineer. In addition, he or she shall perform all required switching with approval from the Dispatcher in a manner not to adversely affect the overall railroad schedule or operations. The Wayfreight Engineer operates any one of three local trains during an operating session.

Operating in a prototype manner includes no 'jack-rabbit' starts or sudden stops during normal operations.

Yardmaster:

Yardmaster (General): Runs the freight yard. He or she makes up trains with the appropriate cars in the desired numbers to have trains ready when the timetable or Dispatcher requires them. Generally, the Yardmaster operates the switch engine, but in a large yard could direct other yard engineers. On the NCL, the job of Yardmaster is broken down into three jobs:

- a. **Yardmaster** – Controls the operation of the main yard in Nickel City. Authorizes train arrivals and departures and sets routes for arrival and departure tracks. Coordinates arriving and departing train movements with the Dispatcher.

- b. **Yard Engineer** – Operates the yard engine. Collects and retrieves railcars within the main yard. Sets up and breaks down rail cars for arriving and departing trains.
- c. **Yard Brakeman** – Directs the movements of the yard engine when making up and breaking down consists for trains. Handles the yard switch lists; plans moves and coordinates movement of railcars within the yard; operates manual ground throws; couples and uncouples cars.

One or more of the above positions within the Yardmaster category can be combined depending upon the number of available operators for each ops session.

Hostler:



Hostler: Shall run the engine facilities. He or she shall have each locomotive facing the correct direction, double-headed or lashed up, ready for the Engineer to easily leave the engine area. Service to locomotives shall be simulated. Returning locomotives are placed in their appropriate stalls or tracks. On layouts with advanced control systems, the Hostler can handle assignment of locomotives to the appropriate engineer's throttle.

On the NCL, the Hostler maintains all switch lists; programs each DCC throttle for on coming crews; calls train crews; maintains the Call Sheet, making sure train crews sign in and sign out properly; pulls proper locomotives from the engine yard and stages them in proper direction on the departure track; retrieves inbound locomotives from the arrival track; services arriving locomotives; turns locomotives on the turntable; places locomotives on proper storage track; deselects locomotives from DCC throttles.

Towerman:

- a) **Traffic Manager:** Determines which cars come and go from each industry, and the amount and location of traffic, and specifies the route. May create a computer program to do this automatically.
- b) **Road Master:** The operating trouble-shooter and repair person. He or she keeps things moving smoothly. Can take track in or out of service.

Dispatcher:

Dispatcher: Coordinates all train movements, either by sequence, timetable and fast clock, or other operating system. The Dispatcher routes all trains based upon their final destination; arranges train meets of trains; authorizes trains to proceed between designated points; powers up and powers down staging tracks as needed; maintains Dispatcher log of train activities.



Hours accumulated in each of the 5 major categories earn an operator credit towards various levels of certifications.

THE TRAINS

The Nickel City Line operates at least 21 trains during a single 24 hours period. The following are a listing of trains, their type and their function within the operations session:

Commuter Trains:

Commuter trains move workers from the outer fringes of Nickel City into the City and back. There are four commuter trains scheduled during each operations session. At the present time, until the completion of the West staging yard, only two commuter trains operate during each session. Commuter trains are considered first class trains which have priority over all other trains. Commuter trains, although first class, must yield to long distance passenger trains. Here is the listing of commuter trains:

Eastbound Commuter Trains (Monserrat to Nickel City):

Train 100

Train 102 (Suspended until completion of West staging Yard)

** Train 97 if used is a deadhead commuter, which originates in Nickel City after the arrival of Train 100 and returns to Monserrat to begin Train 102's run.

Westbound Commuter Trains (Nickel City to Monserrat):

Train 101

Train 102 (Suspended until completion of West staging Yard)

** Train 98 if used is a deadhead commuter, which originates in Monserrat after the arrival of Train 100 and returns to Nickel City to begin Train 103's run.

Long Distance Passenger Trains

Long distance passenger trains move passengers to and from remote locations. These trains make limited stops along Nickel City territory as opposed to commuter trains, which make more frequent stops. Long distance trains are first class trains and have superiority over all other trains including commuter trains. Here is the listing of long distance passenger trains:

Eastbound Long Distance Passenger Trains:

Train 656 (Amtrak passenger train from Buffalo to Baltimore)

Westbound Long Distance Passenger Trains:

Train 655 (Amtrak passenger train from Baltimore to Buffalo)

Fast Freight Trains:

Fast freights move a variety of goods across NCL territory from Harrisburg to either Rigway or Emporium. They stop in Nickel City to setout and pickup rail cars. There are four fast freight trains that can operate during each operation session. Fast Freight trains are second-class trains, which have superiority over third class trains but must yield to first class trains. Here is a listing of the fast freight trains:

Eastbound Fast Freight Trains

Train 200 (Nickel City fast freight from Rigway to Harrisburg)

Train 714 (Chessie System fast freight from Rochester to Baltimore)

Westbound Fast Freight Trains

Train 201 (Nickel City fast freight from Harrisburg to Rigway)

Train 713 (Chessie System fast freight from Baltimore to Rochester)

Through Freight Trains:

Through freight trains move a variety of goods non-stop across NCL territory from Harrisburg to either Rigway or Emporium. Trains do not stop at any location to exchange rail cars along NCL territory. Through Freight trains are second-class trains, which have superiority over third class trains but must yield to first class trains. Here is a listing of through freight trains:

Eastbound Through Freight Trains

Train BF4 (Pennsylvania Railroad through freight from Buffalo to Harrisburg)

Westbound Through Freight Trains

Train BF3 (Pennsylvania Railroad through freight from Harrisburg to Buffalo)

Coal Trains:

Coal trains move coal from Sheppardsfield Mine No.6, Laurel Valley Coal Company and the coal mine at Monserrat to either Erie Steel Works in Emporium or Nickel City Power and Light in Nickel City East. Coal trains are second-class trains, which have superiority over third class trains but must yield to first class trains. Here is a list of coal trains:

Eastbound Coal Trains

Train 402 (Emporium to Nickel City)

Westbound Coal Trains

Train 401 (Nickel City Coal Train from Emporium to Nickel City)

At present, Trains 401 and 402 do not travel to Monserrat. This will be changed upon the completion of the West staging yard.

Intermodal Trains:

Intermodal trains move truck trailers between Nickel City and Emporium. Intermodal trains are second-class trains, which have superiority over third class trains but must yield to first class trains. Here is a list of intermodal trains:

Eastbound Intermodal Trains

Train 302 (Intermodal train from Emporium to Nickel City)

Westbound Intermodal Trains

Train 301 (Intermodal train from Nickel City to Emporium)

Wayfreight (local) Trains:

Local trains move freight to from each town along the Nickel City Line and in Nickel City East. These trains are third class trains and must yield to first and second class train movements. Here is a list of local trains:

Industrial Local:

Train 501 (Nickel City East local train)

Eastbound Local Trains

Train 502 (Nickel City Local from Monserrat to Nickel City)

Westbound Local Trains

Train 503 (Nickel City Local from Nickel City to Monserrat)

Table 1 shows the current Time Table for the above listed trains.

TABLE 1 – NICKEL CITY LINE TIME TABLE

**OFFICIAL
TIMETABLE**

WESTBOUND											MAIN LINE					
THIRD CLASS	SECOND CLASS					FIRST CLASS					Miles from Harris-burg	Station Stop	Nickel City Line Central Division Stations		Notes	
503 Local NC to MS Freight	203 ES to NS Freight	301 NC to NS Inter-modal	713 ES to NS Freight	BF3 ES to NS Freight	401 NC to NS Coal	655 ES to NS Pass.	103 NC to NS Comm. Pass.	101 NC to NS Comm. Pass.	99C NC to NS Comm. Pass. Dead head	97C NC to NS Comm. Pass. Dead head			Time-Table No. 10 Effective October 23, 2004 - 00:01 Hours			
*****	M - Sa	Daily	Daily	T,R,Sa	Daily	M,W,F	Daily	M - F	M - F	M - F	M - F					
*****	*****	5:31 PM	*****	1:20 PM	9:52 AM	*****	7:15 PM	*****	4:42 PM	*****	*****	78.3		ES	East Staging	
*****	1:55 PM	5:38 PM	3:01 PM	1:27 PM	9:59 AM	1:01 AM	7:20 PM	*****	4:47 PM	*****	*****	83.4	X	NC	NICKEL CITY	F,M,P,T,W,Z
*****	2:09 PM	11:31 PM	3:11 PM	3:51 PM	11:51 AM	1:15 AM	7:23 PM	*****	4:55 PM	*****	*****	88.1	X	SP	SHEPPARDSFIELD	P
*****	4:15 PM	11:40 PM	3:18 PM	4:00 PM	12:00 PM	4:00 AM	7:29 PM	*****	5:01 PM	*****	*****	90.4		LV	LAUREL VALLEY	
*****	4:32 PM	11:55 PM	3:31 PM	4:15 PM	12:15 PM	4:55 AM	7:39 PM	*****	5:11 PM	*****	*****	97.8		MR	MILLS RIVER	
*****	4:39 PM	12:01 AM	3:36 PM	4:21 PM	12:21 PM	5:02 AM	7:43 PM	*****	5:15 PM	*****	*****	102.2	X	UW	UNDERWOOD	J,P
*****	4:51 PM	12:11 AM	3:44 PM	4:31 PM	12:31 PM	5:14 AM	7:50 PM	*****	5:22 PM	*****	*****	109.2		NS	North Staging	
*****	5:30 PM	*****	*****	*****	*****	*****	*****	*****	5:44 PM	*****	*****	120.5	X	CV	CANOVA	P
*****	6:47 PM	*****	*****	*****	*****	*****	*****	*****	5:46 PM	*****	*****	120.9		CC	CHESSIE CITY	
*****	7:49 PM	*****	*****	*****	*****	*****	*****	*****	5:47 PM	*****	*****	121.1		BR	BRISTOW	
*****	7:57 PM	*****	*****	*****	*****	*****	*****	*****	5:52 PM	*****	*****	126.2	X	MS	MONSERRAT	P
*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	128.8		WS	West Staging	

OFFICIAL TIMETABLE

MAIN LINE			EAST BOUND													
Miles from Harrisburg	Station Stop	Nickel City Line Central Division Stations Time-Table No. 10 Effective October 23, 2004 - 00:01 Hours	Notes	FIRST CLASS					SECOND CLASS					THIRD CLASS		
				100 MS to NC Comm Pass	102 MS to NC Comm Pass	96C MS to NC Comm Pass Dead head	98C MS to NC Comm Pass Dead head	656 NS to ES Pass.	402 NS to NC Coal	BF4 NS to ES Freight	302 NS to NC Inter-modal	714 NS to ES Freight	200 NS to ES Freight	502 Local MS to NC Freight	*****	
				M - F	M - F	M - F	M - F	Daily	T,R,Sa	Daily	Daily	M,W,F	Daily	M - Sa	*****	
78.3	ES	East Staging		6:41 AM	*****	*****	*****	10:28 AM	*****	11:10 AM	*****	4:13 PM	11:45 PM	*****	*****	
83.4	X NC	NICKEL CITY	F,M,P,T,W,Z	6:36 AM	*****	*****	*****	10:23 AM	4:34 AM	9:51 AM	12:14 PM	2:23 PM	5:01 PM	10:42 AM	*****	
88.1	X SP	SHEPPARDSFIELD	P	6:28 AM	*****	*****	*****	10:15 AM	4:20 AM	9:39 AM	12:04 PM	2:11 PM	4:51 PM	8:54 AM	*****	
90.4	LV	LAUREL VALLEY		6:22 AM	*****	*****	*****	10:09 AM	1:37 AM	9:30 AM	11:57 AM	2:02 PM	4:44 PM	8:43 AM	*****	
97.8	MR	MILLS RIVER		6:12 AM	*****	*****	*****	9:59 AM	1:20 AM	9:15 AM	11:44 AM	1:47 PM	4:31 PM	8:26 AM	*****	
102.2	X UW	UNDERWOOD	J,P	6:08 AM	*****	*****	*****	9:55 AM	1:13 AM	9:09 AM	11:39 AM	1:41 PM	4:26 PM	8:19 AM	*****	
109.2	NS	North Staging		6:01 AM	*****	*****	*****	9:48 AM	1:01 AM	8:59 AM	11:31 AM	1:31 PM	4:18 PM	8:07 AM	*****	
120.5	X CV	CANOVA	P	5:39 AM	*****	*****	*****	*****	*****	*****	*****	*****	*****	6:46 AM	*****	
120.9	CC	CHESSIE CITY		5:37 AM	*****	*****	*****	*****	*****	*****	*****	*****	*****	6:43 AM	*****	
121.1	BR	BRISTOW		5:36 AM	*****	*****	*****	*****	*****	*****	*****	*****	*****	5:43 AM	*****	
126.2	X MS	MONSERRAT	P	5:31 AM	*****	*****	*****	*****	*****	*****	*****	*****	*****	5:35 AM	*****	
128.8	WS	West Staging		*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	

PRE-OP SETUP

Prior to the actual ops session, trains must be staged and cars distributed to various industries. Paperwork must be printed up and train crews assignments must be pulled.

Even before the actual staging of cars, ops session dates are selected and e-mails are sent to the NCL Operators list notifying operators of upcoming dates for ops sessions. Sessions are limited to a maximum of 10 operators. Any members signing up after the 10 slots are filled are placed on the Extra Board and can participate if a vacancy in any of the 10 filled positions occurs.



Car staging is coordinated through the use of Ship iT freight car routing software. The software keeps tracks of car inventory, train schedules, industries, industry product requests and shipper product production. During Pre-Op, the software compares shippers and consignees with available cars. The software then prepares a list of trains which will route the requested cars to their final destination. Empty cars are routed back to their home yard or to the next industry requesting that particular type of railcar.

The software provides a starting and ending list for each session. Cars are positioned on the layout according to the Starting Location list. Locomotives are assigned to trains manually based upon their last reported location on the layout. Once trains and rail cars are properly staged, train switch lists and yard arrival and departure lists are printed out.

One copy of each switch list is provided for the session. 3 copies of the Yard Arrival and Departure lists are printed, one copy each to the Yardmaster, the Yard Locomotive Engineer and the Yard Engine Brakeman. Samples of these lists are provided in Appendix E.

An Ending Car Location list is printed and filed for reference in order to score each session at the end of the session.

Job assignments are determined by assessing the number of operator hours completed by each member. Members signed up are provided every opportunity to obtain the minimum hours within a specific job over several ops sessions in order to obtain one or more certifications. Estimated hours for each job are used to determine in advance if an operator will meet the minimum hours in a job category at the end of the upcoming session.

Job assignments are recorded on the Formal Call Sheet and posted in the Crew Lounge. A copy of the Formal Call Sheet is provided to the Hostler for use during the ops session. A sample of a Formal Operations Call Sheet is provided in Appendix C.

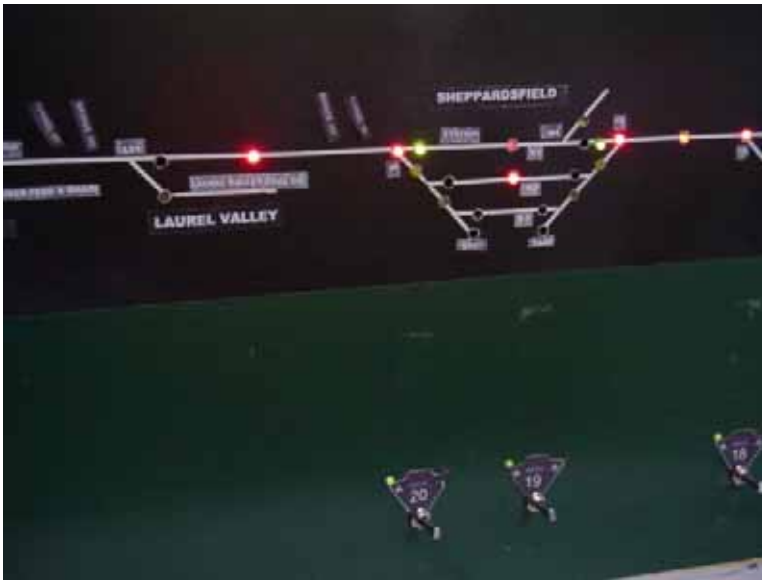
When operators arrive for each ops session, a 30-minute period immediately prior to each session is provided in order to brief operators on recent changes or allow new operators to become familiar with the railroad. Once the briefing period is over, the formal operations session begins.

THE OPS SESSION

Each ops session covers a 24 hour period on a fast clock set at a rate of 6:1 (24 hours in 4 hours). The sessions start at midnight and continue until midnight the following day. The following paragraphs describe the roles and responsibilities of operators during each session.

Dispatcher

The dispatcher is responsible for routing all trains and scheduling train meets during each ops session. Dispatchers work 12 hour shifts (2 real hours). There are 2 shifts per session. The Dispatcher's console displays a schematic of the layout. The panel is laid out with the East to the right and West to the left (this is reverse orientation from the Yardmaster's console). Red LEDs show occupied blocks on the railroad. Green and



amber LEDs designate turnout positions. On the mainline, green indicates the turnout is in the normal position, amber indicates the turnout is in the reversed position. In staging areas, all turnout positions are indicated by amber LEDs that show train routes in each staging yard. The Dispatcher controls mainline turnouts by pushing momentary toggle switches on the console for the corresponding turnout.

Turnout control in each staging yard is achieved by dialing up the selected route on a rotary dial for each yard and pressing a momentary push button to activate each route. The routes are preprogrammed and are controlled by the DCC computer.

Power conservation is also the responsibility of the Dispatcher. Each staging yard track has a power cutoff switch. While trains are parked on a staging track, track power is turned off. Prior to a train departing the staging yard or shortly after arriving in the staging yard, the Dispatcher will cut off power to the staging track. Toggle switch position also serves as an occupancy indicator. When a staging track is occupied, the toggle switch for that track is in the off or down position. When a staging track is unoccupied, the track power is on and the toggle switch is in the up position. These visual aides can assist the Dispatcher when routing trains into each staging yard.

The Dispatcher has a number of tools to assist in tracking train movements. Magnetic markers track train movements on the Dispatcher's console. The Dispatcher also has a log in which the Dispatcher records the time each train passes specific towns on during

their run. Finally, train routing graphics provide a visual aid when routing multiple trains during each session.

When a train requests to enter the mainline, the Dispatcher will power up the assigned staging track (if applicable), set the assigned route on the mainline and authorize the train to enter the mainline when it is clear. Dispatchers control the distance a train is authorized to travel before a mandatory stop. The Dispatcher issues a train order verbally to each engineer. The train order identifies the train number, that the train is clear to proceed or must hold, and if clear, how far the clearance to proceed is good for. Here is an example:



Engineer: “Train 200 to Dispatch”

Dispatcher: ”Go Ahead 200”

Engineer: “Train 200 is ready to depart Harrisburg Track E2”

The Dispatcher powers up Track E2 and aligns the turnouts so Train 200 can depart the staging yard and is properly routed on the mainline.

Dispatcher: “Roger 200, you are cleared to depart Harrisburg Track E2 and proceed to Sheppardsfield. Hold short of Switch 20 and advise dispatch, over.”

Engineer: “Roger Dispatch. Copy Train 200 cleared to depart E2 through Sheppardsfield. Hold short of switch 20 and advise dispatch. Train 200 out.”

When trains are scheduled to arrive in Nickel City Yard, the Dispatcher shall advise the Engineer to contact the Yardmaster on the Yard Channel after departing their last cleared position on the mainline but prior to arriving at the yard.

The Dispatcher should exercise the following priority when routing trains on the mainline:

Eastbound trains are superior to Westbound trains

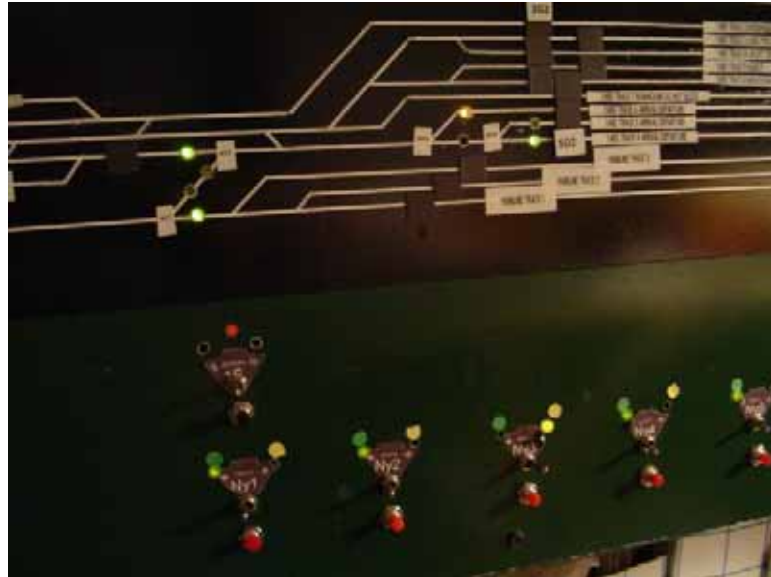
- 1st Priority – Long distance passenger trains
- 2nd Priority – Commuter trains
- 3rd Priority – Through trains (freight, coal, ore, intermodal, etc)
- 4th Priority – All other trains (freight, coal, ore, intermodal, etc)
- 5th Priority – Local or Way Freight trains

Dispatchers communicate with train crews on the assigned Road radio channel.

Yardmaster

The Yardmaster maintains overall control of Nickel City Yard. All staging yards are considered part of the mainline and are controlled by the Dispatcher. Yardmasters work 12 hours shifts (2 real hours). There are 2 shifts per session.

The Yardmaster's console displays a schematic of Nickel City Yard. The console is laid out as the yard is seen from the Yardmaster's side of the layout with East to the left and West to the right (this is the reverse orientation of the Dispatcher's console). Green and amber LEDs designate turnout positions. On the turnouts serving the arrival and departure tracks, green indicates the turnout is in the normal position, amber indicates the turnout is in the reversed position. The Yardmaster controls mainline turnouts by pushing momentary toggle switches on the console for the corresponding turnout. The yard locomotive crew manually controls turnouts serving yard tracks 8 through 12. The Yardmaster also controls signals at each entrance and exit to Nickel City Yard.



The Yardmaster authorizes trains to enter and depart the main yard; controls the main yard turnouts in order to route arriving and departing trains into and out of the yard; coordinates yard engine movements of freight cars with the yard locomotive crew; assigns departure tracks for departing train consists; authorizes locomotives to enter and exit the main yard when traveling to and from the locomotive yard; and coordinates all departing and arriving train movements with the Dispatcher; controls signals at each entrance and exit to the yard. Yardmasters communicate with the yard locomotive crew and all trains in the yard on the Yard radio channel.

The Yardmaster uses magnetic markers track train locations on the Yardmaster's console. When trains are parked on any arrival, departure or storage tracks, a magnetic marker with the Train's number is placed over the occupied track.

When a train requests to enter the mainline, the Yardmaster sets the assigned departure route in the yard and contacts the Dispatcher to see if the mainline is clear. If the Dispatcher clears the train to enter the mainline the Yardmaster will authorize the train to

depart the yard; set the appropriate signal to green; and contact the Dispatcher on the Road Channel. Here is an example:

Engineer: "Train 301 to Yardmaster"

Yardmaster: "Go Ahead 301"

Engineer: "Train 301 is ready to depart the yard on Track 5."

The Yardmaster contacts the Dispatcher to get mainline clearance. If clearance is obtained, the Yardmaster aligns the turnouts and sets the departure signal to green so Train 301 can depart the yard.

Yardmaster: "Roger 301, you are cleared to depart Track 5. Contact the Dispatch on Channel C upon departure."

Engineer: "Roger Yardmaster, copy Train 301 cleared to depart Track 5 and contact Dispatch on Channel C. Train 301 out."

When trains are scheduled to arrive in Nickel City Yard, the Dispatcher shall contact the Yardmaster to see if clearance to enter the yard is available prior to clearing a train to proceed to the Yard. If clearance is obtained the Dispatcher will advise the Engineer to contact the Yardmaster on the Yard Channel after departing their last cleared position on the mainline but prior to arriving at the yard. The Yardmaster will align the appropriate turnouts and set the entrance signal to green.

The Yardmaster shall keep arrival and departure tracks clear as much as possible. Yard crews are recommended to pull entire consists of arriving trains off arrival tracks to the breakdown track. Cars will be switched out there and the consist should be pulled back onto the departure track. It is recommended that arriving locomotives are directed to the locomotive yard where they can wait on the layover track until their consist is ready for departure.

Hostler

The Hostler's job is multi-faceted. First, the Hostler maintains the Locomotive Yard. This includes preparing locomotives for departure by retrieving the requested locomotive(s) from their storage track(s), placing them in the proper facing direction, MUing them, and routing them to the locomotive yard to be handed over to the Train crew at the Crew Yard Office.

Second, the Hostler retrieves locomotives arriving into the Locomotive Yard at the Crew Yard Office. Locomotives are turned, refueled, serviced and washed, then stored on the appropriate storage track, which is powered off.

Third, the Hostler programs all DCC throttles for all train crews whether the train is in the Locomotive Yard, on the mainline or in a staging yard. The Hostler refers to the

Hostler Power Desk Assignment sheet which lists each locomotive and its associated DCC address as to which train it is assigned to. Appendix D provides a sample Hostler Power Desk Assignment Sheet.

Fourth, the Hostler operates the lighting controls for the layout. The Hostler raises and lowers the track lighting and activates the blue lights in accordance with the time of day.

Finally, the Hostler monitors the Operations Call Sheet and calls train crews at their scheduled times. The Hostler assures that train crews sign in; are provided their assigned switch lists and throttles; sign out after completing their assignment; and throttles are de-selected from the DCC system.

Hostler duties are divided into two hour shifts, two shifts per session.

Traffic Manager / Road Manager

The Traffic Manager / Road Manager (TM/RM) is the traffic cop for the railroad. The TM/RM keeps the railroad moving. The TM/RM responds to problems reported by train crews; assesses each situation; takes necessary corrective action; has authority to reroute trains over issued orders by the Dispatcher; and places track work in and out of service. In addition, the TM/RM can provide advice to train crews in order to assist crews in completing their assignments when requested. The job of the TM/RM can be 2 or 4 hours in length.

Yard Locomotive Engineer

The Yard Locomotive Engineer operates the Yard Locomotive. The Engineer works with the assigned Brakemen to switch railcars in the yard and make up and break down trains arriving in the yard. The crew works as a team spotting cars and routing turnouts. The Engineer and train crew operate on the Yard Radio Channel. They coordinate movements with the Yardmaster and request routing of power turnouts controlled by the Yardmaster.

Slow speeds are to be maintained within the yard. The Engineer shall avoid sudden stops and starts and operate the locomotive in a prototypical manner. The Engineer is expected to follow all rules listed in Appendix F. If the locomotive is sound equipped, the Engineer shall follow all rules applicable to sound locomotives in addition to the general rules listed in Appendix G.



The Yard Locomotive Engineer and Brakeman duties are divided into two hours shifts, two shifts per session. Yard crews must return the yard locomotive to crew change tower inside the yard.

Freight Engineer (Fast and Through)(Freight, Coal, Intermodal)

Freight Engineers operate mainline trains originating in staging yards or in Nickel City Yard. Engineers obtain their assignments, throttle and switch lists from the Hostler. A sample switch list is provided in Appendix E. Engineers operating trains originating in staging yards shall contact the Dispatcher on the Road radio channel at their scheduled departure time and advise they are ready to depart and request power to their staging track. They shall also inform the dispatcher of their train type and final destination. Upon authorization, Engineers operate their trains along the mainline to points approved by the Dispatcher. Upon arrival at designated points, the Engineer shall announce their arrival and await further orders. Engineers shall operate their trains in a prototypical manner and avoiding sudden starts and stops. Upon arriving at their final destination, Engineers shall advise the Dispatcher. If arriving in a staging yard, the Engineer shall advise the Dispatcher of the train's arrival and request the staging track power be turned off.



Engineers operating trains originating in Nickel City Yard shall obtain their locomotive(s) from the Hostler and coordinate train movements through the Yard with the Yardmaster and Yard Crew. When ready to depart with their train consist from the yard, the Engineer shall request permission from the Yardmaster to depart. The Engineer shall follow the directions of the Yardmaster. Upon leaving the yard, the Engineer shall switch over to the Road Channel and inform the

Dispatcher of their train number, location, train type and final destination. The Engineer shall then follow the directions of the Dispatcher as described in the preceding paragraph.

Engineers operating on the mainline shall report to the Dispatcher when they clear the following towns:

Nickel City, Sheppardsfield, Laurel Valley, Mills River, Underwood, Canova, and Monserrat.

Engineers are expected to maintain prototypical speeds while operating on the mainline and slow speeds when in designated yards. Engineers shall avoid sudden stops and starts and operate the locomotive in a prototypical manner. Engineers are expected to follow all rules listed in Appendix F. If the locomotive is sound equipped, Engineers shall follow all rules applicable to sound locomotives in addition to the general rules listed in Appendix G.

Local Freight Engineer (Wayfreight)

Local or Wayfreight Engineers operate local trains that switch out rail cars at every industry assigned to their route. These trains are the most inferior of all classes of trains and must yield the right of way to all other trains on the railroad.

Engineers obtain their assignments, throttle and switch lists from the Hostler. A sample switch list is provided in Appendix E. Engineers operating trains originating in local town yards shall contact the Dispatcher at their scheduled departure time and advise they are ready to depart. They shall also inform the dispatcher of their train type and final destination. Upon authorization, Engineers operate their trains along the mainline to points approved by the Dispatcher. Upon arrival at designated



points, the Engineer shall announce their arrival and await further orders. When switching cars that involve use of the mainline turnouts, the Engineer shall request permission to unlock designated turnouts in order to perform local switching maneuvers. Upon gaining permission, the Engineer or Brakeman shall position the turnout power switch from NORMAL to the LOCAL setting. This releases control of the turnout from the Dispatcher and routes it to the local fascia panel. Local train crews have a limited amount of time to complete train maneuvers and return control of turnouts back to the Dispatcher. When returning control to the Dispatcher, a train crew member will return the turnout power toggle switch to the NORMAL position and advise the Dispatcher that turnout control has been returned to the Dispatch panel. Upon arriving at their final destination, Engineers shall advise the Dispatcher. Engineers shall operate their trains in a prototypical manner and avoiding sudden starts and stops.

Engineers operating trains originating in Nickel City Yard shall obtain their locomotive(s) from the Hostler and coordinate train movements through the Yard with the Yardmaster and Yard Crew. When ready to depart with their train consist from the yard, the Engineer shall request permission from the Yardmaster to depart. The Engineer shall follow the directions of the Yardmaster. Upon leaving the yard, the Engineer shall switch over to the Road Channel and inform the Dispatcher of their train number, location, train type and final destination. The Engineer shall then follow the directions of the Dispatcher as described in the preceding paragraph.

Engineers operating on the mainline shall report to the Dispatcher when they clear the following towns:

Nickel City, Sheppardsfield, Laurel Valley, Mills River, Underwood, Canova, and Monserrat.

Engineers are expected to maintain prototypical speeds while operating on the mainline and slow speeds when in designated yards. Engineers shall avoid sudden stops and starts and operate the locomotive in a prototypical manner. Engineers are expected to follow all rules listed in Appendix F. If the locomotive is sound equipped, Engineers shall follow all rules applicable to sound locomotives in addition to the general rules listed in Appendix G.

Passenger Train Engineer (Commuter and Long Distance)

Passenger trains are similar to the Freight Engineer except that each passenger train has a list of designated stations to stop at. Each switch list also provides the minimum number of minutes a passenger train must remain stopped at a train station. A sample switch list is provided in Appendix E. Passenger train engineers are expected to announce to the Dispatcher their arrival and departure from each train station.

Passenger Train Engineers operate mainline trains originating in staging yards. Engineers obtain their assignments, throttle and switch lists from the Hostler. Engineers contact the Dispatcher at their scheduled departure time and advise they are ready to depart and request power to their staging track. They shall also inform the dispatcher of their train type and final destination. Upon authorization, Engineers operate their trains along the mainline to points approved by the Dispatcher. Upon arrival at designated points, the Engineer shall announce their arrival and await further orders. Engineers shall operate their trains in a prototypical manner and avoiding sudden starts and stops. Upon arriving at their final destination, Engineers shall advise the Dispatcher. When arriving in a staging yard, the Engineer shall advise the Dispatcher of the train's arrival and request the staging track power be turned off.

Engineers operating on the mainline shall report to the Dispatcher when they clear the following towns:

Nickel City, Sheppardsfield, Laurel Valley, Mills River, Underwood, Canova, and Monserrat.

Engineers are expected to maintain prototypical speeds while operating on the mainline and slow speeds when in designated yards. Engineers shall avoid sudden stops and starts and operate the locomotive in a prototypical manner. Engineers are expected to follow all rules listed in Appendix F. If the locomotive is sound equipped, Engineers shall follow all rules applicable to sound locomotives in addition to the general rules listed in Appendix G.

Brakeman

The Brakeman is responsible for throwing all turnouts under local control; uncoupling and coupling rail cars; and ensuring that all cars on the switch list are accounted for. The Brakeman communicates with the Engineer and



coordinates train movements so that the train can complete its assigned tasks in the least amount of time and without delaying other mainline trains.

WRAP UP

Ops sessions last for 4 hours (24 fast clock hours). At the end of 4 hours the ops session is over. Each operator's hours are tallied up and added to their accumulated hours. Those operators meeting the minimum number of hours for one or more certifications listed in Certification Program Section are awarded a certificate after the conclusion of the ops session.



The overall score for the ops session is conducted by comparing the Ending Car Locations list printed by ShipiT with the actual location of rail cars. Only those cars moved during an ops session are counted. The actual number of cars making it to their final destination is divided by the number of cars printed in the report (actually moved during the session) in order to obtain a percentage score. That score along with the total number of cars moved during the session are reported to the operators by e-mail.

After each ops session, an electronic newsletter, The Nickel City Dispatch, is prepared and distributed to the operators. The newsletter is a recap of the days activities and any improvements or changes made to the railroad since the previous ops session. The newsletter is a means of communication to keep all operators abreast of what is happening on the railroad. The newsletter is distributed electronically by e-mail and posted on the NCL website in a web version (personal information deleted).

Posting of the next ops session date and available slots is conducted at the time the newsletter and scoring information is sent out by e-mail.

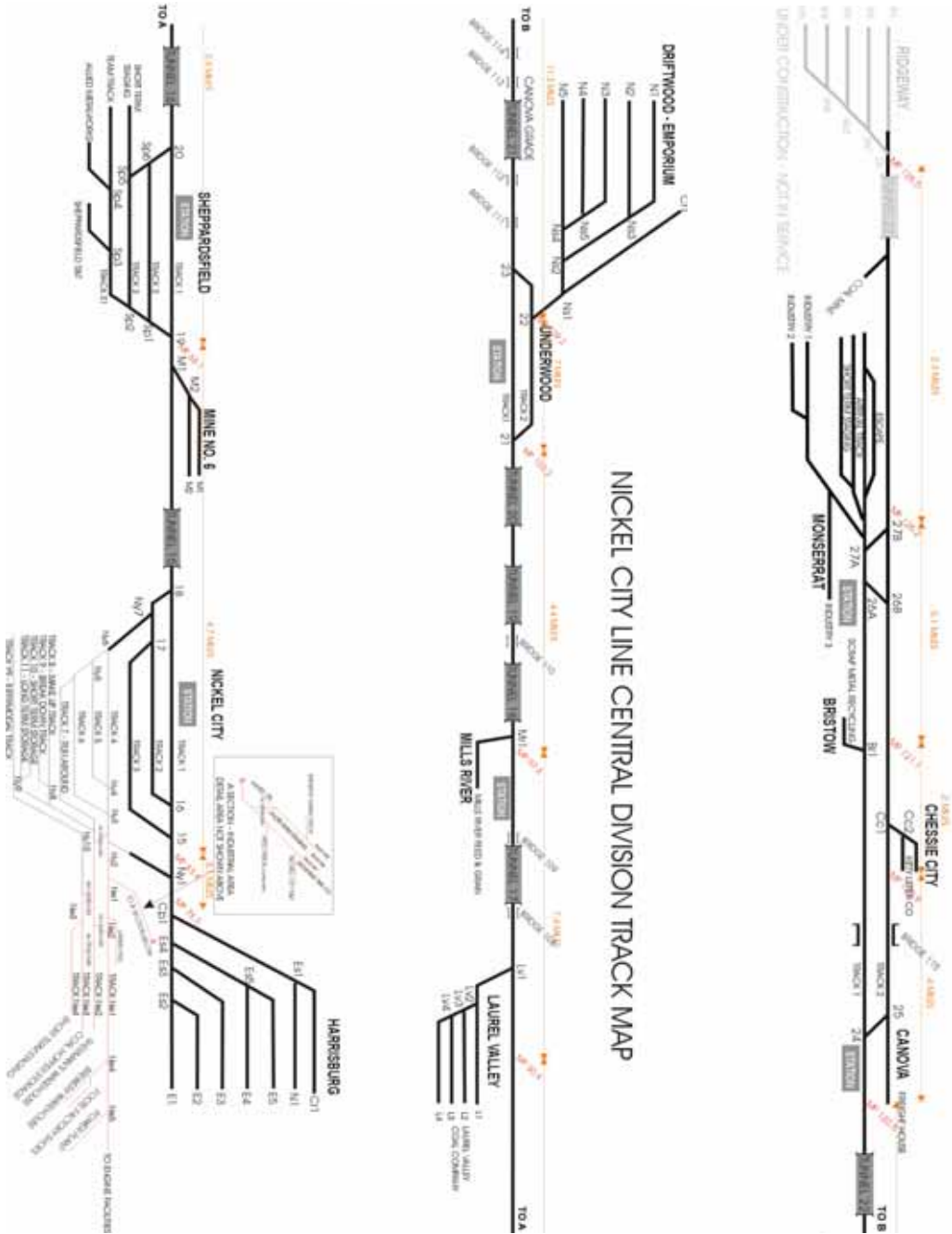


The goal of formal operations sessions is to educate operators in semi-prototypical train operations; elevate the involvement of model railroading to a higher level; and provide more enjoyment in the hobby for all operators.....and yes, to have fun too!

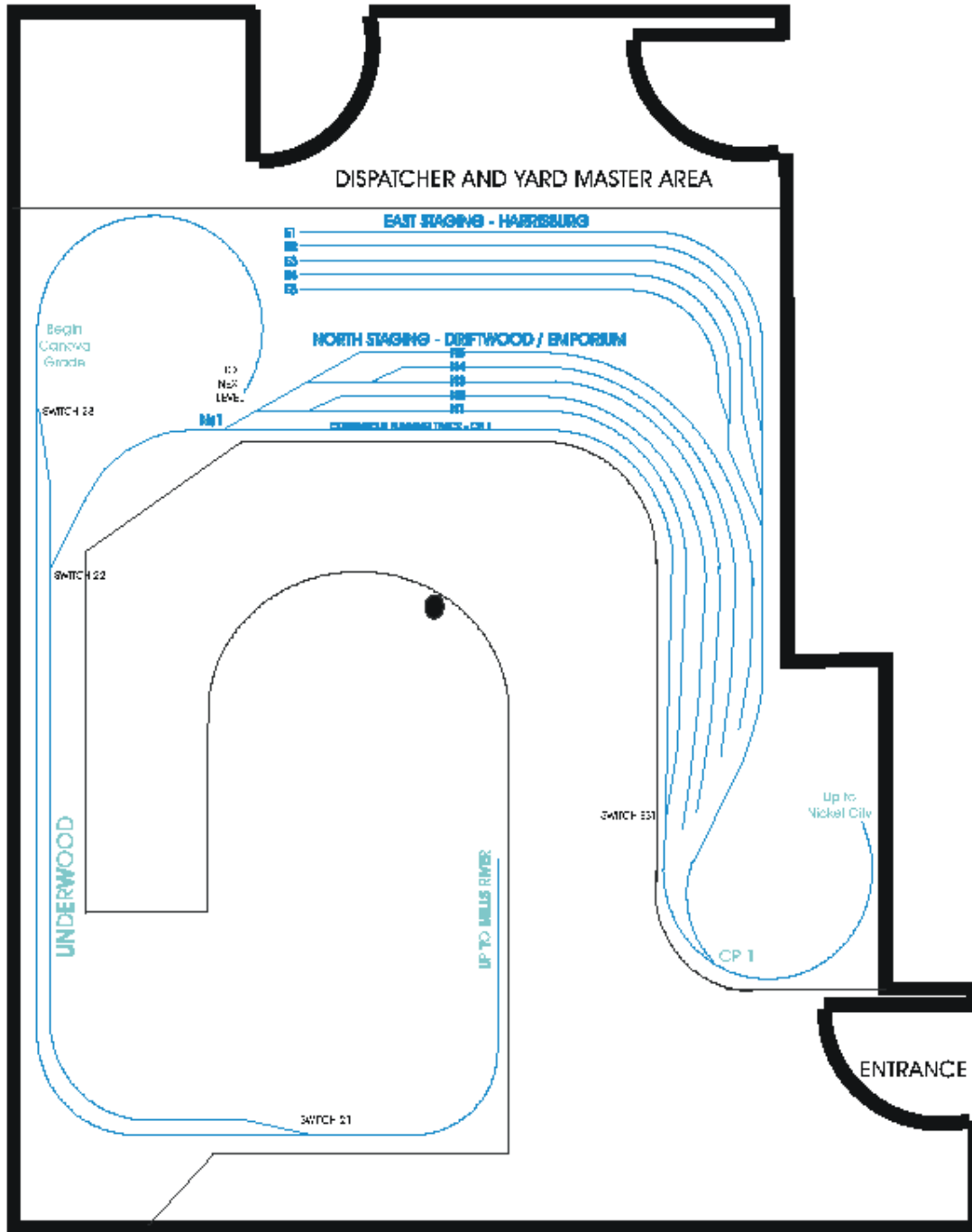
APPENDICES



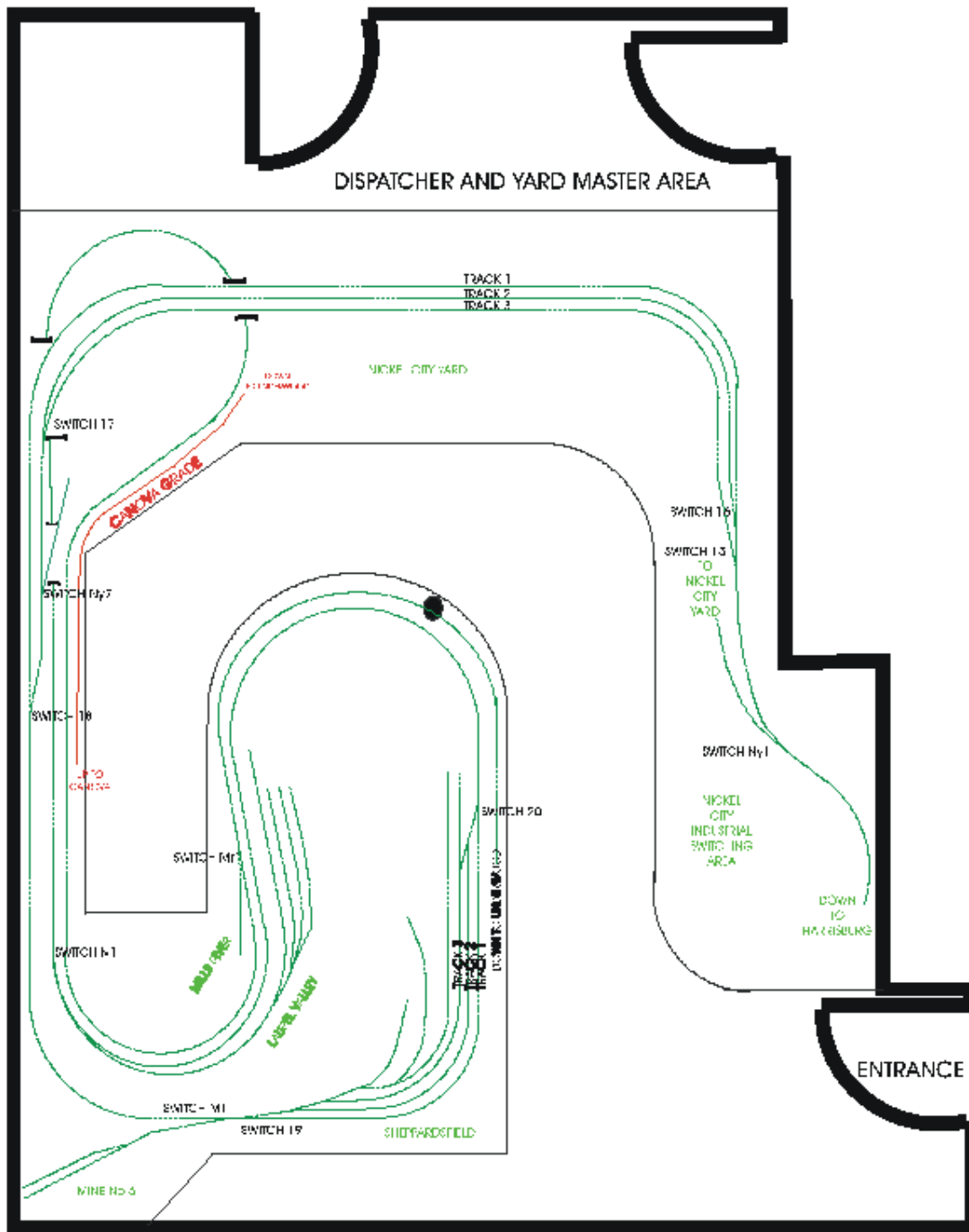
APPENDIX A – SCHEMATIC DIAGRAM OF THE NICKEL CITY LINE



APPENDIX B – LAYOUT DIAGRAM OF THE NICKEL CITY LINE



LOWER LEVEL STAGING DIAGRAM



MAIN LEVEL DIAGRAM

APPENDIX C – FORMAL OPERATIONS CALL SHEET SAMPLE

49 MHz Channels
 (A) 49.830 (D) 49.875
 (B) 49.845 (E) 49.890
 (C) 49.860

**NICKEL CITY LINE
 FORMAL OPERATIONS CREDIT HOURS**

Prototype Railroad Channels
 CSXT: 161.550, 160.410
 NS: 160.950, 160.245
 CONRAIL: 160.800
 AMTRAK: 160.290

OPERATIONS	EMPLOYEE		SCHEDULED TIME ON DUTY		ON DUTY	OFF DUTY	TOTAL TIME (Real)
			Real	Scale	Real	Real	
Traffic Manager / Road Master			(1:00p)	0001			
Dispatcher - Shift 1			(1:00p)	0001			
Dispatcher - Shift 2			(3:00p)	1200			
Yardmaster-Shift 1			(1:00p)	0001			
Yardmaster-Shift 2			(3:00p)	1200			
Hostler – Shift 1			(1:00p)	0001			
Hostler - Shift 2			(3:00p)	1200			
TRAINS	ENGINEER	BRAKEMAN	SCHEDULED TIME ON DUTY		ON DUTY	OFF DUTY	TOTAL TIME (Real)
			Real	Scale	(Real)	(Real)	
Yard Loco - Shift 1			(1:00p)	0001			
Yard Loco- Shift 2			(3:00p)	1200			
401			(1:00p)	0001			
402			(1:00p)	0001			
501			(1:00p)	0001			
100			(1:45p)	0430			
502			(1:45p)	0430			
99C / 102			(2:00p)	0600			
BF4			(2:14p)	0724			
656			(2:28p)	0848			
BF3			(2:28p)	0724			
302			(2:43p)	1018			
713			(3:03p)	1218			
714			(3:03p)	1218			
503			(3:09p)	1254			
301			(3:20p)	1400			
200			(3:33p)	1518			
101			(3:34p)	1524			
203			(3:45p)	1630			
98C / 103			(3:50p)	1700			
655			(4:02p)	1812			

*Real Time = Standard Time, not Scale Time. Scale time = Fast Clock Time (Usually 6:1)

APPENDIX D – HOSTLER CALL SHEET.

Hostler

Power Desk Assignments

Date: _____

1st Shift (12a – 12p) _____ 2nd Shift (12p – 12a) _____

Train #	Engineer	Lead Loco	2 nd Loco	3 rd Loco	Report Time	Depart Time	Scale Depart	Time Off Duty	Time of Day
Yard Engine					12:50p	1:00p	12:00a		NIGHT
501					12:55p	1:05p	12:30a		
401					1:00p	1:10p	1:01a		
402					1:00p	1:10p	1:01a		
100					1:45p	1:55p	5:30a		
502					1:45p	1:55p	5:30a		
102					2:00p	2:10p	7:00a		DAWN
BF4					2:14p	2:24p	8:59a		
656					2:28p	2:38p	9:48a		
BF3					2:28p	2:38p	9:52a		DAY
302					2:43p	2:53p	11:21a		
Yard Engine					2:50p	3:00p	12:00p		
713					3:03p	3:13p	1:20p		
714					3:03p	3:13p	1:20p		
503					3:09a	3:19a	1:55p		
301					3:20p	3:30p	3:01p		
200					3:33p	3:43p	4:18p		
101					3:34p	3:44p	4:24p		
203					3:45p	3:55p	5:31p		
103					3:50p	4:00p	6:01p		EVENING
655					4:02p	4:12p	7:15p		

APPENDIX E – SAMPLE SWITCH LISTS

How to Read a Switch List

Annotations:

- Train Number, Class of Train, Type of Train:** Train: 501, Class: Third, Type: Through Freight
- Railroad Name:** Nickel City Line Railroad
- Session Number:** Switchlist Session: 7
- Fictional Date for Session:** 3/13/2000
- Date Switch List Printed:** 3002000 833AM
- Departure Time:** 1:00AM
- Arrival Time in Town:** 1:00AM
- Next Destination of Rail Car:** Nickel City/Nickel City Yard
- What the Car is Carrying:** Empty
- Location Where Car will be Set Out:** Nickel City Yard
- Location Where Car is to be Picked Up:** Nickel City Yard
- Car Data Info and AAR Car Type:** Includes columns for Road, Number, AAR, Pickup, Setout, Lading, and Destination.
- Instructions for Train Crew:** Run Train #501 East from Nickel City to Nickel City East, Switch Nickel City East

Table 1: Town: Nickel City

Road	Number	AAR	Pickup	Setout	Lading	Destination(Town/Industry)
NCL	8032	XM	Nickel City Yard		General Merchandise	Nickel City East/Trade Factory

Table 2: Town: Nickel City East

Road	Number	AAR	Pickup	Setout	Lading	Destination(Town/Industry)
GELX	7801	LD	Aluminum Brew Glass		Empty	Nickel City/Nickel City Yard
NCL	80083	RP	Artic Freeze	Highway Brew Warehouse	Empty	Nickel City East/Highway Be
WCLX	8380	RP	Artic Freeze		Empty	Nickel City/Nickel City Yard
GN	42983	FM	NC Lumber		Empty	Nickel City/Nickel City Yard
NCL	8032	XM		Trade Factory	General Merchandise	Nickel City/Nickel City Yard

Table 3: Town: Nickel City

Road	Number	AAR	Pickup	Setout	Lading	Destination(Town/Industry)
WCLX	8380	RP		Nickel City Yard	Empty	Riverway - 3 (Temp)/Pittsburg Te
GN	42983	FM		Nickel City Yard	Empty	Riverway - 4 (Temp)/Dark Fore
GELX	7801	LD		Nickel City Yard	Empty	Riverway - 4 (Temp)/Movent G

How to Read a Yard Arrival List

Railroad Name → Nickel City Line Railroad
Fictional Date for Session → 3/13/2000
Date Switch List Printed → 3/29/2000 10:17AM
Session Number → 7

Yard Arrival List

Yard/Interchange: Baltimore Yard Town: Baltimore - 4

Arrival	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
4:18PM	CB0 31723	GB	Empty	714	Through Freiq		
4:18PM	GD005 10122	TA	Fuel Oil	714	Through Freiq		

Yard/Interchange: Harrisburg Yard Town: Harrisburg - 2

Arrival	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
11:52PM	FW 8	SM	General Merc	200	Through Freiq		

Yard/Interchange: Nickel City Yard Town: Nickel City

Arrival	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
7:25AM	WGLR 8380	BP	Empty	301	Through Freiq	Rogers - 5 (Temp/Pittsburg Terminal)	
7:25AM	GBLK 7301	LD	Empty	301	Through Freiq	Rocheater - 4 (Temp/Midwest Grain F	
7:25AM	GN 43615	FM	Empty	301	Through Freiq	Rocheater - 4 (Temp/Clark Forest Lam	
11:21AM	NCL 8031	AMP	Empty	302	Through Freiq	Rogers - 5 (Temp/Rogers Yard	
11:21AM	LIF 52100	GB	Grain	302	Through Freiq	Baltimore - 4 (International Metal Equip	
2:22PM	CB0 807218	LD	Grain	714	Through Freiq	Wheaton/Wheaton Granary	
8:43PM	GAWX 907	SM	General Merc	200	Through Freiq	Nickel City East/Feed Factory	
8:43PM	NCL 8031	SM	General Merc	200	Through Freiq	Nickel City East/Feed Factory	
8:43PM	NCL 8036	SM	General Merc	200	Through Freiq	Nickel City East/Feed Factory	
8:43PM	BRK 4226-1	BP	Empty	200	Through Freiq	Nickel City East/Highway Brew Ware	
8:43PM	BRK 1020	BP	Protein Feed	300	Through Freiq	Nickel City East/Grain Press	
8:43PM	MRS 4354-1	AMP	Grain & Feed	200	Through Freiq	Mills River/Mills River Feed & Grain	
8:43PM	NCL 861002	HLS	Empty	300	Through Freiq	Chesee City/Pulver Litter Factory	
8:43PM	SNAB 2342	GB	Empty	200	Through Freiq	Shaw/Grain Scrapworks	
8:43PM	QATX 8678	TA	Empty	300	Through Freiq	Baltimore - 4/Baltimore Paddock	
8:43PM	FRB 674208	FM	Empty	200	Through Freiq	Rocheater - 4 (Temp/Clark Forest Lam	

1

Annotations:

- Yard Name:** Yard/Interchange: Baltimore Yard
- Car Data Info and AAR Car Type:** PW 8, SM
- Train Dropping Car Off:** Lading
- Arrival Time in Town:** 11:21AM
- Next Destination of Rail Car:** Rogers - 5 (Temp/Rogers Yard)
- Type of Train:** Through Freiq
- What the Car is Carrying:** Grain & Feed

How to Read a Yard Departure List

Railroad Name
Fictional Date for Session
Date Switch List Printed

Nickel City Line Railroad
3/13/2000
3/13/2000 10:18AM

Session Number

Yard/Interchange: Baltimore Yard
Town: Baltimore - 4

Time	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
4:18PM	BAO 30902	TA	Fuel / Oil	714	Through Frac	Baltimore - 4	Baltimore Rubber Corp

Yard/Interchange: Nickel City Yard
Town: Nickel City

Time	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
12:30AM	NCL 8022	XM	General Merc	801	Through Frac	Nickel City Egg/Case Factory	
1:55PM	CDG 18720	XM	General Merc	903	Through Frac	Carroll/Carroll Freight House	
1:55PM	GGDX 1001	XM	General Merc	903	Through Frac	Carroll/Carroll Freight House	
1:55PM	BAO 532148	WC	Empty	903	Through Frac	Chesse City/Puma Litter Factory	
1:55PM	NCL 80101	NCL	Empty	903	Through Frac	Chesse City/Puma Litter Factory	
2:22PM	NCL 8029	XM	General Merc	714	Through Frac	Baltimore - 4	Baltimore Terminal
2:22PM	NCL 8040	XM	General Merc	714	Through Frac	Baltimore - 4	Baltimore Terminal
2:22PM	LP 32100	SS	Stone	714	Through Frac	Baltimore - 4	International Metal Equip
9:15PM	WCLX 8360	WP	Empty	203	Through Frac	Rigway - 5 (Temp)	Pittsburg Terminal
9:15PM	NCL 8001	XMP	Empty	203	Through Frac	Rigway - 5 (Temp)	Rigway Yard

Yard/Interchange: Pittsburg Yard
Town: Rigway - 5 (Temp)

Time	Road Number	Type	Lading	Train	Train Type	Next Destination	Final Destination
8:20PM	CAO 28391	XM	Empty	203	Through Frac	Rigway - 5 (Temp)	Pittsburg Terminal

Train Number Class of Train Type of Train
Yard Name
Car Data Info and AAR Car Type
Departure Time
Train Number which Car is to be Placed on.
Train Type
What the Car is Carrying
Next Destination of Rail Car

APPENDIX F – ENGINEER RULES

Train Signals

Rule

17	<p>The headlight will be displayed on the front of every train by day and by night. It must be dimmed at night</p> <ul style="list-style-type: none"> (a) While passing through yards; (b) Approaching stations at which stops are to be made or where trains are receiving or discharging passengers; (c) Approaching train-order signals, meeting point and when stopped; (d) On two or more tracks approaching a train in the opposite direction; (e) Approaching fixed signals when the view of the signal is improved thereby. <p>When a train is equipped with an oscillating white light or strobe light on the front of the train, the light shall be turned on from sunset to sunrise and when day signals cannot be plainly seen; approaching public crossings at grade; non-interlocked railroad crossings at grade; also when view is obscured approaching points where work crews may be present.</p> <p>When a train is equipped with ditch lights on the front of the train, the lights shall be turned at all times of day in all types of conditions. The lights shall be set to alternating warning lamps when approaching public crossings at grade; non-interlocked railroad crossings at grade; also when view is obscured approaching points where work crews may be present.</p>
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Use of Signals

Rule

27	<p>A signal imperfectly displayed or the absence of a signal at a place where a signal is usually shown, must be regarded as the most restrictive indication that can be given at that signal (Stop).</p>
30	<p>The engine bell must be sounded when the engine is about to move; when running through tunnels; while approaching and passing public crossings at grade; and when passing a train standing on an adjacent track.</p>
34	<p>The engineer, when practicable, as soon as the next signal ahead affecting the movement of train or engine becomes visible, shall radio the signal indication by name, and shall thereafter continue to observe the signal and call any change of indication until it is passed. The conductor will repeat the signal indication back to the engineer by radio.</p>

Movement of Trains

Rule

82	<p>Time-table schedules, unless fulfilled, are in effect for twelve hours after their time at each station.</p> <p>Regular trains more than twelve hours behind either their scheduled arriving or</p>
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	leaving time at any station lose both right and schedule, and can thereafter proceed only as authorized by train order.
S-83	<p>A train must not leave its initial station or any region nor a junction nor pass from one of two or more tracks to a single track, until it has been ascertained whether all trains due which are superior have arrived or left.</p> <p>Note – The dispatcher will confirm the status of superior trains and their related positions within the governed track territory.</p>
84	<p>A train must not start unless a proper indication to proceed has been received by the engineer. This indication will be relayed by signal indication or dispatcher authorization.</p> <p>When a communicating signal is inoperative and cannot be put in working order without detention, the train may proceed after the conductor and engineer have an understanding as to how the train is to be operated.</p>
85	Regular trains may pass other trains and extra trains may pass and run ahead of extra trains.
86	An inferior train must be clear at the time a superior train in the same direction is due to leave the next station in the rear where the time is shown unless otherwise directed by train order.
S-87	<p>An inferior train must keep out of the way of opposing superior trains and failing to clear the main track by the time required by rule must be protected as prescribed by Rule 99.</p> <p>Extra trains must clear the time of opposing regular trains not less than 5 minutes unless otherwise directed by train order and will be governed by train orders with respect to opposing trains.</p>
S-88	At meeting points between extra trains the train in the inferior time-table direction must take the siding unless otherwise directed by train order. The train must pull into the siding where practical; if necessary to back in, it must first be protected as prescribed by Rule 99.
S-89	<p>At meeting points the inferior train must take the siding and clear the time of the superior train not less than 5 minutes, except at schedule meeting points between trains of the same class, where the inferior train must clear the main track before the leaving time of the superior train.</p> <p>The superior train must stop at schedule meeting points with trains of the same class unless the switch is properly lined and track clear. The inferior train must pull into the siding when practicable; if necessary to back in, it must first be protected as prescribed by Rule 99.</p>
92	A train must not leave a station in advance of its schedule leaving time.
95	Regular trains must be designated by both schedule and engine number. They will be identified by schedule number.
S-97	Extra trains must not be run without train orders.
98	Trains must approach the end of two or more tracks, junctions, railroad crossings at grade, and movable bridges, prepared to stop unless switches are properly aligned,

	signals indicate proceed, track is clear, and clearance is issued by dispatcher to proceed.
99	<p>Where a train stops under circumstances under which it will be overtaken by another train, a member of the crew must go immediately with flagging equipment a sufficient distance to insure a full stop, and placing two lighted fusee on or near the affected track.</p> <p>When recalled and safely to the train will permit, he may return.</p> <p>The front of the train must be protected in the same way when necessary.</p>
102	<p>When a train is disabled or stopped suddenly due to an emergency condition, all adjacent tracks and junctions liable to be obstructed, must be protected at once in both directions until it is ascertained that they are safe and clear for the movement of trains.</p> <p>Trains approaching from either direction must stop and must not proceed until it is ascertained that it is safe to do so.</p>
104	Conductors and Flagmen are responsible for the position of switches and derails used by them and their train crews except where controlled by the dispatcher. Switches and derails must be properly aligned after having been used.
107	Trains must not pass between a passenger train receiving or discharging traffic at a station and the platform at which the traffic is being received or discharged.
108	In case of doubt or uncertainty, the safe course of action must be taken.
D-151	<p>Where two main tracks are in service, trains must keep to the right unless otherwise provided on the time-table.</p> <p>Where two or more main tracks are in service, they shall be designated by numbers and their use indicated by special instructions.</p>

Movement by Train Orders

Rule

201	<p>For movements not provided by time-table, train orders will be issued by the dispatcher. Train orders will only contain information or instructions essential to such movements.</p> <p>They must be brief and clear; in the prescribed form when applicable; without erasure, alteration or interlineation.</p> <p>Where switch numbers are used, only switches of sidings will be numbered, No. 1 being the most eastward or northward switch, with the numbers increasing towards the westward or southward.</p> <p>When switch numbers are used in train orders, the word "Switch" Will precede the name of the station.</p>
202	Each train order must be given in the same words to all employees or trains addressed.

204	Train orders must be addressed to those who are to execute them.
209	Operators receiving a train order must write the order down during transmission. The operator will repeat the train order to the dispatcher for confirmation.

Yard Operations

Rule

600	When operating within yard limits, all trains will operate under the direction of the Yard Master for the designated yard.
601	Yard masters shall clear all switch movements to and from the mainline with the dispatcher prior to initiating any movements or authorizing any trains into or off the main line to the yard.
602	If no Yard Master is assigned to a yard, trains must notify the dispatcher upon entering a yard. Once inside the yard limit, the train will use extreme caution upon approach of all switches. All switches operated within a yard shall be stored to their normal position by the train crew upon clearing the switch.

APPENDIX G – HORN AND BELL CHART FOR ENGINEERS

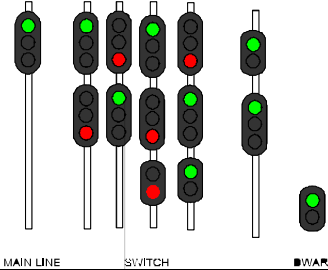
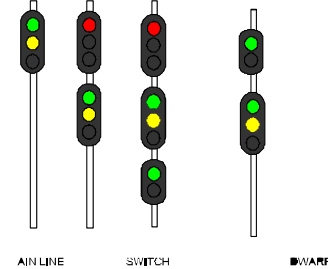
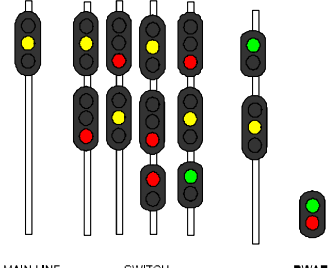
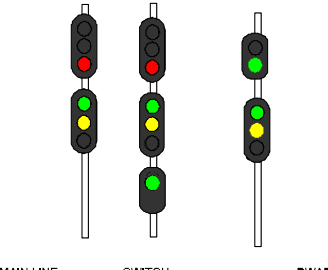
Engine Horn Signals

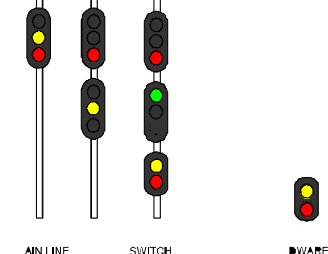
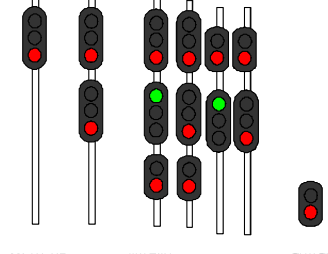
Rule

14	Passenger trains – A continuous blast of the engine horn is an emergency signal for the trainmen to apply air and hand brakes on train. Note – The signals prescribed are illustrated “o” for short sounds; “--“ for longer sounds. The sound of the horn should be distinct with the intensity and duration proportionate to the distance signal is to be conveyed.	
	SOUND	INDICATION
	(A) o	Apply brakes. Stop.
	(B) -- --	Release brakes. Proceed.
	(C) -- o o o	Flagman protect rear of train.
	(CA) -- o o o --	Flagman protect adjacent track.
	(D) -- -- -- --	Flagman may return
	(H) o o o	When standing, back.
	(J) o o o o	Call for signals
	(L) -- -- o --	Approaching public crossings at grade, to be prolonged or repeated until crossing is reached. Also when view is obscured by weather or other conditions, approaching interlockings, yards or other points where workmen may be present.
	(M) -----	Approaching station.
	(P) Succession of short sounds	Alarm for persons or live stock on the track.

APPENDIX H – SIGNAL RULES

At the current time a block detection and signaling system has not been installed. Train movements are dependent on time-tables and train orders. Signals indicate the condition of switches they protect. A **GREEN** signal is not an indication to proceed. You must have clearance from the dispatcher or train order in order to proceed past a **GREEN** signal. The following chart indicates the meaning of each signal.

NAME	INDICATION	SIGNAL
Clear	Proceed.	 <p>The diagram shows three signal types: MAIN LINE, SWITCH, and DWARF. MAIN LINE has one green light lit. SWITCH has two green lights lit (top and middle). DWARF has one green light lit.</p>
Medium Clear	Medium speed through crossovers, turnouts, sidings. Then proceed at maximum authorized speed.	 <p>The diagram shows three signal types: MAIN LINE, SWITCH, and DWARF. MAIN LINE has a yellow light lit in the top position and a green light lit in the middle position. SWITCH has a red light lit in the top position and a green light lit in the middle position. DWARF has a green light lit in the top position and a yellow light lit in the middle position.</p>
Approach	Proceed prepared to stop at next signal.	 <p>The diagram shows three signal types: MAIN LINE, SWITCH, and DWARF. MAIN LINE has a yellow light lit in the top position. SWITCH has a yellow light lit in the top position and a red light lit in the middle position. DWARF has a green light lit in the top position and a yellow light lit in the middle position.</p>
Slow Clear	Slow speed through crossovers, turnouts, sidings. Then proceed at maximum authorized speed.	 <p>The diagram shows three signal types: MAIN LINE, SWITCH, and DWARF. MAIN LINE has a red light lit in the top position and a green light lit in the middle position. SWITCH has a red light lit in the top position and a green light lit in the middle position. DWARF has a green light lit in the top position and a yellow light lit in the middle position.</p>

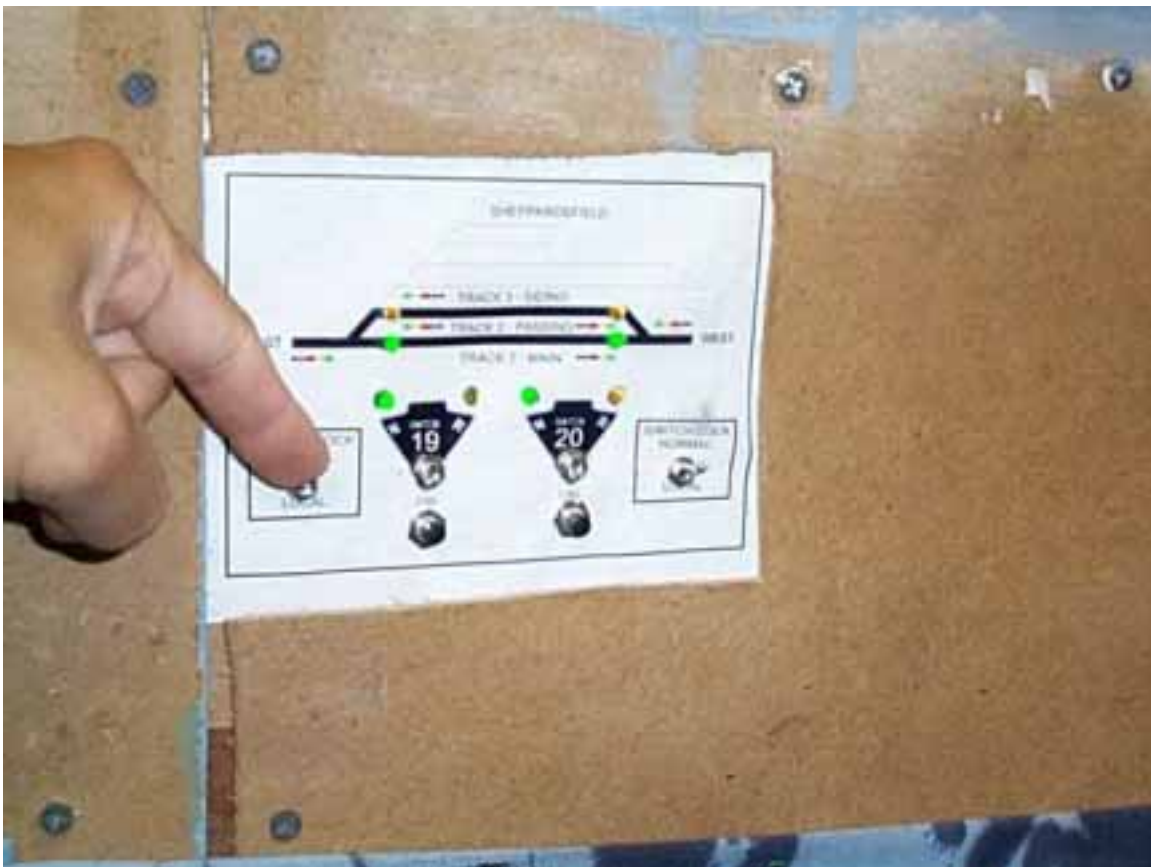
Restricting	Proceed restricting speed	 <p>MAIN LINE SWITCH DWARF</p>
Stop	Stop	 <p>MAIN LINE SWITCH DWARF</p>

APPENDIX I – OPERATION OF TURNOUT CONTROLS

This section describes the operation of mainline and siding turnouts by the Dispatcher, Yardmaster and Brakeman.

MAINLINE FASCIA PANELS

These panels provide local control for mainline turnouts. Each panel has a diagram of the turnouts affected by each panel. The diagram is illuminated by LEDs that indicate turnout position of the affected turnouts. Green indicated a turnout is in the Normal position. Amber indicates the turnout is in the Reverse position. Below the diagram are turnout controls for each turnout. Each control has amber and green LEDs which correspond to the LEDs on the track diagram. A double throw toggle switch and a momentary push button switch are located at the bottom of the turnout control. The toggle switch is moved left or right to the desired position of the turnout. The turnout motor is activated by depressing the momentary push button at the bottom and holding it for 3 seconds until the LEDs change to the requested position.



1) Place Switch Lock in Local Position.



2) Slide toggle switch on turnout control to either Normal or Reverse. 3) Activate switch motor by depressing momentary push button below turnout control for 3 seconds.

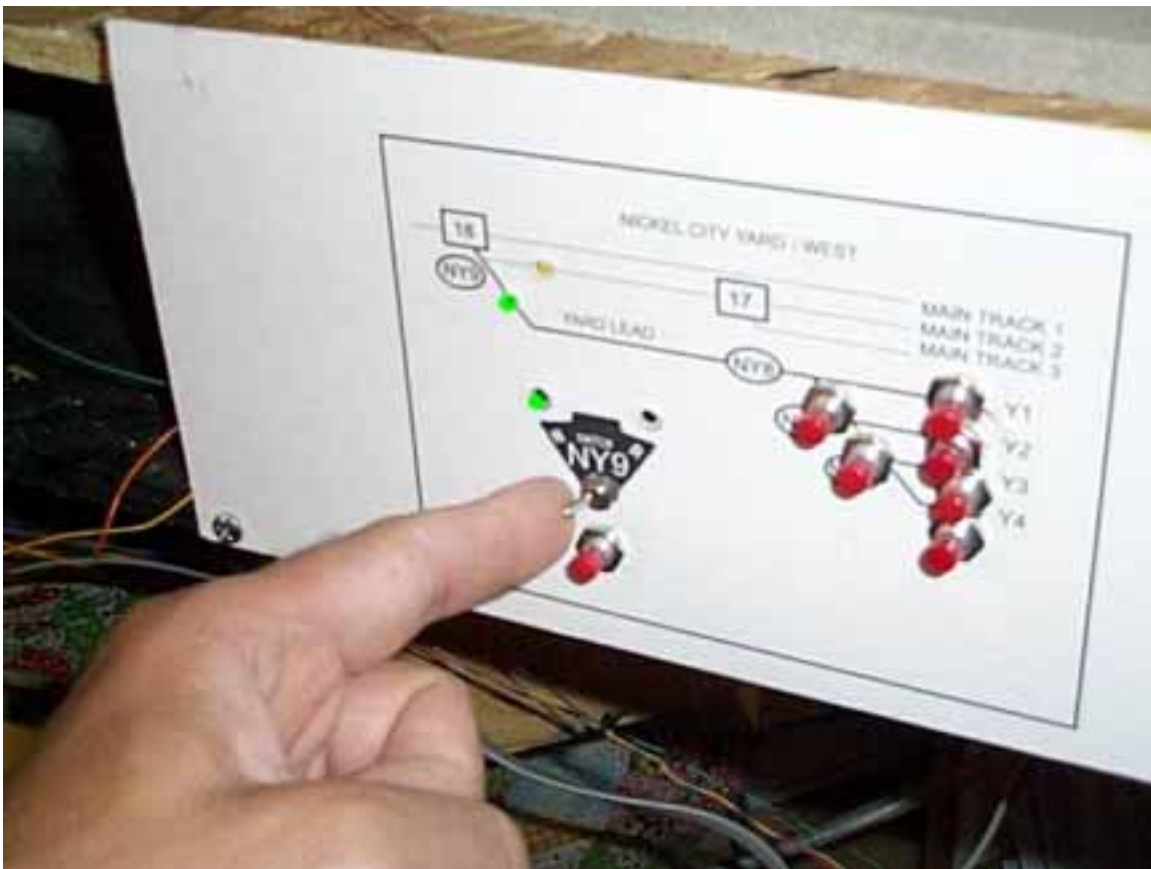
To the side of the turnout control is a toggle switch labelled Switch Lock. When the toggle switch is in the up (Normal) position, the Dispatcher has turnout control. When the toggle switch is in the down (Local) position, the Brakeman or Engineer can control the turnout from the Fascia Panel.

Local Control of any mainline turnout must be requested by the Train Crew to the Dispatcher. Once approved by the Dispatcher, the Train Crew can position turnout control to the Local position and make their necessary moves. When switching operations by the Train Crew are complete, the crew must restore each turnout control to Normal and advise the Dispatcher that turnout has been returned to the Dispatcher.

NICKLE CITY YARD FASCIA PANELS

These panels provide local control of powered turnouts in Nickel City Yard. Powered turnouts are only provided for yard leads and arrival / departure tracks. All other turnouts are manually controlled by ground throws.

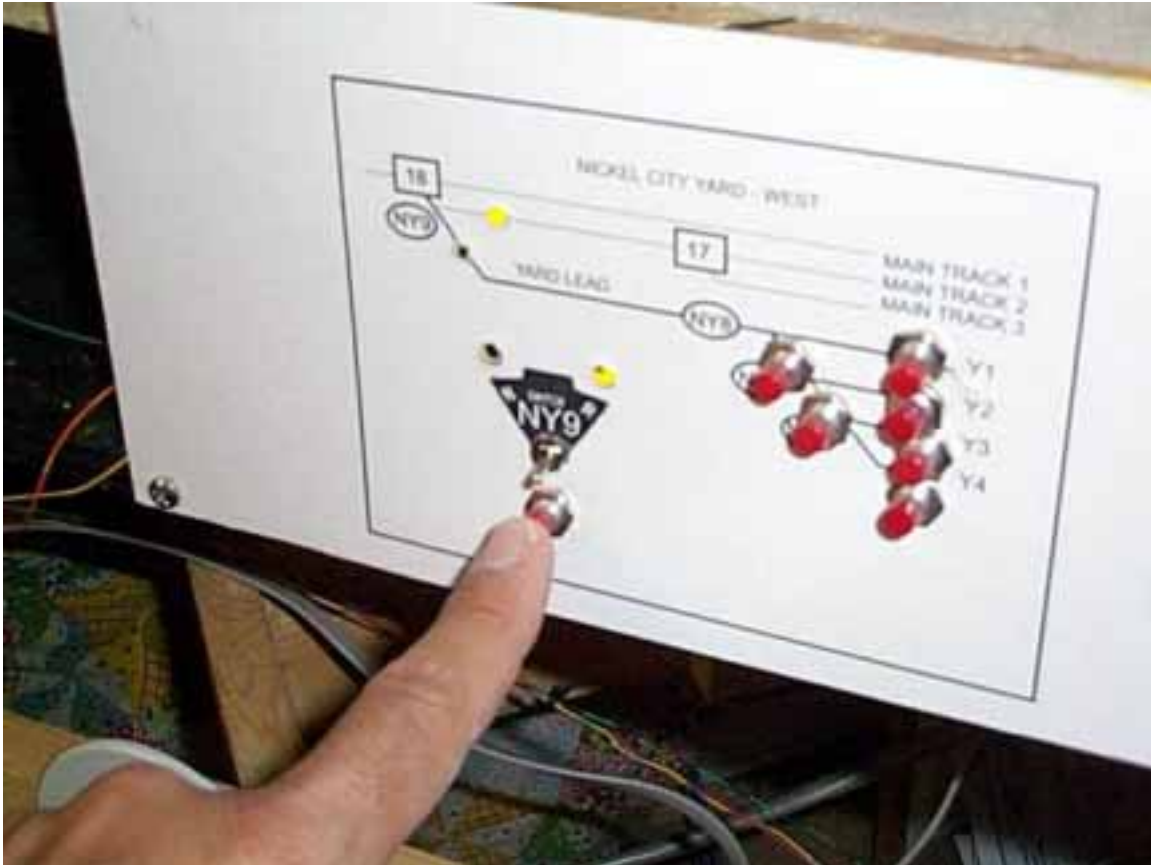
Unlike mainline fascia panels, yard fascia panels require the Yardmaster to transfer power to the panels. This is accomplished by switching the power toggle switch on the Yardmaster's panel from Normal to Local control. The Yard Fascia Panels operate differently than the mainline fascia panels in that the turnout controls seen on the mainline panels are only provided for yard lead turnouts. Operation of these turnout controls is the same as with mainline turnouts.



1) Slide toggle switch on turnout control to either Normal or Reverse.

A double throw toggle switch and a momentary push button switch are located at the bottom of the turnout control. The toggle switch is moved left or right to the desired position of the turnout. The turnout motor is activated by depressing the momentary push button at the bottom and holding it for 3 seconds until the LEDs change to the requested position. Amber and green LEDs on the yard fascia panel operate in the same way that they do on the mainline fascia panels.

Arrival / Departure turnout operation differ from the operation of the yard lead turnouts. Momentary push buttons are located on the panel over the direction they control. To change turnouts for specific directions, simply press and hold for 3 seconds each push button along the route you desire a train to run. This will align the turnouts to that route.



2) Activate switch motor by depressing momentary push button below turnout control for 3 seconds.

Normally, powered turnout control is maintained by the Yardmaster. However, when ops sessions are short staffed or complex maneuvers are required by the Yard Crew, the Yardmaster's panel can transfer control of these turnouts to the fascia panels.

STAGING YARD FASICA TURNOUT CONTROL

Staging yard turnout control is maintained by a series of Digitrax DS54 stationary decoders. These decoders provide turnout routing as well as remote control by Digitrax throttles. To control turnout routes from the fascia panel, simply dial up the desired route on the red rotary switch and depress the momentary push button below the dial for a second to activate the route. All turnouts for the affected route will engage in a pre-programmed order to set up the route.



1) Dial up the desired route on the staging yard fascia panel.



2) Press the momentary push button for 1 second to activate the desired route.

GROUND THROW CONTROL

Ground throws are manually operated turnout controls. Ground throws are located in all yards and on leads to small industries along the mainline. Some ground throws not only route a turnout in a specific direction but they also activate dwarf signals to indicate switch positions on the mainline.

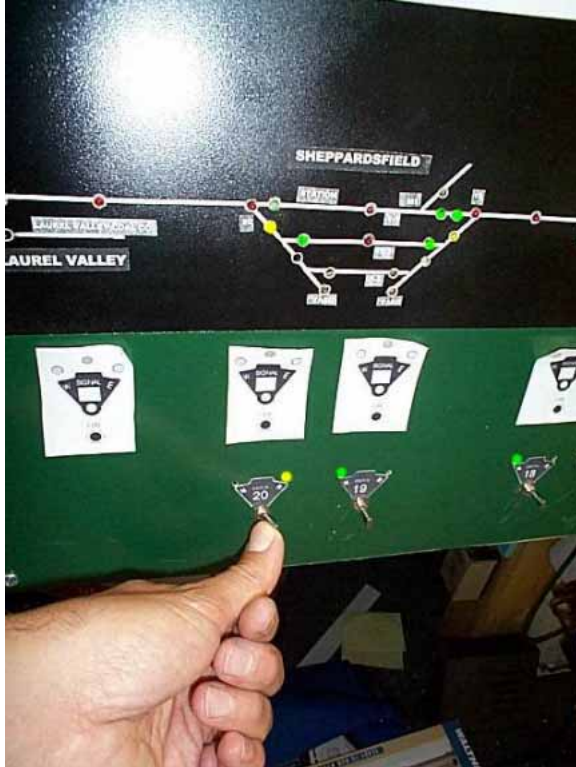
Regardless of what type of ground throw is used, operation is a simple matter of moving the lever of the ground throw from one position to the other. This will change the position of the turnout.

As a general rule, when finished with a ground throw, always return the turnout to the Normal (straight) position.



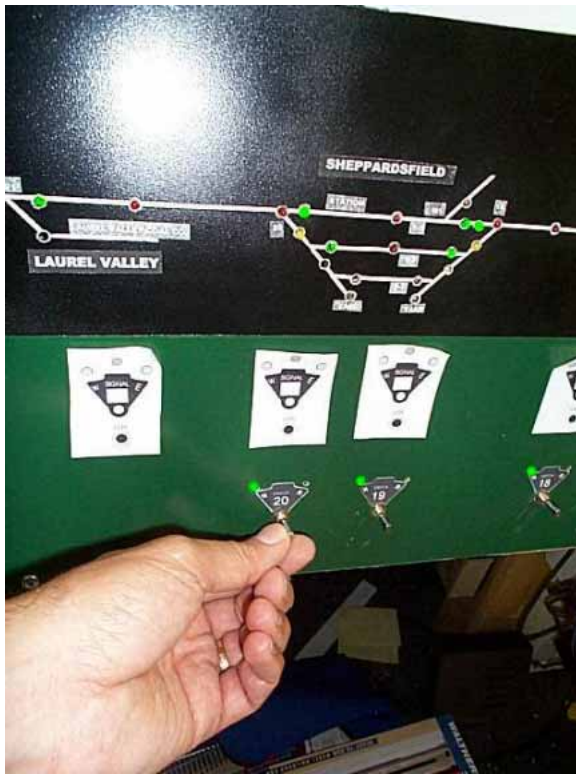
Simply move the lever of the ground throw from one position to the other to change the route of the turnout.

DISPATCHER TURNOUT CONTROL



Dispatchers control mainline turnouts from the Dispatcher's Panel. The panel shows a graphic of the entire physical area modeled for the railroad. Like the mainline fascia panels, the diagram is illuminated by LEDs that indicate turnout position of the affected turnouts. Green indicates a turnout is in the Normal position. Amber indicates the turnout is in the Reverse position. Below the diagram are turnout controls for each turnout. Each control has amber and green LEDs which correspond to the LEDs on the track diagram. A double throw momentary toggle switch is located at the bottom of the turnout control. The toggle switch is moved left or right to the desired position of the turnout by depressing it and holding it for 3 seconds until the LEDs change to the requested position.

1) Select the appropriate switch control.

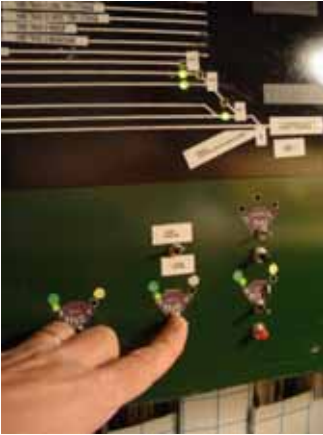


2) Push and hold the toggle switch in the desired direction for 3 seconds to change the turnout direction and the LEDs.

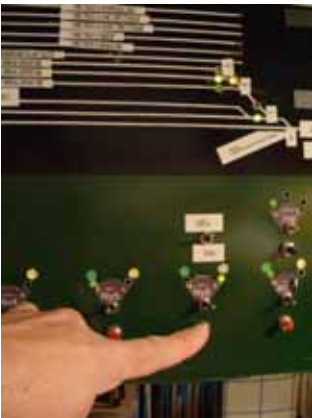
YARDMASTER TURNOUT CONTROL

Yardmasters control yard leads and arrival / departure track turnouts in Nickel City Yard from the Yardmaster's Panel. The panel shows a graphic of the entire physical area of Nickel City Yard. Like the mainline fascia panels, the diagram is illuminated by LEDs that indicate turnout position of the affected turnouts. Green indicates a turnout is in the Normal position. Amber indicates the turnout is in the Reverse position. Below the diagram are turnout controls for each turnout. Each control has amber and green LEDs which correspond to the LEDs on the track diagram. A double throw momentary toggle switch is located at the bottom of the turnout control. The toggle switch is moved left or right to the desired position of the turnout by depressing it and holding it for 3 seconds until the LEDs change to the requested position.

If control of the yard lead and arrival / departure track turnouts is needed on the fascia side of the layout, the Yardmaster can relinquish control by switching the Yard Power toggle switch from Normal to Local control. This process will reroute all power to the fascia panels and render the Yardmaster's panel inoperative. Power to the Yardmaster's panel can be restored by switching the Yard Power toggle switch back to the Normal position. (Note: all fascia panel toggle switches for the Yard shall be in the neutral (center) position while operating from the Yardmaster's panel. Otherwise a circuit conflict can occur in one or more turnout controls preventing turnouts from properly aligning themselves due to a feed back loop in the power system.)



1) Select the appropriate switch control.



2) Push and hold the toggle switch in the desired direction for 3 seconds to change the turnout direction and the LEDs.