DS Pre-Show Prep Tasks

- 1. Preparation
 - a. Layout design
 - i. Finalize layout plan
 - ii. Develop route sheet with points for each major location
 - iii. Develop schematic plan (with Visio templates if time allows)
 - b. JMRI inputs
 - i. Validate car inventory with participants
 - 1. Update Car Roster as required
 - 2. Set all cars off layout
 - 3. Check for duplicates
 - 4. Verify lengths if needed
 - 5. Print out roster to aid in validation
 - ii. Validate Locations and update
 - 1. Add or disable spurs depending on configuration
 - a. Spurs can be disabled without removing from location by setting length to "1" foot
 - b. For new spurs using typical 25 foot cars use length of 30 feet for each allowable spot
 - 2. Check naming convention of locations against existing schematics and labeling
 - a. Create labels and fascia placards as needed for modules to indicate spur names
 - iii. Validate Routes
 - 1. Should have major primary trains already built
 - a. Eastbound Freight
 - b. Westbound Freight
 - c. Eastbound Mixed
 - d. Westbound Mixed
 - e. Secondary trains
 - i. Mining extras
 - ii. Logging extras
 - iii. Switching locals (i.e. Rocky Point)
 - 2. Check east and west primary routing according to route sheet
 - a. Try to avoid facing movements for primary trains
 - b. Make sure east and west are selected properly in each location row
 - c. Set moves to zero for stops without work (i.e. water stop or passenger stop) so the location still shows up on switchlist
 - 3. Adjust car moves as necessary for switching
 - a. Freight has most moves
 - b. Mixed should have less moves or locations to service
 - 4. Check comments on route stops and adjust update as required
 - a. Specific instructions, water stop, passenger stop, etc
 - iv. Validate Trains
 - 1. Check major trains against route assignments

- a. Update Names as needed
 - i. Try to use similar names as the route being used
- b. Check comments and edit as needed
- 2. Set cars in each origination point for testing
- 3. Test build major trains and preview
 - a. View and validate switchlists for proper locations and comments
 - i. Edit Route comments as needed and re-run test
 - b. Reset all test trains after validation that switchlists are working properly
- 4. Check secondary trains against routes
 - a. Use same steps as above and adjust/update as needed
- 5. Reset all cars off layout after testing
- 6. Reset or terminate all Trains
- v. Save all work in JMRI, make backup copy
- 2. Support Materials
 - a. Paperwork
 - i. Ensure Form 19s and Clearance Sheets available
 - 1. Expect 4 pads of Form 19s and 1 Pad of Clearance sheets per event
 - ii. Update "DS Sheet" excel file
 - 1. Update DS Movement of Trains sheet locations if needed
 - 2. Print out at least two DS Movement of Trains sheet
 - iii. Print out Station Registration forms (at least 6)
 - iv. Print out and/or update existing Engine Cards
 - v. Print out major job cards
 - vi. Print out at least 6 copies of Employee Time Table
 - vii. Ensure copy of Operating Rules available
 - viii. Create Trains Lineup sheet for first day
 - ix. Check Orders Book for enough empty pages
 - 1. Ensure paste stick available
 - b. Office Supply
 - i. Three minimum small clipboards and spring clips
 - 1. Other clipboards avail for operators
 - ii. Box of pens
 - iii. Radios
 - iv. Printer and paper
 - v. Red flags and flagmen
 - vi. Skewers for de-coupling
 - vii. Card stock for labels
 - viii. Masking tape
 - ix. Scissors
 - x. Sharpie markers

DS Workflow Pre-Ops On Site Setup

- 1. Setup DS station
 - a. Computer and printer
 - b. Office supplies
 - c. Blank DS Movement of Trains sheet
 - d. Form 19s and Clearances
 - e. Order Book
 - f. Maps and schematics
 - g. Instructions/handouts for crews, job cards
 - h. Crew Call sheet if needed
- 2. Inventory available cars
 - a. Try to minimize random "planting" of cars all over the layout from users, place majority of cars in yards, can also use table or work cart to "stage" rolling stock
 - b. Designate a random running consist for those who want to start running right away
 - c. Use car roster print out to verify available cars and locations (assistant helpful)
 - i. If time allows, pre-populating some module spurs and updating car roster with location is desirable. Otherwise leave all module spurs empty to start.
 - d. Typical layout can use about 30-40 cars not counting skeletons, mining dumps and passenger cars
 - e. Make sure enough cabooses available, at least 4 with two at each yard to start
 - f. 2 minimum passenger type cars, 1 each yard
- 3. Inventory available locos
 - a. Use master database to verify locos and DCC addresses
 - b. Ensure loco cards made for each loco to be used
 - c. May have to discourage putting too many locos on layout, only need no more than the following
 - i. 4 road locos
 - ii. 2 yard locos
 - iii. 1 switcher/logging loco at Camp 4
 - iv. 1 switcher at Rocky Point
 - v. 1 switcher at CA Smelter
 - d. Post loco DCC address sheet at yards if time allows
- 4. Check Layout
 - a. Verify layout spur markings and schematics posted
 - i. Put labels on track as needed to designate spurs
 - ii. Attach schematic cards on fascia as needed
 - b. Attach register clipboards to yards and designated meet point
 - i. Fill out register header information for location, date
 - ii. Ensure pens are placed with registers
 - iii. Place radios with registers if available
 - c. Place skewers at all locations requiring switching moves
 - d. Place flags at all areas needing Rule 99
 - e. Ensure Yard Limits marked with sign and fascia label
 - f. Ensure special tracks designated as needed in yards, i.e. caboose, station stop

DS Workflow JMRI Setup

- 1. On car roster, use "set cars" function from the tools menu to populate yards and locations according to physical inventory conducted previously
 - a. Highlight multiple cars at once
 - b. TOOLS > SET CARS option
 - c. Select Location and Track as required
- 2. Once this is complete, you are ready to run trains. However it is good practice to do some "dry runs" on the computer before turning everybody loose
 - a. Go to TRAINS and Build an EB Local
 - b. PREVIEW to see switchlist, verify if ok. If not then need to adjust route (use "Build Report" option if needed to troubleshoot)
 - c. Use RESET option to reset cars back to original location
 - d. Repeat steps a c as needed for other trains to test
- 3. Make a separate "lineup" sheet with TRAIN/ENGINE/CONDUCTOR/ENGINEER/TIME ON/TIME OFF headers. Typical runs as follows
 - a. EB Local
 - b. WB local
 - c. EB Mixed
 - d. WB Mixed
 - e. Logging Extra (can run anytime)
 - f. Mining Extra (can run anytime)
 - g. Other Extras (i.e. Rocky Point Local, can run anytime)
 - h. (repeat locals and mixed)
 - PRO Tip, you can also use the Departure Time in the Trains menu to set the order of trains in the lineup. For repeated trains just use number sequence to add using same route (i.e. EB Local 2, WB Mixed 3) etc. Generally each train takes about 45-60 1:1 minutes to complete so use that as a guide.
- 4. BUILD first four major trains (a d above) and Preview/Print, this is your first runs to populate the layout. The Operations is ready run at this point.
- 5. Switchlists can then be handed to Yardmasters if assigned to start building consists, otherwise crews will build their own consists before departing yard.
 - a. Select "Switchlist" button at bottom of Trains page
 - b. Submenu comes up with location check boxes, select the Yards only
 - c. Select "preview switchlist" and text file will be produced for each yard that has all the switching requirements.
 - d. Use these switchlists for the yardmasters to start working.
- 6. Things to remember once started in JMRI
 - a. As Trains are assigned and start moving, pay attention to where the actual trains are at and update in the TRAINS window. In the ACTION sub window (lower right hand corner), select the Move option. Use the MOVE button in the row of the Train to move to update current locations. The individual Trains will update location under the "Current" column, JMRI will also locate the cars according to the switchlist to the new locations.
 - b. Once Trains are completed, the Move button for the individual trains row will change to Terminate. Once this is selected, terminated trains have completed their runs and all cars are

delivered to designated locations. Crew is off duty and job is completed. Log on lineup sheet and DS Movement of Trains sheet as required.

- c. Alternative and maybe easier method is to use "terminate" function directly instead of "move" to end trains when they have completed their runs. (Only use Terminate when train is complete otherwise cars will be misplaced in the program)
- d. Do not build new Trains unless all previous trains have been updated using the Move or Terminate functions.
 - i. As an option, you can build new trains early but the cars may not be at the expected locations so use with caution. If all else fails, just use RESET function to reset new trains that have not been ran if they do not work the way expected.
- e. Sometimes cars will not end up where they are supposed to be
 - i. May require special order for another train to pick up off spot cars and deliver to correct location, this is the best and most realistic option
 - ii. Or just 0-5-0 car to where it is supposed to be according to the Car Roster
 - iii. If a car ends up in the wrong yard vice a spur delivery, it is best to just update the car location manually using the Set option in the Car menu
 - iv. Consider printing out Car roster by Location for yards to periodically inventory cars in their respective yards (and rest of layout). This is a good practice at end of session first day or before beginning second day.
- 7. Option JMRI Web Server
 - a. This can be enabled as an option to broadcast switchlists via wifi to phones/tablets. Users can run trains paperless and update switch jobs on the device which also updates the JMRI web host.
 - b. Pre-requisites
 - i. Host computer must be on wifi or broadcasting wifi via external router.
 - ii. In Panel Pro select TOOLS, enable Start JMRI Web Server
 - iii. On host computer verify IP address
 - 1. Open CMD prompt
 - 2. Enter "ipconfig"
 - 3. Look for "IPv4 Address" and make note of the IP for users. Will be 4 sets of digits separated by periods. (i.e. 198.168.1.200)
 - iv. On phone/tablet, open internet browser (Chrome is best) and enter the IP address followed by a semi-colon and 12080. (i.e. 198.168.1.200:12080)
 - v. This will bring up the JMRI web access menu. Upper right hand corner drop down, select "operations".
 - 1. Operations menu brings up all built Trains
 - 2. Select Train assigned
 - 3. Select "Conductor" to activate job completion check mode which also updates JMRI computer for train location and car moves.
 - 4. Operate normally using device for switchlist.
 - 5. Update checkblocks for cars as they are spotted or picked up at each location.
 - 6. "Terminate" train and end of run to complete.

DS Basic Instructions

Crew Assignments

If possible all crews should consist of conductor and engineer. Yardmaster can have assistant also if desired.

Assistant DS/Operator is useful to deliver orders and do leg work like inventory of cars at locations

Utilize Crew Call board if available assigning crews every hour.

Generating Switchlists

BUILD four trains at once with two emanating from each yard.

In JMRI hit PREVIEW for each train after building train. Switchlist will come up as text file. Print each train.

Goto SWITCHLIST at bottom of Trains screen and select. A menu will come up with each location. Check only the Yards and then hit PREVIEW. A text file will be generated for each location selected. Give this to the Yardmasters to start building trains.

When trains start running either use the MOVE option to track them and update across the layout or alternatively just use the TERMINATE function when they complete jobs. Either way will update car locations in JMRI for the next set of trains.

Continue with multiple train generation for each cycle and repeat preview, print and switchlists.

Pro Tip – Keep text file switchlists open for reference until train is complete then close.

Controlling Locomotive assignments

Refrain from over populating layout with locomotives, it reduces DCC efficiency

Owners will normally want to run their own locos

Pooled locos should have loco cards filled out and available for engineers

Most common issue is locos that need to be moved but DCC address not known, use labels or post an engine DCC cheat sheet at yard locations

Trains movement sheet

Fill out header section for westbound or eastbound crews, engine and time on duty for each train

Use location spots to indicate arrival/departure time for trains as they follow route

Final destination indicate time off duty

This sheet can be used later for record keeping of crew time for NMRA AP forms so ensure it is filled out completely

Writing Orders (standard Forms from GCOR)

All orders are on Form 19s and filled out as per GCOR

Strive to use the Standard Forms of writing orders to avoid confusion (see GCOR)

Orders are delivered at yards and at station stops. Try to avoid non-standard over the layout delivery of orders that are not at designated stations.

Managing Orders Log

Copy at least one more order than needed for train crews to maintain a copy in the orders book

Copy of order issued shall be pasted in the order book in numerical order

Once order is completed place a diagonal slash through the order from top right to bottom left

Writing Clearances

All trains originating at yards must have a clearance before departure

All trains that must stop at stations to receive orders shall have a clearance before departure

Clearance forms are filled out in accordance with GCOR

Controlling Station/Signal Stops

All station/signal stops shall have some form of visual train stop indication, i.e. lights, flag or semaphore

Manually operated stops shall be operated by DS or assistant as required

Remote operated stops shall be operated using remote control provided

Flag up indication is stop, flag down is proceed

Train Register

All departing/arriving trains must fill out train register where provided

Completing Trains

Terminate trains in JMRI that have completed their runs

Crews should turn in all paperwork to DS desk

Remind crews to "deselect" locos by selecting loco 999 on throttle

Yardmaster Duties

Manage assigned yard controlling all incoming and outgoing traffic within yard limits.

Assist crews in acquiring locos and storing locos upon job completion.

Ensure stored locos are deselected using loco number "999" on throttle

Switch all cars in yard according to provided switchlists

If provided, use radio to communicate with Dispatcher on arriving and departing train times.

Ensure crews complete train register provided upon arrival and departure.

DS Assistant/Operator Duties

Make job card instructions for each train or update existing ones.

Put basic common crew instructions on back of each job card.

Use this as template:

http://virginian.mdodd.com/dispatcher.html