# BURLINGTON NORTHERN INC.

LAKE DIVISION

# Special Instructions No. 1

IN EFFECT AT 12:01 A.M.
Central Standard Time

Friday May 10, 1968

# ALL SUBDIVISIONS

	ALL SUB	DIAIDIONS	1
1.	Speed Restrictions— Passenger trains	Maximum Speed	. 79 MPH.
	Freight trains		
	The above speeds are subject strictions indicated under ea	ch subdivision special in	nstructions.
	All trains and engines throug except as specified in specifixed signals indicate other	al instructions or where	;
	Engines running light or wotherwise provided.		
	To the first control of the		Branch
-	Equipment Ore cars	Main Line	Line
	Ore cars	45 MPH.	20 MPH.
	Wrecking derricks Locomotive cranes	30 MPH.	15 MPH.
	Pile drivers		15 MPH. 15 MPH.
	Clamshells & shovels		15 MPH.
	Jordan spreaders		15 MPH.
	Scale test cars		20 MPH.
	Air dump cars (loaded)		20 MPH.
	Rotary plows, wedge plows &		15 MPH.
	Log trains		
2.	Movement of engines dead in	를 잃어졌다. 본 1511년	
	alignment control lock block trains must be handled singly cars or more than 15 cars from Other diesel units when in the groups of more than 5 units, road units. Diesel units equipled blocks must have lock blocks tiple groups.	r, not in groups and not m the road engine.  The dead in trains should such units may be hand uipped with coupler country in "Down" position when the couple in "Down" position when the couple is the couple in "Down" position when the couple is the couple in "Down" position when the couple is the couple in "Down" position when the couple is the couple in "Down" position when the couple is the couple in "Down" position when the couple is the couple in the couple is the couple in the couple	less than 5 d not be in
	Diesel units not equipped wi	The state of the s	vices—
	GN1 through	195	# -
	CBQ9103 throu	oh 9106	
	9136, 9137 9153, 92 9413 AE	, 9139 through 9143, 91 03 through 9248, 9400 A 3, 9249 through 9292, 93 10 through 9321	AB through
	NP99 through	177	
	400-429 500, 501, 5 602, 603, 6 750, 800 th	25, 551, 555 through 555 51, 700 through 724 rough 803, 850 through h 912	8 8 <b>53</b>
	SPS11 through 856-869	55	
	Diesel units equipped with co	oupler alignment lock bl	ocks—
•	GN550 throug		
	CBQ200 throug 300 throug 430 throug	h 374, 400 through 411	1
	NP200 throug 562 throug	h 375, 552 through 554 h 569	Total Cappedia
	SPS60 through	84	11
	All other Diesel units are couplers.	equipped with alignme	ent control
	Maximum Speed Diesel Units	Dead In Tow—	
	-		ELCIM UG
	9136, 9137, 9139 thro	ugh 9143, 9147 through	ı
		292, 9300 through 9308.	200
	9916 through 9993		. 79 MPH,

NP	99, 100, 400 Series, 600 Series	50	MPH.
	6000 Series, 7000 Series	65	MPH.
	6500 Series, 6600 Series, 6700 Series		
	Budd Cars B-30, B-31, B-32, B-40, B-41, B-42, on rear of train only	79	MPH.
GN	1 through 195	50	MPH.
	200 through 209, 227 through 230, 262 through 279 (A&B), 307 through 317 (ABC), 430 through 474 (ABCD), 550 through 915, 2000 through 2035, 3000 through 3025		
	2500 through 2538, 3026 through 3040		
	Budd Car 2350, on rear of train only	79	MPH.
SPS	11, 22 through 28, 40 through 45, 50 through 55		
	800 through 806	79	MPH.

- 3. When N.P. road passenger diesel units are coupled in multiple with road freight or road switcher units, the road passenger units must be trailing to avoid danger of sliding wheels on the freight or road switcher units due to excessive brake cylinder pressure. The speed restrictions for freight and road switcher units must be observed to avoid damage to traction motors.
- Following equipment loaded or empty must be handled on rear of trains, unless otherwise provided:

Outfit cars

Tie flats (GN X4800 to X4975, X4410)

Scale test cars (next ahead of caboose)

Wrecking derricks

Pile drivers

Loco cranes

Rotary Snow Plows, dozers, wedge plows

Jordan spreaders

Air dump cars loaded or empty

Log flats -- NP 117002 to 117892

All cars 80 feet or longer, loaded or empty, should be placed on rear of train for movement over any grade of 1% or more and where track curvature is  $6\,^\circ$  or greater.

The following subdivisions have curves at  $6\,^\circ$  or more on grades of  $1\,\%$  or more:

Second Subdivision

### Fifth Subdivision

- Should flat spots on wheels develop on passenger train cars or any engine, conductor or engineer will immediately advise Chief Dispatcher and be governed by his instructions.
- 6. Heavy cars—Cars heavier than the following not permitted without authority of Superintendent:

EXCEPT: On mainline subdivisions cars at least 64'8" over strikers with minimum axle spacing of 6'0", minimum truck centers of 53'7" and minimum wheel diameter of 38".... 315,000 lbs.

Rule 223 unless otherwise provided — Lights will not be displayed on Branch Line Subdivisions. Trains will be governed by the day indication of these train order signals.

8. Pulpwood-

Pulpwood loaded on open top cars, but not in accordance with Open Top Car Loading Rules, may be handled only in accordance with the following requirements: Such loads shall not be moved in a train until inspected by the conductor who will determine that they are not overloaded or improperly loaded and are safe to move without loss of lading.

### On Double Track-

SPEED OF TRAINS HANDLING SUCH LOADS WILL NOT EXCEED 20 MPH.

Trains handling such loaded cars must not meet or be passed by trains, except work trains, between stations on opposite track of double track; must be standing when met or passed by passenger trains on opposite track at stations and if practicable must be standing when met or passed by freight trains on opposite track, but if not practicable will move at reduced speed. When meeting or passing work trains beween stations one train must be standing when practicable.

Conductor will notify dispatcher when such loaded cars are to be handled in their trains and secure train orders that trains, except work trains, on opposite track will be held at next station until their train has arrived. Such loaded cars must be handled between stations only during daylight hours except in case of emergency, and when running between stations, a trainman must be stationed on the rear platform of the caboose to watch for pulpwood that may be lost from cars and obstruct the opposite track. In case of such obstructions prompt action must be taken to protect trains on the opposite track.

### On Single Track-

Trains handling such loaded cars must be standing when meeting or being passed by passenger trains.

The foregoing requirements will not apply to pulpwood loaded in gondola cars, properly secured with side protection of wire mesh or boards in accordance with Open Top Car Loading Rules. Precautions to be observed in the handling of peeled pulpwood. Before picking up cars of peeled pulpwood from industry at any station, conductor must examine lading; if lading is not protected with woven wire to prevent sliding out on sides, or, when wire is not available, with boards and stakes, then car must not be moved from industry. The fact must be promptly reported by wire to the Superintendent.

If unpeeled pulpwood, end stakes must be placed vertically across both ends of car so as not to leave a gap or opening between the stakes. If car is loaded above the end stakes car must be refused and Superintendent notified.

### 9. Duluth-Superior Terminals - Yard Limits-

All tracks between yard limit signs located at:

East D. M. & I. R. Junction 1432 feet East of MP 145, west of West Duluth Jct.

3632 feet West of MP 9, west of Central Ave. on Third Subdivision

1331 feet West of MP 61, east of Allouez on Fifth Subdivision will be operated as one yard.

- First class trains run at reduced speed within these limits. Second and inferior class, extra trains and engines may run ahead of first class trains which are five minutes or more late without train order authority, avoiding delay to such trains to the greatest practicable extent.
- (b) Extra trains and engines may move in either direction on single track and with the current of traffic on double track without train order authority.
- The D. T. Ry. main track is the northmost track between the Hanna Coal Dock crossing and connection with Sixth Subdivision main track. All switches leading from this track when not in use, will be left lined for D. T. Ry.
- (d) All trains and engines using D. T. Ry. main track from connection of Missabe coal dock to east end of Zenith Furnace Company's lead, on Sixth Subdivision, will move in both directions at reduced speed, expecting to find the D. T. Ry. main track occupied.
- (e) D. T. Ry. connection, located at east end of Zenith Furnace Company's lead, Sixth Subdivision, will be considered a railroad crossing. Trains and engines using this connection will come to a full stop and make sure that track is clear before proceeding.
- At Duluth—City ordinance prohibits blocking street crossing at 1st Ave. East for more than 5 minutes; or of any other crossing for more than 10 minutes.

Engine whistle will not be used between 3rd Ave. East and 5th Ave. West, or between 14th Ave. West and 85th Ave. West (except 85th Ave. West) except as an alarm or warning, or to signal towerman, to call for signals, as a safety precaution in backing cars or engines, or as a signal in testing air brakes. No engine or train will run within the city without having bell ringing while in motion, and approaching any street or avenue. Westward freight trains made up in Bridge Yard departing via Second Subdivision will proceed onto Westward main track through Eighteenth Avenue Crossover. Switch tender at Garfield Ave. will line switches after departure of train.

11. Rules 200 and 83(B) and other rules pertaining to authority for and signature on train orders and clearances are modified to permit train orders and clearances to be issued by the authority and over the signature of the Chief Dispatcher.

Until further notice train dispatchers offices will remain at present locations and will govern the same districts as prior to the merger.

### FIRST SUBDIVISION

1.	Speed Restrictions	Maximum Speeds	Permitted
	Zone—Between	Passenger	Freight
	Central Ave. Tower and Boylston.	75 MPH.	50 MPH.
	Boylston and Foxboro	60 MPH.	40 MPH.
	Foxboro and Coon Creek Jct	79 MPH.	60 MPH.
	Garfield Ave.	30 MPH.	30 MPH.
	Garfield Ave. and Central Ave	55 MPH.	40 MPH.
	At Superior—Over switches at Be St. and C&NW Conn. all trains.	15 MPH.	
	Over Bridge 2, St. Louis Bay		15 MPH.
	Duluth Terminal Bridge to GN and engines	Rices Point, trains Restri	cted Speed
	Over wheel checker— Saunders		20 MPH.
	Except ore trains		
	Long lead, east end Sandstone Yar		
	35 MPH.—Trains or engines thr lowing locations:	ough No. 20 turno	uts at fol-
	SaundersCrossover	Brook ParkJct.	and Siding
	BoylstonCrossover	Grasston	Siding
	AskovSiding	Coon Creek Jct	Jct.
	Hinckley TowerSiding	Coon Creek	$_{-}$ Crossover
	25 MPH.—Trains or engines throughout lowing locations:	igh No. 15 turnouts	at fol-
	Cent. Ave. TowerCrossover SaundersJct.	Br. 1.3End	Dbl. Trk.

### 2. Train Register Exceptions-

All trains register by ticket at Central Ave. Tower and Coon Creek Jct.

A check of register may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check.

At Central Avenue when no telegrapher on duty all regular trains will register in train register located in switchman's room west of depot office.

At Duluth first class trains arriving may register by ticket using tube at foot of east stairway for delivery to operator in "DU" office.

### 3. Clearance Provisions and Exceptions Rule 83(B)-

At Boylston, trains for which these points are initial stations may proceed on authority of clearance under which such trains arrive.

Clearance received by first class trains and extra trains handling passengers at Minneapolis, and by other trains at Minneapolis Jct. will clear train at Coon Creek Jct.

Trains originating at Garfield Ave., Rices Point (Yard), Bridge Switch, Elevator Station, C&NW Conn. and Belknap St.

At Central Ave. westward trains will not require clearance if train order signal is in the proceed position.

### Restricted Clearances

Superior, bents under Fifteenth St. viaduct will not clear man on side of car or engine.

Hinckley, automatic block signal 72.1 governing eastward trains, is located on left hand side of main track about 500 feet east of depot.

### Speed Test Boards-6.

Engineers shall test speed of their trains passing following point as compared with Speed Table:

Eastward, between MP 76 and MP 77 approximately 4 miles east of Hinckley Tower.

Westward, between MP 77 and MP 76 approximately 3 miles west of Brook Park.

### Spring Switches with Facing Point Lock-

The spring switches in Items 8 and 9 are identified by a target with the letter S on blade of target. Blade is colored yellow with black letter S on both sides. The target is attached to the mast of the spring switch light. When a lunar light is displayed on the spring switch light it indicates that spring switch is in normal operating condition. If a red light is displayed on the spring switch light be governed by Rule 104(H) of the Consolidated Code of Operating Rules.

Nickerson	siding	Cambridge	siding
Askov	siding	Bethel	siding
Grasston	siding		

### Spring Switches without Facing Point Lock-

Superior, west switch of eastward and westward incoming tracks. Normal position is for incoming tracks and all other roundhouse lead switches, when not in use, must be left lined for roundhouse lead.

Elevator "X", east and west of car unloader on unloading track. Normal position of switch east of unloader is for unloading

Normal position of switch west of unloader is for runaround track.

### 9A. Superior, West End Brewery lead. Normal position for main track.

At Rices Point-Spring switch not equipped with either spring switch target or facing point lock is located on roundhouse lead about 1200 feet south of sand tower. Target indication-

Yellow-Straight track. Green-Roundhouse lead.

Instructions for operation of spring switches in Item 9A are posted at or near the spring switch and must be complied with. Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows "red" to an approaching train or engine, a trailing point movement actuating the spring switch points must not be made.

Normal indication of siding signal is STOP. If siding signal does not clear on approach of train, movement must be governed by instructions posted at the switch.

Normal position of switches designated below is as follows:

South End Rices Point Yard,

switch from B to C yard lead

(top switch) ..... .....when lined for B yard lead;

No. 26 and 31 crossovers on Hump (A Yard) ......when lined for Hump (A Yard) lead;

No. 26 and 31 crossovers on Load

(B Yard) lead ......when lined for Load (B Yard) lead.

North End Rices Point Yard, switch off outside lead for

lead to C Yard ......when lined for Load (B Yard) lead; Crossover switch on inside lead ......when lined for inside lead; Crossover switch off outside lead .. when lined for outside lead.

10. Dragging Equipment Detector Indicator-

Westward trains on Signal 16.8 between Boylston and Foxboro. Eastward trains on Signal 61.1 between Askov and Sandstone.

11. At Rice Point Interlocking—Eastward interlocking signal located between Hump (A Yard) Lead and Load (B Yard) Lead at east end of Yard governs movements to eastward track and crossover to westward track and movements to east end of Hump (A Yard) Lead. Normal position of west switch of crossover from Hump (A Yard) Lead to eastward track is for eastward track, and must be kept lined and locked in this position when not in use.

Push-button on mast of westward interlocking signal. If interlocking signal indicates Stop, push-button should be operated, and movement governed by signal indication.

Trains will call for route as follows:

For through main track movements	
Westward track to eastward track	0 & 00
Westward track to yard	0 & 0 0 0
Yard to eastward track	000 & 00
Yard to westward track	000&0
Eastward track to westward track	00&0
Eastward track to yard	00&000

12. Automatic Interlocking Not Indicated at Station—

Bridge— Interlocking signal on westward track east of Minnesota Draw governs movements to BN track and to C&NW track.

Interlocking signal on eastward track west of Elevator Station governs movements to Straight Main track and to BN freight track.

Eastward trains entering onto Minnesota Draw and westward trains entering onto Wisconsin Draw will be governed by signal at the approach and, if proceed signal is received, will not be required to stop. During period of open navigation on St. Louis River, eastward trains will stop before entering onto Wisconsin Draw and westward trains will stop before entering onto Minnesota Draw.

During closed season of navigation it will not be necessary for trains or engines to stop at either side of drawbridge when signals indicate "Proceed."

- At Superior—City ordinance prohibits blocking any street crossing for more than 10 minutes, except in case of unavoidable breakdown.
- 14. At Central Ave.—No. 1 track will be used as siding. When setting out or picking up, trains must not block 58th Street, and Tower Avenue crossings.
- 15. Derail Switches—At approach to Minnesota Draw from Duluth.
  At Superior—Winter St. just opposite freight house.
- 16. BN Transwers going to Great Northern Rices Point Yard will use C&NW track from bridge switch to switch in C&NW main track leading to new connection to Great Northern Rices Point Yard. Authority to use C&NW track will be given by clear signal at Minnesota Draw.

For movement from Great Northern Rices Point Yard to Superior, authority to use C&NW track must be obtained from Minnesota Draw by telephone—from phone located in booth just north of Birch Street between BN and C&NW tracks—before leaving Rices Point Yard.

17. At the taconite unloading shed at Allouez, commonly known as the Index Plant, a red and yellow light has been installed on both ends of this building. If all of the movable parts of the unloading mechanism are clear so that the train can move

through the shed without interference, the signal will display a permissive yellow color. If there is any part of the mechanism that is not clear the signal will display red and train must stop before entering the building.

At Garfield Ave.—Normal position of junction switches will be lined for the Second Subdivision. 18.

Trains will stop not less than two hundred (200) feet from junction switches and not proceed until route is clear.

Unless otherwise instructed, eastward freight trains made up in Bridge Yard, departing via First Subdivision, will use west-ward main track from connection just west of Garfield Ave. to the Minnesota Drawbridge.

Before this movement may be started, Switchtender at Garfield Ave. will contact Drawbridge Operator; if Drawbridge Operator OK's the movement, train may proceed on westward main track, and when Drawbridge Operator gives the approval it will be understood that Drawbridge Operator will not permit any westward train on westward track until freight train has passed Minnesota Drawbridge.

Train Register Stations-

Duluth Union Depot for trains arriving at or departing from Fifth Ave. Yard or Union Depot. Rice's Point Yard Office for other trains.

Central Ave. for trains 347 and 348.

### SECOND SUBDIVISION

1.	Speed Restrictions—	Max	imu	m S	speeds	Per	mitted
	Zone—Between		Pas	sen	$\operatorname{ger}$	$\mathbf{Fr}$	eight
	Garfield Ave. and White Bear Lake						
	cept as indicated below		75	MΙ	PH.	65	MPH.
	Garfield Ave. and West Duluth Jct.		30	MΙ	PH.	30	MPH.
-	Over 21st Ave. West Crossing		15	ΜI	PH.	15	MPH.
	West Duluth Jct. and MP 143 (bety Short Line Park and West Du						
	Jct.)		60	MI	PH.	50	MPH.
	MP 143 and MP 135 (Brownell)		45	ΜI	PH.	25	MPH.
	MP 135 and MP 129 (east end Carlyard)	lton)	60	MI	PH.	50	MPH.
	Curve 129 between 1585 feet and feet west of MP 129	3227					MPH.
	MP 129 and MP 11 (White Bear L	ake	75	MI	PH.	<b>5</b> 0	MPH.
							Trains
	Cloquet and MP 4 (east of Scanlo	n)				. 15	MPH.
	MP 4 (east of Scanlon) and Carlt	on				. 30	MPH.
	At Carlton, over double slip switching; through movements via Second						MPH.
	Other movements		<b>-</b> -		. <b></b>	. 15	MPH.
	At Rush City through city limits p						
	At White Bear Lake—All trains a over 4th St., at reduced speed.	ppro	ach	and	l move		

- At Garfield Ave.-Normal position of junction switches will be for Second Subdivision.
  - Trains will stop not less than two hundred (200) feet from Junction switches and not proceed until route is clear.
- At Nineteenth Ave. West-Trains using the Dick tracks must
- not block crossing.

  At Twenty-first Ave. West—Telephone at crossover—westward trains call yard (3 rings) for route when necessary.
- At West Duluth Jct .-

Yard engines will use east leg of wye and Fond du Lac line but will not leave cars on these tracks.

Switch at end of double track is dual control. Normal position is for the eastward track.

To secure a restricting indication, Rule 240-R, Figure (4), at eastward interlocking signal governing reverse movements on westward track; engines or trains moving westward through the dual control switch must, before reversing direction, clear the track circuit, the west end of which is located just west of the switch leading to the Western Brass Company near 61st Avenue West.

6. At Carlton-Third Subdivision Instruction govern.

Advance-warning sign of 45 MPH. governing westward movements, located at the Interlocking Tower, is 1200 feet in advance of the Reduce Speed sign account junction with the Third Subdivision.

7. At Cloquet—D&NE engines may use main track between D&NE connection at Broadway St. 200 feet west of passenger station and east end of yard.

Trains and yard engines must stop at the Northwest Paper Mill crossing (East Cloquet), and protect crossing by flagman.

Movements over Arch Street crossing, east of passenger station, must be protected by flagman.

Derails located near west end of tracks No. 1 and No. 2, are not provided with derail signs.

Extra trains will not run via Cloquet unless directed by train order to do so.

### 8. At Hinckley-

Cars must not be left on No. 1 yard track.

Trains must not block highway crossing one-half mile east of passenger station, and South First Street Crossing more than five (5) minutes.

Foot crossing west of passenger station must not be blocked with cars.

9. At Hinckley Tower Interlocking—trains will call for route as follows:

For Movement between yard and westward siding: oo

### 10. At White Bear Lake-

Westward trains making stop at the passenger station must stop with engines or cars east of "Crossing Signal Restart" sign located on south side of track 100 feet east of Fourth Street crossing.

Cars must not be left on siding within 300 feet of Fourth Street crossing.

Normal position of west switch of crossover at Ramaley Avenue will be lined for through movement on siding. Siding extends from M&D Jct. to White Bear Lake.

Westward extra trains picking up in New Yard will cut off far enough east of Ramaley Avenue so as not to foul the ringing section of the automatic crossing signals on that avenue.

When trains will be delayed more than ten (10) minutes, crossings must be opened promptly.

### 11. Signal Overlap-

At Sturgeon Lake—Eastward trains holding main track to meet a westward train will stop before reaching signal overlap sign east of passenger station, to avoid giving approaching train three stop signals.

At Forest Lake—Westward trains holding main track to meet an eastward train will stop before reaching signal overlap sign west of passenger station, to avoid giving approaching train three stop signals.

### 12. Spring Switches—

Instructions for operation of spring switches are posted at or near the spring switch and must be complied with.

Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows "red" to an approaching train or engine, a trailing point movement actuating the spring switch points must not be made.

Normal indication of siding signal is STOP. If siding signal does not clear on approach of train, movement must be governed by instructions posted at the switch.

West Duluth Jct., at junction of Second and Sixth Subdivisions, normal position for Sixth Subdivision main track. Not equipped with facing point lock.

Pine City, east switch of siding, with facing point lock equipped for switch key signal operation.

13. Retaining Valves—Between Brownell and MP 143 freight trains of less than 4000 tons will not require retainers. The use of retainers is not required on freight trains being handled by dynamic brake equipped diesel engines when dynamic brake is effective on all units or engine is equipped with brake pipe maintaining feature in operating condition.

When retaining valves are required they will be turned to low pressure position beginning at head end of train as follows:

Trains of 8000 tons or over—20 retainers

Trains of 6000 tons or over-16 retainers

Trains over 4000 tons—10 retainers

All retaining valves will be turned down between MP 143 and West Duluth Jct.

### 14. Train Register Exceptions-

At Carlton trains register by ticket. A check of register may be issued by operator when authorized by train dispatcher, either instead of or in addition to train order check.

### 15. Clearance Provisions and Exceptions Rule 83(B)-

Trains originating at Garfield Ave., West DM&IR Jct., DW&P Jct., and West Duluth Jct.

At Carlton—all trains secure clearance except trains enroute Cloquet.

Cloquet.

16. On this subdivision Rule 509 will not apply when signal governs movement over or through a spring switch. In Automatic Block signal territory when a train or engine has been stopped by a signal governing movement over or through a spring switch and signal continues to display a stop indication, after complying with Rule 104(H), movement may proceed at restricted speed through entire block .When stopped at leaving end of siding the indication may be due to an opposing train proceeding on an approach indication and every precaution consistent with train rights and condition of track ahead must be taken before proceeding.

## THIRD SUBDIVISION

		• •		
1.	Speed Restrictions— Maxim	um Speeds	Per	mitted
		ssenger	$\mathbf{F}_{\mathbf{I}}$	eight
	Central Ave. and Staples except as indicated below	MPH.	65	мрн.
	Central Ave, and Anton 68	MPH.	<b>5</b> 0	MPH.
	Anton and State Line Tower Both			
	Tracks 60	MPH.	50	MPH.
	Against the current of traffic 59	MPH.	49	MPH.
	State Line Tower and MP 20 30	MPH.	30	MPH.
	MP 20 and MP 28 (Carlton) 65	MPH.	50	MPH.
	Deerwood and Ironton 40	MPH.	40	MPH.
	MP 28 and MP 148 (Staples) 58	MPH.	45	MPH.
			All	Trains
	At Brainerd, over public crossings		10	MPH.
	Between east switch of north siding (e shop) and Ninth Subdivision connection	ast of car		
	shop) and Ninth Subdivision connection	at 8th St.	20	MPH.
	At Aitkin, through village		30	MPH.
	At Carlton, over double-slip switch within		0.0	MOTT
	ing; through movements via Third Subd		-	
	Other movements		15	MPH.

- At Anton and State Line Tower—Time of all trains applies at end of double track.

of two or more \_\_\_\_\_\_20 MPH.

At Carlton Interlocking—Trains will call for route as follows: Third to Third "East & West": ..... 00& Third to Second "East & West": 00& 000 Third to Loop Track "West"; ..... 0000000 Third to Cloquet Line "East": 0080000 Second to Second "East and West": ..... 3000 B 000 Second to Third "East and West": .... 000& 00 Second to Loop Track "West": ..... 000020000 Second to Cloquet Line "East": 0000&0000 Cloquet Line to Third "West": ...... oooo & 0.0 Cloquet Line to Second "West": ...... 0000 & 000 0.0 Loop Track to Second "East": ...... o o o o & Loop Track to Cloquet Line "West": ..... o o o o & o o o Lower yard lead to Third Subdivision, "East and West":.... - o No. 9 Lead through Interlocking "East and West": ..... -

Push button system controlling operation of lower arm of Third Subdivision governing Signal, Carlton Interlocking, has been installed to govern follow-up westward movements to either Third or Second Subdivisions. All follow-up movements will be governed by lower arm of Third Subdivision governing signal as well as return movements to train after setting out in Carlton yard from Third Subdivision Main Track.

5. At McGregor Interlocking—Trains will call for route as follows: For Northern Pacific and Soo Line main tracks: ......

- For Northern Pacific and Soo Line main tracks: —
  From Northern Pacific and Soo Line to west wye: o
  Between Interchange Track and west wye: oooo
  To siding: oo —
- 6. At Aitkin—Cemetery road crossing one mile west must not be blocked in excess of ten (10) minutes, except in case of emergency, when it must be opened as soon as possible.
- 7. At Deerwood—Eastward trains from Ironton use junction switch one and three-fourths miles east of passenger station; westward trains to Ironton use crossover west of passenger station, unless otherwise authorized by train order.

Trains will not run via Ironton unless directed by train order to do so.

Train order signal does not govern trains enroute to or from Ironton.

- 8. At Ironton—Track must not be used beyond point 2400 feet west of Trommald Jct.
- At Brainerd—Twin Cities division trains must stop before fouling Third Subdivision main track.

Trains No. 37 and 38 use inside track at passenger station. Connection with Ninth Subdivision at west end of yard is governed by automatic block signals.

City ordinance provides that crossings must not be blocked more than five (5) minutes by standing trains or cars. Shop crossings must not be blocked when employes are going to work at 7:00 a.m. and 1:00 p.m. Westward trains stop clear of shop crossing 300 feet east of Thirteenth Street, and eastward trains either move a sufficient distance to clear City crossings or stop clear of First Street crossing, to make setouts or pickups. Trains must not block Oak Street Crossing near milk plant and must

promptly clear crossings when coupling up in South Yard for movement.

Between Twin Cities Division Jct. at 8th Street and Ninth Subdivision Jct. at west end of yard, there is no superiority of trains. All trains and engines must move within these limits at reduced speed.

16. At Staples-Fargo Division instructions govern.

### 17.Sidings-

Aitkin, north siding is westward; south siding is eastward. Brainerd, No. 1 Track in New Yard is Siding.

18. Signal Overlap-

Kimberly and Woodbury—Trains holding main track to meet an opposing train taking siding will stop before reaching signal overlap sign, about middle of siding, to avoid giving approaching train two stop signals.

19. Spring Switches-Equipped with facing point lock.

Instructions for operation of spring switches are posted at or near the spring switch and must be complied with.

Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows "red" to an approaching train or engine, a trailing point movement actuating the spring switch points must not be made.

Normal indication of siding signal is STOP. If siding signal does not clear on approach of train, movement must be governed by instructions posted at the switch.

Anton, at end of double track, normal position for westward track.

Carlton, east switch of north siding.

Woodbury, east switch of siding equipped for switch key operation. Protected with automatic block signals.

Kimberly, west switch of siding equipped for switch ke ${f y}$  operation. Protected with automatic block signals.

Deerwood, at junction to Ironton, one and three-fourths miles east of passenger station, normal position for through movement to Loerch. Indications displayed by two-position color light signal controlling spring switch indicate only if points of the spring switch are in proper adjustment.

### Retaining Valves—Sawyer to Pokegama-

Eastward freight trains having tonnage less than 70 tons per brake are not required to use retaining valves.

When engine does not have dynamic brake in effective operation on all units or engine is not equipped with brake pipe maintaining feature in operating condition, eastward freight trains having tonnage exceeding 70 tons per brake, before passing Sawyer, shall have retaining valves in slow position (45° above horizontal) on one-fifth of the total number of cars in train, commencing at the head end.

All retaining valves will be turned down where first stop is made, at either Pokegama, Central Avenue or Hill Avenue.

On eastward freight trains from Sawyer to Superior (Central Ave. or Hill Yard), must have 90 pounds brake pipe pressure prior to departure Sawyer, except on trains which have less than 50 tons per brake.

### 22. Train Register Stations-

Central Ave.—For Trains 37 and 38.

Brainerd—For trains originating or terminating.

23.Train Register Exceptions—At Carlton trains register by ticket. A check of register may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check.

At Central Avenue when no telegrapher on duty all regular trains, unless otherwise instructed, will register in train register located in switchman's room east of depot office.

24.Clearance Provisions and Exceptions Rule 83(B)—At Carlton, all trains secure clearance.

At Central Ave. eastward trains will not require clearance if train order signal is in the proceed position.

### FOURTH SUBDIVISION

1.	Speed Restrictions— Zone—Between	Maximum Speeds	Permitted Freight
	Boylston and Mirbat		40 MPH.
	Mirbat and Gunn		60 MPH.
	Gunn and Cass Lake		49 MPH.
	Between Absolute Signals of Inter Bridge 29, westward		20 MPH.
	Cass Lake, on all tracks over foot- located west of mainline switch	walk crossing to roundhouse	8 MPH.
	Whistle signal must be sounded a must be cut immediately. When coupling train, trainmen must re- pedestrians from crawling through	n this crossing is bl main at the crossing t	ocked by
	35 MPH.—Trains or engines th lowing locations:	rough No. 20 turnou	ts at fol-
	BrookstonEnd Dbl. Trk. PauporesSiding FloodwoodSiding IslandSiding	Philbin Swan River Bridge 29	Siding
	25 MPH.—Trains or engines th lowing locations:	rough No. 15 turnou	ts at fol-
	BoylstonJet.	Gunn	Jct.
2.	Clearance Provisions and Except	ions Rule 83(R)-	

2. Clearance Provisions and Exceptions Rule 83(B)-

At Boylston, Brookston and Gunn, trains for which these points are initial stations may proceed on authority of clearance under which such trains arrive.

At Soo Jct., Soo Line Trans may proceed to Cass Lake without obtaining clearance or train order authority which will be received at Cass Lake.

Main track switches to the following spur tracks located in CTC territory are not equipped with electric locks:
 Mirbat, Wawina, Webster Spur—(Rule 268 (A) applies.)

### 4. Speed Test Boards-

Engineers shall test speed of their trains passing following point as compared with Speed Table:

Westward, between MP 86 and MP 87 approximately  $4\frac{1}{2}$  miles west of Island.

Eastward, between MP 87 and MP 86 approximately 2 miles east of Wawina.

5. Cloquet, derails located near east end storage tracks Nos. 1 and 2 are not provided with derail signs.

When setting out cars on either end of No. 1 track be sure cars are shoved down far enough to clear crossovers.

Cars left on tracks must not be closer than 60 ft. each way from 10th Street crossing east of depot.

6. Grand Rapids, when setting out cars, eastward freight trains will stop and leave train west of west switch; westward trains will stop east of the first public crossing.

At Hawkinson Addition Crossing MP 110, trains stopped to make set-outs at Grand Rapids must clear this crossing.

7. Alford—International Refinery, while switching, do not handle cars over drip pans with brakes set as sparks create a fire hazard. Cabooses with fires in stoves not permitted on any of the plant tracks and crews working in the vicinity will refrain from smoking.

Tail hose located in telephone booth must be used on end of cuts shoved to Old No. 1 and Old No. 2 tracks with air coupled into it so that trainmen taking position on rear car of cut being shoved can control the movement over crossing immediately ahead of the unloading rack, as well as being able to stop cut of cars short of end of these two spur tracks.

### 8. Spring Switches with Facing Point Lock-

Cass Lake, east yard switch.

The above spring switch is identified by a target with the letter S on blade of target. Blade is colored yellow with black letter S

on both sides. The target is attached to the mast of the spring switch light. When a lunar light is displayed on the spring switch light it indicates that spring switch is in normal operating condition. If a red light is displayed on the spring switch light be governed by Rule 104(H) of the Consolidated Code of Operating Rules.

This spring switch is equipped with a spring switch light. If this light displays a lunar aspect it means the spring switch is in normal operating condition. When this light displays a red aspect Consolidated Code Rule 104(H) applies. The spring switch light when displaying a lunar aspect is not to be confused with the lunar aspect as shown in Consolidated Code Rule 240N.

9. Dragging Equipment Detector Indicator-

Eastward trains, on signal 30.2 approximately one mile west of Bridge 29.

Westward trains on Signal 28.1 approximately 1 mile east of Bridge 29.

10. Automatic Interlockings Not Indicated at Station-

Bridge 29, 2.2 miles east of Alford.....gantlet Bridge 29:

Release for westward route on westward track is located in release box at eastward absolute signal.

Release for eastward route on eastward track is located in release box at westward absolute signal.

Cranks for hand operation of smashboards are attached by chains to the mechanism.

### 11. CTC-Soo Jct. to Cass Lake-

Telephones for communication with the control operator are located at the east end of CTC section and at the spring switch, east end of Cass Lake Yard, 1000 feet west of west end of CTC section. Westward Soo Line trains will call the operator at Cass Lake on phone for authority to enter BN main line. The following will govern in case of failure of communications: Soo Line crew will unlock switch and attempt to line for their movement. If switch will line and signal clears, this will be their authority to leave Soo Jct., and proceed to Cass Lake.

- 12. Before attempting to use the electric-locked switches at Gunn, a member of the crew must call the train dispatcher and obtain his permission. When through using the electric-locked switches, the train dispatcher must be notified immediately.
- 13. Engines or cars must not enter new shed at MP&L plant Cohasset account close clearance with infra red heaters.

### FIFTH SUBDIVISION

1.	Speed Restrictions— Maximum Sp	eeds Per	mitted
	Zone—Between Passenge	er F	reight
	Ashland and Central Ave. 40 MPI		
	Exception: On all curves between MP 12 and Allouez 25 MPF	н. 25	MPH.
	Trains handling loaded ore cars	20	MPH.
	Trains handling ore loaded in other than ore cars		MPH.
	All trains and engines, 7th Ave. West to 22nd West, between MP 0 and 2, Ashland	Ave.	мрн.
2.	Bridge and Engine Restrictions-		
	Between Allouez and Ashland 250-ton wrecking derricks	Not Per	mitted
	In Duluth-Superior Terminals and over Bridges 250-ton wrecking derricks	15	MPH.
	Bridge 37, Brule River		
	Multiple unit diesels		
	U25C, U28C, SD45 Diesel electric engines		
	Pile Drivers NP 25 to 28, GN X9100-9103, incl	1101110 20	MPH
	Heavy Car Restrictions:	usive 20	1/11 11.
		ween d in , 48,	

 At Ashland—Normal position of main track switch just east of Seventh Ave., leading to the Soo Line, is for the Soo Line connection.

At Ellis Ave., all trains must stop in advance of crossing, and will proceed only after crossing is protected by a member of the crew.

- 4. At Allouez-Track No. 2 must not be used by ore trains.
- At East End—Normal position of switch at end of double track is for westward trains.
- 6. At Newton Ave.—Between C&NW connection at Newton Ave. and East End, the westward track will be used as single track by eastward trains and engines entering at Newton Ave. and by westward trains and engines. Other eastward movements will be made on eastward track.
- At Hill Ave. Yard—Ore trains arriving will stop to clear east end of arriving tracks.

Trains weighing ore on an automatic scale will move at about 3 MPH. Semaphore over scale house is operated by weighmaster, and engineers will be governed by its indications:

Green: Proper speed. Yellow: Reduce speed.

Red: Stop.

8. At Central Ave.—Normal position of switch at junction of Third and Fifth Subdivisions, at interlocker, is for Third Subdivision.

9. Spring Switches—

Instructions for operation of spring switches are posted at or near the spring switch and must be complied with.

Unless otherwise specified, the normal position of spring switches is for main track.

When the target of a spring switch shows "red" to an approaching train or engine, a trailing point movement actuating the spring switch points must not be made.

Normal indication of siding signal is STOP. If siding signal does not clear on approach of train, movement must be governed by instructions posted at the switch.

Central Ave.—Normal position of spring switch at end of double track is for eastward trains. Normal position of spring switch at wye connection between Third and Fifth Subdivisions is for direct route to Pokegama. These switches are governed by interlocking signals equipped for switch key signal operation. If use of switch key does not give "restricting signal", proceed according to rule. Not equipped with facing point lock.

10. Train Register Stations-

Superior, Soo Line 21st Street Yard Office.

11. Train Register Exceptions—At Central Ave. trains register by ticket.

Eastward ore trains from Third Subdivision will not register. A check of register may be issued by operator when authorized by train dispatcher, either instead of, or in addition to, train order check.

Ashland, Soo Line Station.

12. Clearance Provisions and Exceptions Rule 83(B)-

At Central Ave. ore trains from Third Subdivision will not require clearance.

Soo Line trains originating at Newton Ave. secure clearance at Soo Line Stinson Avenue Yard Office.

Manual Interlocking—

Soo Line Crossing. Remotely controlled from Stinson Yard by Soo Line operator.

### SIXTH SUBDIVISION

- 1. Speed Restrictions-Maximum Speeds Permitted Zone-Between Passenger Freight West Duluth Jct. and Zenith Furnace .. 30 MPH. 30 MPH. Zenith Furnace and LST&T Ry. Jct. .... 40 MPH. 40 MPH. At West Duluth Jct., around east leg of wye and passing Zenith Furnace Plant
  West Duluth Jct., and New Duluth ..... 15 MPH. Reduced Speed 15 MPH.
- At West Duluth Jct.—Normal position of switches on east leg of wye is for Sixth Subdivision main track. Second Subdivision special instructions govern.
- Train and engines between New Duluth and 72nd Ave. will be governed by Rule 93. Train orders and clearances are not required.
- 4. Clearance Provisions and Exceptions Rule 83(B)-Trains originating at West Duluth Jct., Berwind Jct. LST&T Ry. Jct. and New Duluth.

### SEVENTH AND EIGHTH SUBDIVISIONS

1.	Speed Restrictions—	Maximum	Speeds	Per	mitted
	Zone—Between			$\mathbf{Fr}$	eight
	Brookston and Gunn (via Kelly L	ake)		45	MPH.
	Kelly Lake and Dormer Jct.			30	MPH.
	Between Absolute Signals of Interle		<b></b>	20	MPH.
	At Virginia—				
	Between Absolute Signals of Interlow &P, Virmount Tower				
	Trains or engines through No. 20 lowing locations:	0 turnouts	at fol-		
	Baden Siding Fermoy Siding	Onega			Siding
	r ermoysiding				

- Dragging Equipment Detector Indicator— Eastward Trains, on iron mast approximately 6400 feet east of Signal 62.2 about 2.5 miles west of Brookston.
- Main track switches to the following spur tracks located in CTC territory are not equipped with electric locks. Rule 268(A) applies.

Arlberg, Casco, Onega.

- Between Calumet and Oil Spur, located 1.47 miles west of Bovey, main track will be used jointly by BN and DM&IR Rys. and authority for train movements is controlled by BN and BN rules and Special Instructions will govern.
- Train order authority or clearance Form A not required for transfers originating at Bovey for movement between Taconite Jct. and Canisteo. Rule 93 of the Consolidated Code of Operating Rules will apply. Transfers must obtain permission from train dispatcher before occupying main track.
- Telephone in service at Buckeye, Canisteo and Danube Mines switches Crews coming from Buckeye, Canisteo and Danube Mines will communicate with the dispatcher and know that way is clear on the main track before proceeding with train down the descending grade on both legs of the wye.
- At the Taconite loading facilities at Butler and National Taconite Plants a red and yellow light has been installed on both ends of the facilities. If all of the movable parts of the loading mechanism are clear so that the train can move through the facilities without interference, the signal will display a permissive yellow color.

If there is any part of the mechanism that is not clear the signal will display red and train must stop before entering the facilities.

Train and engine movements from main line on new Hull Crusher Spur over Kelly Lake road crossing must be protected

by a member of the crew due to restricted view approaching this crossing.

Main track Kelly Lake to Dormer Jct. is all yard limit and movements will be governed by Consolidated Code Rule 93. Train order authority or Clearance Form A is not rquired. Transfers will not be required to display markers Rule 19 or signals Rule 21.

Trains and engines will run with the current of traffic between Kelly Lake and Emmert and must keep to the left unless

otherwise provided.

BN and DM&IR transfers must obtain permission of BN dispatcher before occupying main track.

10. Following from DM&IR Ry.:

Train orders are not required for movement on the Wilpen Branch between Wilpen and Chisholm and between Monroe Jct. and Monroe. Trains will operate under provisions of Rule 93. Crews will contact Yardmaster Mitchell District before making movement on this branch.

Train orders are not required for movement on the Pillsbury Branch. Trains will operate under Provisions of Rule 93.

Between St. Clair Jct. and Chisholm Jct. main track will be used jointly by BN and DM&IR Rys. and authority for train movements is controlled by DM&IR Ry. and DM&IR rules will govern.

- 11. Signal protection in service at Danube Mine Spur switch and Signal protection in service at Danube Mine Spur switch and crossover from Balkan Mining Company track to Danube Mine Tracks. Movements over this crossing will be governed by dwarf color-light signals, position of switches is for Balkan Mining Company and for BN track from Dauube Mine to washing plant. Signals will clear automatically for Balkan Mining Company and for BN Ry. from Danube Mine to washing plant. To obtain signal to cross over the Balkan Mining Company track, BN Ry, trainmen should make sure there is no approaching conflicting movement, then line all three switches in the route to clear signal before proceeding. After crossover movement has been made, all three switches must be restored to normal position for Balkan Mining Company track and BN Ry, washing plant track.
- Normal position of Gunn Line Switch at east leg of wye, Kelly Lake, will be for Seventh Subdivision.
- 13. Crossovers on Double Track-

Facing Point—Hull Crusher, Ruby Jct.

Trailing Point-Mahoning, Agnew, Scranton, North Mitchell, Kerr, Hull, Rust, Hibbing.

Spring Switches with Facing Point Lock-

Keewatin—West end north storage track switch.

Nashwauk—West end north storage track switch.
West end south storage track switch.

Butler Taconite Track-west end.

National Taconite Track-west end.

Calumet, west end new yard switch.

Canisteo, west end new yard switch.

Normal position is for main track.

15. Spring Switches without Facing Point Lock-Kelly Lake, west wye switch,

Normal position is for Seventh Subdivision.

Kelly Lake, end of double track, Normal position is for eastward track.

The spring switches in Items 14 and 15 are identified by a target with the letter S on blade of target. Blade is colored yellow with black letter S on both sides. The target is attached to the mast of the spring switch light. When a lunar light is displayed on the spring switch light it indicates that spring switch is in normal operating condition. If a red light is displayed on the spring switch light be governed by Rule 104(H) of the Consolidated Code of Operating Rules.

Semi-Automatic Interlockings—

Emmert......DM&IR Ry. crossing Normal position of spring switch at west end of connection with DM&IR Ry. is lined for BN track. Normal position of spring switch at south end of connection with DM&IR Ry. is lined for DM&IR track to Mitchell, Signal indications are displayed accordingly. If any route other than the above normal route is to be used, trains must stop at interlocking signal and desired route lined by hand. Signal should then clear in about one minute. If signal does not clear and no conflicting movement is evident, push-button release on interlocking signal should be operated to obtain signal indication.

- 17. BN trains to and from Virginia operate via DM&IR Ry. tracks between Emmert and Virginia.
- 18. Automatic Interlockings-

19. Virginia, Ninth Ave. West, 6th Avenue West and 3rd St. North crossings:

Trains and engines must stop before passing over crossing and a member of crew on ground at the crossing will protect movement.

20. Before attempting to use the electric-locked switches at Gunn, a member of the crew must call the train dispatcher and obtain his permission. When through using the electric-locked switches, the train dispatcher must be notified immediately.

### NINTH SUBDIVISION

1.	Speed Restrictions— Maximum Speeds Zone—Between Passenger Brainerd and North Bemidji	Fr 35 35 10	MPH. MPH.
	At Remidii Over public ereggings at	AII	Trams
	At Bemidji—Over public crossings at, Carpenter Ave.  Mill Park Skelly Oil Other public crossings Over public crossing 200 ft, west of MP 97, between North Bemidji and Lavinia.  Funkley and Kelliher	20 20 15	MPH. MPH. MPH.
			1,11 11.
2.	Bridge and Engine Restrictions—		
	250-ton wrecking derricks over all bridges listed belo	w:	
	Bridge 94 at Bemidji	10 Per	MPH.
	lbs. must be preceded and followed by a car over		
	40 feet long and weighing under 177,000 lbs.		
	except 89 foot bulkhead flat listed below.		
	All Trains		
	89-foot long bulkhead flat cars loaded to 263,000 lb coupled together and handled in trains with the foll strictions:	s. m owi	nay be ng re-

The car adjacent to such flat car or block of such flat cars must not exceed 177,000 lbs. The engine must be separated from such car.

Handle these cars in a block without uncoupling within the combined block except in an emergency or bad order situation.

- 3. At Brainerd, Third Subdivision instructions govern.
  Connection with Third Subdivision at west end of yard is governed by automatic block signals.
  - The signal governing movements from the Ninth to the Third Subdivision displays indication Rule 240-A-1 and will not display a proceed indication until the junction switch is properly lined and there are no conflicting train or engine movements in the Automatic Block Signal territory.
- 4. At Bemidji—The west wye switch on the Bemidji Branch will be in normal position when lined for the west leg of the wye.

  Tracks between yard limit sign east of Bemidji Tower, Bemidji, and yard limit sign west of North Bemidji, operated as one yard.

  There is no superiority of trains within yard limits. All trains and engines move at reduced speed within these limits.
- 5. Bemidji Automatic Interlocking—

  East leg of wye track switch equipped with an electric lock.

  Trains making westward movement via east leg of wye must stop within 100 feet east of westward interlocking signal before lining switch.
- 6. Between Funkley and Kelliher—Trains will not run via Kelliher unless directed by train order to do so.
- 7. At Big Falls—Track serving the National Pole & Treating Company must not be used beyond 1,510 feet from Highway No. 71 crossing. National Pole & Treating Company tracks may be used for switching cars to or from temporary pulpwood platform.
- At International Falls—On K and S tracks all movements across Sixth Street must be protected.
   There is no superiority of trains within yard limits. All trains and engines move at reduced speed within these limits.
- Train Register exceptions—
   At Funkley: Trains will register only when so directed by train order.
- 10. Clearance Provisions and Exceptions Rule 83(B)—At North Bemidji, all trains secure clearance.
- 11. Railroad Crossings Not Indicated at Station—
  Between Benedict and Walker.....Dakota Division crossing

### TENTH SUBDIVISION

- Clearance Provisions and Exceptions Rule 83(B)—
   At Brook Park, trains for which this point is initial station may proceed on authority of clearance under which such trains arrive.
- 3. Unless otherwise instructed, protection against following trains, as required by Consolidated Code Rule 99, is not necessary on Tenth Subdivision, between Brook Park and East St. Cloud.

# SPEED TABLE

Time P	er Mile	Miles	Time P	er Mile	Miles
Min.	Sec.	Per Hour	Min.	Sec.	Per Hour
	46	78.3	1	18	46.2
	47	76.6	1	20	45.0
	48	75.0	$\bar{1}$	$\overline{22}$	43.9
	49	73.5	$\frac{1}{1}$	$\overline{24}$	42.9
	50	72.0	1	26	41.9
	51	70.6	1	28	40.9
	52	69.2		30	40.0
	53	67.9	$\frac{1}{1}$	33	38.7
	54	66.7	1	36	37.5
	55	65.5	1	39	36.4
	56	64.3	1	42	35.3
	57	63.2	1 1 1	45	34.3
	58	62.1	1	50	32.7
	59	62.1	1	55	31.3
1	0	60.0	2		30.0
1 1	$_{1}^{0}$	59.0	2	10	27.7
1	2 3 4 5 6 7 8 9	58.1	2	20	25.7
1	3	57.1	2	30	24.0
1 1 1	4	56.3	2	40	22.5
1	5	55.4	3		20.0
1	6	54.5	3	30	17.1
1	7	53.7	4		15.0
1	8	52.9	5		12.0
1		52.2	1 2 2 2 2 2 2 3 3 4 5 6 7		10.0
1	10	51.4	7	-	8.6
1	12	50.0	8		7.5
1	1 <b>4</b>	48.6	9		6.7
1	16	47.4	10	_	6.0