SPREADING WHEN THE SPREADER CONTROL SYSTEM (DICKEY JOHN) IS NOT WORKING

Reasonably accurate spreading of salt and abrasives can be accomplished even though the spreader control system is not functioning. For all controllers other than the Dickey John ICS 2000 and a handful of Comp-U-Spread controllers, the "back up" calibration procedure and operating instructions can be found in "Instructional Material For Snow and Ice Materials Spreaders 11/25/91" that should be available at all work locations and through the Equipment Operator Instructors. The procedure for the Dickey John ICS 2000 is the same except that the canister housing must be removed to access the valves. This is best done by the mechanic or calibration team. The key to accurate spreading while in the "manual" or "back up" mode is driving at the speed designated in the back up calibration.

Remember, if any automatic spreader control system fails, the truck can still be used for plowing and materials application by using the manual mode. Also Operators will need to manually keep track of usage and report that usage to their supervisor.

IV. PLOWING SNOW

There are a variety of acceptable techniques for removing snow from highways that will allow reasonably safe traffic flow during and after the operations. These are determined by local traffic conditions, characteristics of the highway surface and available snow storage area. It is desirable to avoid leaving windrows or berms of plowed snow between travel lanes carrying traffic in the same direction. However, if sufficient equipment is not available, windrows **may** be left for short periods of time. As part of the Department's effort to improve snow removal techniques a presentation on "Plowing Procedures" is available operators to view. This can be arranged thru the Supervising Equipment Operator Instructor.

- TWO LANE - TWO WAY TRAFFIC

  Plowing **shall** always be done in the direction of traffic. Some small encroachment over the center line may be necessary to completely clear the pavement. However, plow trucks **must** yield the right-of-way to oncoming traffic.

- MULTI-LANE - ONE WAY TRAFFIC

  There are a variety of acceptable procedures for plowing multi-lane one way highways. These depend on the location of snow storage areas, highway geometry and traffic. Plowing **shall** always be done in the direction of traffic flow. Generally, snow should **not** be plowed to the side of the truck where traffic has an opportunity to pass unless it is part of a close echelon plowing operation that prevents passing opportunities and quickly removes plowed snow from the pavement surface. If sufficient equipment is not available, windrows **may** be left for short periods of time.

Close echelon plowing operations **may** be used to restrict traffic from passing in areas containing freshly plowed snow. Trucks **shall** be close enough to each other to prevent traffic from passing between the trucks.

Tandem plowing operations involve trucks working together with about 1000 feet (distance between two reference markers) or more spacing between trucks. Plowed snow is usually deposited on the shoulder or median areas.

Intersections **should** be used to the extent possible for changing direction of snow and ice trucks.

- **CENTER TURNING LANES – TWO WAY TRAFFIC**

  These should generally be plowed half in each direction.

PLOWING RAMPS AND INTERSECTIONS

In general, ramps and intersections **should** be plowed at about the same time as mainline sections. They should also be plowed in the direction of traffic. The character of the storm, equipment availability and traffic conditions **may** dictate they are plowed earlier or later than adjacent mainline sections. These decisions **may** be made by the shift supervisor.

PLOWING SHOULDERS

After the pavement and ramps are cleared, the full width of the shoulders **shall** be plowed. It is very important that the snow be cleared beyond the shoulder high point on banked curves and other elevated sections to minimize possible refreezing of snow melt on the pavement.

Shoulder plowing should be accomplished by use of wing plows. Nose plows **shall not** be used to clear shoulders or for plowing along a curb face.

All snow and ice operations where wheels of the large dump truck are required to routinely be on the shoulder **shall** have two people in the truck. However, one person **may** operate the truck during shoulder operations if the shoulder is:

- A minimum of five feet wide
- Unquestionably stable and paved shoulder
- Reasonably smooth surface
- **Pre-approved and posted as acceptable routes by the Resident Engineer**
- Approved by the shift supervisor based on the conditions as they exist during snow and ice activities

PLOWING BRIDGES

When plowing a bridge that crosses another roadway or railroad, care **should** be taken not to plow snow over the bridge rail onto the roadway or railroad below. When approaching a bridge, slow down and if possible, be sure that the angle of the plow is not the same as the bridge joint.

PLOWING CROSSOVERS, TURNAROUNDS AND GORE AREAS

Crossovers, turnarounds, and gore areas should be plowed last after the storm is over and other elements of the highway have been cleared. These should be done when visibility is good and traffic volume is low. Some of these operations may require additional maintenance and protection of traffic.

PLOWING RAILROAD CROSSINGS

When approaching a railroad crossing while plowing snow stop all equipment, including snowplows, graders or snow blowers a short distance before the tracks. Raise the plow and wing or blower head slightly. After checking both directions of the track to be sure there are no oncoming trains, clear snow, earth, ice, frozen materials and other obstructions from the crossing and flange ways with the plow and wing plowing operation to the extent possible. **Never stop on the tracks and never go around down gates.** If you come across a crossing where the gates are down and after 10 minutes no train comes through, notify your dispatcher or supervisor. Ask them to notify the railroad and for further instructions.

PLOWING ROUNDABOUTS

In general, roundabouts should be plowed and/or treated as part of the regular plow beats which pass through them. As conditions warrant, one or more of the plow trucks assigned to routes passing through the roundabout should plow the entire circular traffic flow area. Larger facilities may require plow trucks to operate in tandem to optimize snow removal. The truck apron on the central island should be maintained to insure functionality. Consideration should be given to maintaining sight distance, snow storage capacity and drainage patterns.

PLOWING BACK, BENCHING AND SHELVING

After the storm is over or during a high accumulation event, plowed snow should be plowed back as far as possible to provide snow storage space for future storms or additional accumulation in an on-going storm. This additional snow storage can be provided by plowing high snow banks with the right or left wing plow elevated. This is called benching or shelving. When performing these operations you should not weave around delineator posts. This confuses following motorists and leads to damaging the posts. Shelves should be a minimum of 36” to avoid hitting guiderail and fire hydrants. A wing person is **required** during this activity if the right wing is being used. If the benching operation is unable to displace sufficient snow, a snow blower, if available, should be used to clear the area.

PLOWING SPEED

As with spreading, plowing speed depends on road surface conditions, highway geometry, physical features, traffic and local policy. Special consideration should be given to where the plowed snow is being deposited. As plow speed increases, the plowed snow will be deposited further from the highway.

Accordingly, plowing speed should be in the range of about 15 to a maximum 35 MPH. In open areas, depositing the snow well off the highway is desirable. In more populated areas and village or urban settings where buildings are located close to the highway, speeds should be further reduced to avoid damaging private property and creating unnecessary snow removal requirements for the public or municipalities.

V. SNOW AND ICE VEHICLES

LARGE DUMP TRUCK

The Large Dump Truck with front plow, wing plow(s) and material spreader is the backbone of the Highway Maintenance Division's Snow & Ice Fleet. Operators **must** determine that this piece of equipment is in safe operating condition before using it for snow and ice work. This includes periodic preventive maintenance, daily pre-operational checks, post storm checks and sound judgment when assessing equipment condition.

DAILY PRE AND POST OPERATIONAL CHECKS

N.Y.S.D.O.T. policy and Federal regulations require that the large dump truck be inspected prior to and at the end of each shift. Before driving the vehicle, the driver **shall**:

- Be satisfied that the vehicle is in safe operating condition.
- Locate and review the previous vehicle inspection report. If it is not in the vehicle, report it to the shift supervisor.
- Initial the report only if defects or deficiencies noted by the last operator were corrected. This will acknowledge that the present operator has reviewed the report and that there is a certification that the required repairs have been performed.
- If the pre-operational check reveals any deficiencies, they **must** be reported on the R 297g form and also to Equipment Management on Form EM-3.

The R-297g form **must** be used by each operator to note any deficiencies under the hood, on the exterior or interior and a general overview of the truck. Refer to the R-297g for a complete description of pre and post operational checks.