

A Safe Workplace

A Workplace Safety and Health Manual for Your Community

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	Approved By: Harvey Bostrom	
Subject: VLE-24	Operating Equipment on Ice	Effective: December 31, 2008
	Revised: April 1, 2011	

PPE Required: Safety glasses, hard hat, hearing protection and steel-toe boots, personal Flotation devices (PFD)

Warning: Check with utilities before any work begins
Inspect the work area to check for hazards
Appropriate operational fire extinguishers must be available
Only qualified personnel should operate equipment
The equipment operator must be able to quickly exit from the powered mobile equipment

In this procedure "ice" means ice that is over water, where the water is more than one meter deep or over any other material into which a worker could sink more than one meter.

** THIS IS A GUIDELINE ONLY **

Steps:

1. Follow all normal operating procedures for the vehicle(s) being used.
2. Consult with departmental staff before starting any on ice work activities.
3. Determine the thickness of the solid blue ice where the work is to be done by drilling a hole with an auger once per day in different locations to avoid flooding or as often as necessary for the workers to feel comfortable.
4. Determine weight of the vehicles when fully fueled with all attached equipment involved in the work.
 - All vehicles, attachments and any other materials used for the work on ice shall have their weights legibly marked on them, including when fully fuelled.
 - Add all weights together to determine the total loading.
 - If two or more vehicles are being used then their weights are to be added together to determine the total loading.
5. Measure and compare the solid blue ice thickness to the allowable loads that can be applied in the following table.

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Permissible Stationary Loads (solid blue ice)	Ice Thickness in millimeters	
	Lake	River
1000 kilograms (2,205 pounds)	200 (7.87 in)	230 (9.06 in)
2000 kilograms (4,410 pounds)	300(11.81 in)	350 (13.78 in)
4000 kilograms (8,820 pounds)	450 (17.72 in)	520 (20.47 in)
8000 kilograms (17,640 pounds)	600 (23.62 in)	690 (27. 17 in)
25,000 kilograms (55,125 pounds)	1100(43.31 in)	1270 (50.00 in)
45,000 kilograms (99,225 pounds)	1500 (59.06 in)	1730(68.11 in)
70,000 kilograms (154,350 pounds)	1800 (70.87 in)	2070 (81. 50 in)
110,000 kilograms (242,550 pounds)	2300 (90.55 in)	2650 (104.33 in)

6. Local experience should be consulted before any ice work is done.
7. Outdoor temperatures must remain constant for at least 5 days before work is to start. Outdoor temperatures during the work must be constant. If there is a change in temperature the ice thickness is to be re-checked and compared to the above table.
8. Vehicle speed on ice should never exceed 30 Km/hr and 15 Km/hr when approaching or traveling close to the shoreline.
9. When operating a vehicle the operator must at all times where a PFD (personal flotation device). Any other workers involved must where a PFD at all times.
10. Fueling of vehicles on ice is strictly prohibited.
11. The workers must have a way of communicating with emergency rescue personnel on shore during the on ice work activities.