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ALASKA REGION ICE MEASUREMENT SAFETY

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Signed 12/2/03
Richard C. Przywarty Date
Regional Director

Alaska Region Ice Measurement Safety

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1. Introduction. This supplement defines the Alaska Region safety requirements when making ice measurements on ice-covered rivers. Working on ice-covered rivers can be hazardous. If an employee breaks through the ice into several feet of flowing water, it will be very difficult for them to get out. No ice measurement is worth putting oneself or a fellow employee in danger. Safety must be the first consideration in deciding if, when, where, and how to take a measurement. When preparing to make a measurement, each person must always consider the possible hazards, and prepare for the worst case with regard to personal safety and the safety of others. Everyone must use extreme caution and good judgment to carefully evaluate site conditions, including ice strength. Simply stated: *If in Doubt, Don't Go Out!*

2. Safety Precautions. Each member of an ice measurement team must take the following safety precautions when working on ice-covered rivers:

- a. Do not attempt an ice measurement if there is any doubt that the ice will support the weight of the employees and equipment.
- b. A Personal Flotation Device (PFD) is required and must be worn by each member of the measurement team when taking ice measurements. The wearer, prior to and after each use, will inspect the PFD. Any PFD that does not meet code, or is otherwise damaged or defective, will be replaced.
- c. Each employee should wear appropriate clothing to protect against hypothermia.
- d. Each employee will have a United States Coast Guard (USCG) approved throw bag. A throw bag is a nylon bag, a bit smaller than a two-liter soft drink bottle, that contains a floating type rope which is attached to the bag on one end. The bag has a piece of foam inside so that it will float when thrown into water.
- e. At least two employees must be present. One of the two employees present at an ice measurement must be experienced in working on ice-covered rivers. Under

no conditions will an employee, inexperienced in making ice measurements and/or unfamiliar with the measurement site, attempt an ice measurement alone.

- f. The ice measurement team must notify a locally designated point of contact at their office of their estimated departure and return time for the ice measurement trip.
 - g. The ice measurement team must leave an information packet at their office with site location information for each site where they will take an ice measurement. This will contain directions relative to the road system. This information will be of great value in the event there is a need to dispatch emergency rescue personnel.
 - h. All team members must familiarize themselves with the telephone number and location of the emergency medical and rescue facilities closest to the measurement site *before* going out on the ice-covered river to take a measurement.
 - I. If it is evident that rescue would be dangerous, or difficult to execute, the measurement or sampling must not be attempted. Each employee must consider what will happen should they lose control and fall through the ice *before* starting the measurement process. *Have a planned response for an emergency before going out on the ice.* If an individual is confident that another employee is in position, has the needed equipment, and can attempt to make a rescue, the measurement operation may proceed.
 - j. When crossing an ice covered river, only one employee will walk out on the ice to the location where the ice measurement is to be taken. The employee will test the ice continuously at each step using solid blows of a sharp ice chisel. The remaining employee(s) will stand in a location where they can toss a throw bag to the other employee in the event of an ice breakthrough. Once it is determined that the ice will support another employee, the second employee can go to the test site, if the measurement requires both employees.
 - k. If acting as a rescuer, do not tie the rope from a throw bag to anything, either a swimmer, a rescuer or anything on the bank. Moving water on a rescue rope can hold a swimmer under the water or pull the person on the bank into the water.
3. Mandatory Safety Equipment. The following safety equipment is required when making an ice measurement. Each office that has ice measurement teams will purchase and maintain the required mandatory safety equipment. Equipment should be obtained using the standard regional procurement process.
- a. Personal Flotation Device. The PFD will be international orange in color and equipped with retroreflective tape that meets the requirements of 46 CFR 25.25-15 and 46 CFR 164.018. Any existing PFD that does not meet these requirements must be replaced.

- b. A USCG approved throw bag.
 - c. Ice chisel.
4. Additional Equipment. The following additional equipment is recommended, but is not mandatory, when making an ice measurement.
- a. A cell phone, satellite phone or two-way radio is helpful for notifying emergency services personnel when working at remote sites.
 - b. Two blankets should be available in the vehicle. These can be used to cover a person and provide extra warmth after rescue from an ice breakthrough.
 - c. Chemical hand warmers to aid in the prevention of frostbite.
 - d. Snowshoes can be used to help travel across deep snow to the edge of the river. Snowshoes should then be removed before walking out on the ice. Snowshoes can hinder rescue attempts if a person breaks through the ice. *If you are depending on the snowshoes to prevent falling through the ice, the ice is too thin to go out on for the ice measurement!*
 - e. Highway markers and orange cones can be used to warn motorists of parked vehicles and of the fact that you may be working near by.
 - f. Ice Creepers can be strapped on the bottom of boots or waders to help prevent slipping on ice-covered rivers.
5. Training. Any person that acts as part of an ice measurement team must complete a computer based ice safety training course annually. The course is provided as a Power Point presentation and is available from the Meteorologist in Charge at each Weather Forecast Office and the Hydrologist in Charge at the Alaska-Pacific River Forecast Center.

The master copy of the course is maintained by the Systems Operations Division (SOD) at Alaska Region Headquarters. Please submit suggestions for improvements or corrections for the course to the Chief, SOD.