TABLE 3.3 Avalanche Trigger Codes - Primary

DATA CODE	CAUSE OF AVALANCHE RELEASE
N	Natural or Spontaneous
A	Artificial
U	Unknown

TABLE 3.4 Avalanche Trigger Codes - Secondary - Human, Vehicle,and Miscellaneous Artificially Triggered Releases

DATA CODE	CAUSE OF AVALANCHE RELEASE
ARTIFICIAL TRIGGERS: VEHICLE	
AM	Snowmobile
AK	Snowcat
AV	Vehicle (specify in comments)
ARTIFICIAL TRIGGERS: HUMAN	
AS	Skier
AR	Snowboarder
AI	Snowshoer
AF	Foot penetration
AC	Cornice fall produced by human or explosive action
ARTIFICIAL TRIGGERS: MISCELLANEOUS	
AU	Unknown artificial trigger
AO	Unclassified artificial trigger (specify in comments)

TABLE 3.5 Avalanche Trigger Code Modifiers for Human, Vehicle, and Miscellaneous Artificially Triggered Releases

DATA CODE	CAUSE OF AVALANCHE RELEASE
c	An intentional release by the indicated trigger (i.e. slope cut, intentional cornice drop, etc.).
u	An unintentional release.
r	A remote avalanche released by the indicated trigger (Figure 3.5)
y	An avalanche released in sympathy with another avalanche

Note: For remote and sympathetic avalanches the distance between the trigger and the avalanche should be recorded in the comments. Avalanches that start when a helicopter or other aircraft flies overhead should be considered natural if the aircraft is a significant distance above the ground. Avalanches triggered by helicopters when in "ground effect" should be considered artificially triggered. Ground effect can be observed when significant rotor wash (blowing snow) is noticed on the snow surface below the helicopter. Use your best judgment.

TABLE 3.6 Avalanche Trigger Codes - Secondary - Natural and Explosively Triggered Releases

DATA CODE	CAUSE OF AVALANCHE RELEASE
NATURAL OR SPONTANEOUS	
N	Natural trigger
NC	Cornice fall
NE	Earthquake
NI	Ice fall
NL	Avalanche triggered by loose snow avalanche (Figure 3.4)
NS	Avalanche triggered by slab avalanche
NR	Rock fall
NO	Unclassified natural trigger (specify in comments)
ARTIFICIAL TRIGGERS: EXPLOSIVE	
AA	Artillery
AE	An explosive thrown or placed on or under the snow surface by hand
AL	Avalauncher
AB	An explosive detonated above the snow surface (air blast)
AC	Cornice fall triggered by human or explosive action
AX	Gas exploder
AH	Explosives placed via helicopter
AP	Pre-placed, remotely detonated explosive charge
ARTIFICIAL TRIGGERS: MISCELLANEOUS	
AW	Wildlife
AU	Unknown artificial trigger
AO	Unclassified artificial trigger (specify in comments)

TABLE 3.7 Avalanche Trigger Code Modifiers for Natural and Explosively Triggered Releases

DATA CODE	CAUSE OF AVALANCHE RELEASE
r	A remote avalanche released by the indicated trigger
y	An avalanche released in sympathy with another avalanche

TABLE 3.2 Avalanche Type

DATA CODE	TYPE
L	Loose-snow avalanche
WL	Wet loose-snow avalanche
SS	Soft slab avalanche
HS	Hard slab avalanche
WS	Wet slab avalanche
I	Ice fall or avalanche
SF	Slush flow
C	Cornice fall (w/o additional avalanche)
R	Roof avalanche
U	Unknown

TABLE 3.9 Avalanche Size – Relative to Path

DATA CODE	AVALANCHE SIZE
R1	Very small, relative to the path.
R2	Small, relative to the path
R3	Medium, relative to the path
R4	Large, relative to the path
R5	Major or maximum, relative to the path

Note for Table 3.9: Half-sizes should not be used for the Size-Relative to Path scale.

The number "0" may be used to indicate no release of an avalanche following the application of mitigation measures.

The size classification pertains to both the horizontal extent and the vertical depth of the fracture, as well as the volume and runout distance of the avalanche.

TABLE 3.8 Avalanche Size – Destructive Force (after CAA, 2007; Perla, 1980)

DATA CODE	AVALANCHE DESTRUCTIVE POTENTIAL	TYPICAL MASS	TYPICAL PATH LENGTH
D1	Relatively harmless to people.	<10 t	10 m
D2	Could bury, injure, or kill a person.	10^2 t	100 m
D3	Could bury and destroy a car, damage a truck, destroy a wood frame house, or break a few trees.	10^3 t	1000 m
D4	Could destroy a railway car, large truck, several buildings, or substantial amount of forest.	10^4 t	2000 m
D5	Could gouge the landscape. Largest snow avalanche known.	10^5 t	3000 m

Note for Table 3.8: The use of half-sizes may be used to signify an avalanche that is on the high end of a single class.

The destructive potential of avalanches is a function of their mass, speed and density as well as the length and cross-section of the avalanche path. Typical impact pressures for each size number are given in McClung and Schaerer (1981).

The number "0" may be used to indicate no release of an avalanche following the application of mitigation measures.

TABLE 3.10 Avalanche Bed Surface

DATA CODE	BED SURFACE
S	The avalanche released within a layer of recent storm snow.
I	The avalanche released at the new snow/old snow interface.
O	The avalanche released within the old snow.
G	The avalanche released at the ground, glacial ice or firn.
U	Unknown

Note for Table 3.10: Storm snow is defined here as all snow deposited during a recent storm.

TABLE 3.12 Location of Avalanche Start

DATA CODE	VERTICAL LOCATION WITHIN STARTING ZONE FROM GUNNER'S PERSPECTIVE
T (L, R, C)	At the top of the starting zone (left, right, or center)
M (L, R, C)	In the middle of the starting zone (left, right, or center)
B (L, R, C)	At the bottom of the starting zone (left, right, or center)
U	Unknown

Note for Tables 3.12 and 3.13: The codes TP, MP and BP are applicable for short paths where the starting zone, track and runout zone cannot be easily separated.

3.6.7 AVALANCHE DIMENSIONS

3.6.7.1 SLAB THICKNESS ❄

If practical, estimate or measure the average and maximum thickness of the slab (normal to the slope to the nearest 25 centimeters or whole foot) and the average thickness of the slab at the fracture line. If only one value is reported it should be the average dimension. Add "M" when the slab is actually measured.

3.6.7.2 SLAB WIDTH ❄

In a slab avalanche, record the width (horizontal distance) in meters (feet) of the slab between the flanks near the fracture line. Add "M" when width is actually measured.

3.6.7.3 VERTICAL FALL ❄

Using an altimeter or contour map, calculate the elevation difference in feet (meters) between the fracture line and the toe of the debris.

3.6.7.4 LENGTH OF PATH RUN

Some operations may wish to record the estimated distance an avalanche ran along a slope. Record the distance between the fracture line and the toe of the debris. Up to a distance of 300 m (~ 1000 ft) estimate the distance traveled to nearest 25 m (~ 100 ft). Beyond a distance of 300 m estimate the distance run to nearest 100 m (~ 300 ft). All dimensions are assumed to be estimates unless the values are followed with the letter M (measured). Dimensions are assumed to be in meters. Measurements or estimates in feet should be indicated with a ' after the number (i.e. 3').

TABLE 3.13 Terminus of Avalanche Debris

DATA CODE	TERMINUS FOR LONG PATHS
SZ	The avalanche stopped in the starting zone
TK	The avalanche stopped in the track
TR	The avalanche stopped at the top part of the runout zone
MR	The avalanche stopped in the middle part of the runout zone
BR	The avalanche stopped in the bottom part of the runout zone
U	Unknown

DATA CODE	TERMINUS FOR SHORT PATHS
TP	The avalanche stopped near the top of the path
MP	The avalanche stopped near the middle part of the path
BP	The avalanche stopped near the bottom part of the path

Note: Operations that have large avalanche paths with well-defined features may apply additional codes (See Table 3.14).

TABLE 3.14 Detailed Terminus Codes

DATA CODE	TERMINUS
1F	Stopped on top ¼ of the fan
2F	Stopped halfway down the fan
3F	Stopped ¾ of way down the fan