Appendix B

Relevant Definitions

TECHNICAL SAFETY BC

Charpy V-Notch Impact Test: A measurement of a material's ability to absorb energy from an impact before failure. This test provides an understanding of a material's relative ductility/brittleness. It is performed by cutting a sample of a defined size, cutting a notch on the sample, then subjecting the sample to an impact and measuring the energy absorbed prior to fracture.

Cold Bending: A process whereby a bending machine is used to apply mechanical force to steel pipe or tube to introduce a desired bend, performed at room temperature.

Cold work: The permanent deformation of metal below a temperature that allows the microstructure to re-arrange. This creates work hardening, and generally increases strength and hardness, while decreasing ductility.

Detachable grip: A spring loaded grip used to connect the gondola cabins to the haul rope. Detachable grips enable faster lift operation by detaching from the haul rope in the stations. This allows them to temporarily travel at slower speeds around the station for ease of loading and unloading, and then re-attach to the faster moving haul rope for quick travel up the mountain.

Fatigue: The tendency for a material to fail at lower than normal forces when subject to cyclic loading over a period of time. The ability for a material to withstand cyclic loading, or fatigue failure, is based on material properties, as well as the magnitude and frequency of loading cycles the material is subject to. Cycles can be considered anything from vibration (for example as a cabin passes by the shivs of a tower) to larger loads such as passengers loading and unloading in the station.

Galvanizing: The process of dipping a component in a bath of molten zinc in order to coat it with a barrier intended to protect the base material from corrosion.

Hanger Arm: The structural linkage between the detachable grip and the gondola cabin. In this case, made from bent steel tubing. The hanger arm is designed to support the load of an individual cabin, and passengers.

Haul Rope: Typically a steel wire rope that is driven by the bullwheel at the drive station and pulls passenger carrying units (in the case of a gondola, the cabins) up the mountain. It is specifically designed to withstand the tension and forces required for a given lift.

Magnetic Particle Inspection (MPI): A method used to detect surface flaws or cracks in magnetic materials by using an induced magnetic field and then applying brightly coloured, fine magnetic particles that will migrate to potential flaws making them visible to the naked eye.

Material Toughness: The ability of a material to absorb energy without fracturing. Directly related to how quickly a crack can propagate in a given material and the material's ductility**.**

Material Yield Strength: The ability of a material to withstand stress before permanently deforming.

Non-Destructive Testing (NDT): Methods of testing which do not negatively impact the component being tested. Possible methods of testing could range from basic visual examination, to more sophisticated techniques such as magnetic particle or ultrasonic inspection.

Passenger Ropeway: Any device that carries, pulls, or pushes passengers along a level of inclined pathway by means of a haul rope or other flexible element(s). It includes t-bars, funiculars, chairlifts, and gondola's.

Residual Stress: The portion of the stress introduced into a material during the cold bending process that remains after the bending machine or mandrel is removed from the component.

Strain Age Hardening: The rapid reduction in ductility and material toughness when cold worked steels are subject to the elevated temperature (such as that of the galvanizing bath). The effect varies based on material chemistry, galvanizing bath temperature, and extent of cold work that occurred prior to galvanizing.