

Question - Extra Problem 2 - NPV with two products lines, CM and capacity expansion considerations

Snow Fabricating Ltd (SFI) is a service-oriented firm, dedicated to creating and delivering energy-efficient, quality snowmaking solutions to its customers. This commitment is underscored by the highest standards of loyal, ethical and fair interaction with customers, employees and suppliers, as well as the communities in which we live and work. The customer-focused commitment to snow making innovation and technology, as well as our extensive history and range of experience, has made SFI a world-leader in snowmaking systems and services.

SFI has been in business over 40 years. It is committed to being a low cost manufacturer with a strong financial performance. Over \$1 million is invested annually in research and development of new products. SFI recently launched on the market a new high-pressure snow gun with the patent name WIZ GUN.

A few weeks ago, Orford Ski Club's Operations Manager, Claire Harris, invited the SFI Customer Service Representative to present this new product and asked for a customized financial presentation on the value of such an investment for the Orford Ski Club. The SFI Customer Service Representative contact his friend, Tom Smart, CPA, to assist him in packaging this presentation. He also provided Tom Smart with some information on Orford Ski Club's current operations and equipment (Exhibit I), and the preliminary estimates of the potential WIZ GUN investment OSC can consider and the potential incremental impacts (Exhibit II). Take on the role of Tom Smart, CPA, and evaluate this investment and package an analysis and recommendation that can be made by SFI back to the Orford Ski Club Operations Manager.

Exhibit I

Orford Ski Club (OSC)

Information on current operations and equipment

- . OSC has three snow-making machines which are eight years old. End-of year UCC value is \$3.5 million. Current market value is estimated at \$2.8 million. These snow-making machines are expected to last for several more years.
- . OSC has approximately 300 skiers which use the hill on a typical day. The price of a day ticket is \$45 and the contribution margin is 25%. The season starts mid-December and ends mid-March, estimated at 13 weeks. The hill is open 7 days a week.
- . OSC also has a sliding section of the hill. Unfortunately due to the lighter winters and its limited snow making capabilities, it has not offered this service in the last two years.
- . OSC employs 6 workers to move the existing snow making equipment around the ski hill. The employees earn a fixed contractual salary. They work 13 weeks per year and 3 days per week. The estimated daily labour cost of each employee is \$15 per hour for a 7 hour work day.
- . Current annual fuel and maintenance costs for the three snow-making machines are estimated at \$55,000.
- . OSC has a minimum required rate of return of 9% for all capital investments. OSC's average tax rate is 36%.

Exhibit II

Snow Fabricating Ltd (SFL)

Information on OSC's WIZ GUN preliminary purchase estimates and incremental impact

- . OSC is considering buying 20 high-pressure WIZ GUN snow guns at \$6,000 each. The snow guns are expected to last 4 years and have an estimated salvage value of \$300 each. They will require an addition \$100 each of installation and startup costs. These snow guns are part of the Class 8 Asset Pool (CCA Rate of 20%)
- . OSC will keep operating its three snow-making machines.
- . With the new 20 high-pressure snow guns, no additional employees would be required. However it is expected that current employees will work 1 additional day per week, and three more weeks per year.
- . The WIZ GUN snow guns are permanently attached to poles in various places of the skill hills, reducing the need to move the equipment around the skill hill. Also they can easily reach areas of the snow hill where the equipment did not have access. The snow guns produce higher-quality snow and can be used in warmer temperature than the existing snow making equipment. SFL estimates the WIZ GUN snow guns will extend OSC's season by three weeks. The same number of skiers will be visiting and using the hill during these addition three weeks. This demand projection was made even though the day ticket will be increased to \$50 per skier during these three weeks.
- . Overall, it is estimated that there will be a variable operating savings from the current operations equivalent to 2% of sales.
- . The re-opening of the sliding section of the hill is expected to generate additional revenue of \$1,000 per week with an estimated contribution margin of 35%. It is estimated that the sliding section sales will increase by 15% in the second year of operations. They will then remain stable for the next few years.
- . Estimated incremental annual fuel and maintenance costs for the WIZ GUN snow guns is estimated at \$12,000 per year.