

(Informed consent presented in the beginning)

Which of the following best describes your responsibility for operational decisions for your business? Please select one response that best describes your role.

- ☐ I am solely responsible for making financial decisions.
- ☐ I share responsibility for making financial decisions.
- ☐ I am not actively involved in making financial decisions, but I am asked for my opinion about them.
- ☐ Someone else makes most of the financial decisions without asking for my opinion.
- ☐ Someone else makes all of the financial decisions without asking for my opinion.

[If the respondent selects option 4 or 5, (s)he will be considered ineligible, and the following prompt will be shown:

“Unfortunately, you are not eligible for the study at this particular time. However, we would like to thank you for your interest in this research. If you have any questions or concerns, please feel free to contact the survey administrator.”]

Based on this information, you are eligible for the study. As we explained in the consent form, all of your responses will be kept anonymous. In this survey, a “power outage” means a complete loss of electricity to your business. Many factors can cause power outages, including severe weather, traffic accidents, planned maintenance, or unplanned equipment failures.

1. Which of the following categories best describe your business?

- ☐ Commercial fishing
- ☐ Construction
- ☐ Financial (including banking, leasing, or rentals)
- ☐ Food processing
- ☐ Lodging
- ☐ Restaurant and food service
- ☐ Retail (fuel station, grocery, pharmacy, furniture store, hardware store, clothing store, etc.)
- ☐ Services (repair, personal care services, etc.)
- ☐ Tourism
- ☐ Warehousing
- ☐ Other. Please describe: _____

[Follow-up questions for all the respondents after answering Q1]

Does your business require electricity for refrigeration or freezing?

☐ Yes ☐ No

Does your business require electricity for cooking?

☐ Yes ☐ No

2. Please write a sentence or two about the products or services that your business provides.

Please enter your answer here. Use as much space as you need:

In addition to using electricity for lighting or heat for your facilities, does your business need electricity to produce goods or services?

☐ Yes ☐ No

Has the COVID-19 pandemic directly affected your business? For example, have you furloughed employees, suspended operations temporarily, or shifted to operating at a limited capacity?

☐ Yes ☐ No

[If the respondent answers “yes,” ask the following question]

Please describe how your business has been affected by the COVID-19 pandemic.

Please enter your answer here. Use as much space as you need:

3. How many of each type of employee currently work at your business at this location?

In normal times (before COVID-19)	During COVID-19 pandemic
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<input type="text"/> Full time, year-round	<input type="text"/> Full time, year-round
<input type="text"/> Part time, year-round	<input type="text"/> Part time, year-round
<input type="text"/> Contractor/project-based/temporary	<input type="text"/> Contractor/project-based/temporary

4. In normal times (before COVID-19), if you were told that the power was likely to be out for 24 hours or more, would any employees be told not to come to work?

- ☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

What percentage of the employees would **not come to work** during such a power outage lasting 24 hours or longer?

Full-time employees:

- ☐ All (100%) ☐ Some ☐ None (0%) ☐ Not applicable

Part-time employees:

- ☐ All (100%) ☐ Some ☐ None (0%) ☐ Not applicable

Contractors/Project-based/Temporary employees:

- ☐ All (100%) ☐ Some ☐ None (0%) ☐ Not applicable

5. Roughly how much is the monthly electricity bill for your business in normal (non-COVID) times?

During shoulder seasons (Mar-May, Sep-Nov):

- ☐ \$0-499/month
☐ \$500-999/month
☐ \$1,000-1,499/month
☐ \$1,500 or above/month
☐ Cannot estimate

During summer (Jun-Aug):

- ☐ \$0-499/month
☐ \$500-999/month
☐ \$1,000-1,499/month
☐ \$1,500 or above/month
☐ Cannot estimate

During winter (Dec-Feb):

- ☐ \$0-499/month
☐ \$500-999/month
☐ \$1,000-1,499/month
☐ \$1,500 or above/month
☐ Cannot estimate

[If the respondent selects "cannot estimate" for all three questions, (s)he will be considered ineligible]

6. Please indicate where key suppliers for your business are located.

- ☐ Only within (the community)
☐ Only outside of (the community)
☐ Both within and outside of (the community)

7. Please indicate where your primary customers live.

- ☐ Only within (the community)

- ☐ Only outside of (the community)
- ☐ Both within and outside of (the community)

8. How many locations does your business have?

- ☐ Single location
- ☐ Multiple locations, all in (the community)
- ☐ Multiple locations, both in and outside of (the community)

[If the respondent answers "multiple locations, all in (the community)" or "multiple locations, both in and outside (the community)," ask the following questions]

When your location in (the community) experiences a power outage, could you transfer work to other locations outside of (the community) that have access to power or other locations within (the community) that have back-up power?

- ☐ Yes
- ☐ No

9. Does your business have a heating system that can operate without electricity (for example, wood-fired stoves or furnaces)?

- ☐ Yes
- ☐ No

[If the respondent answers "yes," ask the following questions]

What is the fuel source for the heating system?

- ☐ Dry wood and pellets
- ☐ Propane (only if the pumps or blowers do not require electricity)
- ☐ Kerosene (only if the pumps or blowers do not require electricity)
- ☐ Others. Please describe: _____

How long would you be able to run the heating system using the fuel stored on site?

- ☐ 0 to 6 hours
- ☐ 7 to 12 hours
- ☐ 13 to 18 hours
- ☐ 19 to 24 hours
- ☐ 24 hours or more. Please specify (in hours): _____
- ☐ Cannot estimate

10. Does your business have a back-up generator or electricity generation system?

- ☐ Yes
- ☐ No

[If the respondent answers "yes," ask the following questions]

Approximately what percentage of your normal operations that require electricity (including space heating if it requires electricity) can be supplied by the generator or generation system if the generator is run at full capacity?

_____ %

How long would you be able to run your back-up generator or generation system at full capacity with the fuel you have stored?

- ☐ 0 to 6 hours
- ☐ 7 to 12 hours
- ☐ 13 to 18 hours

- ☐ 19 to 24 hours
- ☐ 24 hours or more. Please specify (in hours): _____
- ☐ Cannot estimate

What is the fuel source for the generator or generation system?

- ☐ Gasoline
- ☐ Propane
- ☐ Diesel
- ☐ Others. Please describe: _____

11. Has your business purchased business interruption insurance?

- ☐ Yes
- ☐ No

[If the respondent answers "yes," ask the following questions]

Your insurance policy may help your business cover some of the losses that result from a power outage. However, you will have to pay your insurance deductible first. Also, your insurance may cover only certain types of damage (for example, property damage, limited business interruption losses, spoilage).

What is the minimum geographic area of an outage and the minimum amount of time that an outage has to last for your business interruption insurance to kick in? Please describe:

Please enter your answer here. Use as much space as you need:

What is the coverage limit of your policy?

\$ _____

In the sections that follow, we will ask you to think about three different example power outages that might happen in (the community). The table below summarizes the three outage scenarios that we will ask about. *When answering the questions about the outage scenarios, please assume that the COVID-19 pandemic has ended, and life has returned to normal.*

	Outage Scenario 1	Outage Scenario 2	Outage Scenario 3
Duration	6 hours	2 days	7 days
Time of year	February weekday	February weekday	February weekday
Weather condition	Relatively warm winter morning (36 °F)	Average winter morning (28°F)	Relatively cold winter morning (19°F)
Initiating event	Power line damaged during digging	Thick cloud of volcano ash	Severe earthquake
Geographic scope	A few neighboring electricity customers	The entire city	All of Southcentral and Southeast Alaska
Planned	No	No	No
Cell towers	Working	Down after several hours	Down after several hours
City water and sewer service	Working	Not working	Minimally working
Critical public services	Working	Working	Minimally working
Stores/Businesses	Open	Only a few with their own back-up generators and fuel are open	Most likely closed
Travel	Possible	Not possible (planes cannot fly)	Not possible (state of emergency declared)
COVID status	The COVID-19 pandemic has ended, and life has returned to normal.		

We will first describe each outage scenario in detail and then ask you some questions about the costs and savings associated with the outage. *There are no right or wrong answers to these questions.* If a question is difficult for you to answer, please give your best guess. At the end of the survey, you will be able to add comments about any of your answers.

[Scenario #1. Six-hour-long, localized outage]

It is a **relatively warm (36 °F) winter morning** on a weekday in February with clear skies. The power has just gone out with no warning. When you call **(the utility)**, you find out that someone damaged a buried power line while digging to get to a frozen water pipe. This caused a power outage to your home and a few nearby homes that are served by that power line. The utility already knows about the problem and is working to fix it. **You are told to expect that the power will come back on in about 6 hours.**

During the power outage, equipment that runs on a battery (if charged) or that does not need electricity will work. However, immediately after the outage, most of your business's operations that require electricity will stop working unless you have your own back-up generator(s) and stored fuel or has a contract for back-up power from **(the utility)**. If your business relies on an electric heating system, it will not work during the outage. Most oil and gas heating systems will not work because they require electricity to run pumps or blowers.

[Prompt for the respondent who stated that his or her business requires electricity for refrigeration or freezing]

The United States Department of Agriculture recommends that perishable food such as fish may need to be discarded if the outage lasts longer than four hours. Your business may be able to keep refrigerated perishable food or materials for a longer period of time using ice or in coolers that are on hand, but items stored in this way might not be safe to consume.

[Prompt for the respondent who stated that his or her business purchases business interruption insurance]

Your business interruption insurance may cover the amount of your loss of profit and/or food spoilage after you pay your insurance deductible.

1-1. Would this 6-hour power outage affect your main suppliers?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Would there be any effects on your business because your suppliers are affected? Please describe.

Please enter your answer here. Use as much space as you need:

1-2. Would this 6-hour power outage affect your revenue from customer demand for goods and services that your business provides?

- ☐ There would likely be an increase in customer demand.
☐ There would likely be a decrease in customer demand.
☐ There would likely be no change in customer demand.

[If the respondent answers "there would likely be an increase in demand," ask the following question]

Please estimate, in terms of revenue, the expected increase in customer demand during the 6-hour outage.

_____ % increase

[If the respondent answers "there will likely be a decrease in demand," ask the following question]

Please estimate, in terms of revenue, the expected decrease in customer demand during the 6-hour outage.

_____ % decrease

1-3. *[Below are alternative prompts to choose based on how the respondent answered Question 10 regarding back-up power sources and Question 1 regarding needing power for refrigeration, freezing, or cooking.]*

[Prompt for respondents who answer Question 10, p. 6 by stating that the business does not have a back-up generation system]

Because your business does not have its own back-up generation, you would not be able to continue most operations that require electricity during the power outage. However, you might still be able to carry out operations that do not require electricity.

*[Alternative prompts for respondents who answer Question 10, p. 6 by stating that their **business** has a back-up generation system and can resume operation]:*

You may be able to use your back-up power to refrigerate, cook food, provide space heating, and resume operations during the power outage. You may also be able to resume operations that do not require electricity.

[Question to be asked following the appropriate prompt is displayed]

What percentage of normal operations could you continue during the 6-hour outage?

_____ % of the normal operations for _____ hours

1-4. After power comes back on, would you be able to make up for the production of goods and/or services that was lost during the power outage?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following questions]

What percentage of lost production of goods and/or services could you recover, in terms of revenue?

_____ % of the lost production of goods and/or services

How much would it cost your business, in dollars, to make up for the backlog of work resulting from the power outage, for example, by working overtime or extra shifts?

\$ _____

1-5. Overall, how much revenue, in dollars, would your business lose during and after the power outage (for example, from lost sales of goods and/or services)? If your business will not be affected by the outage or is expected to benefit from the power outage, enter zero.

\$ _____ lost revenue from the power outage

1-6. Would there be any costs of the power outage from damage to raw materials and/or inventory, including perishable food that could spoil?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Please estimate a dollar amount for the damage cost to raw materials and/or inventory.

\$ _____ damage to raw materials and/or inventory

1-7. Sudden power outages can damage equipment. Would your business be likely to have any damage costs from this 6-hour power outage, such as costs for damage to sensitive electrical or mechanical devices?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Please estimate a dollar amount for the damage to equipment.

\$ _____ damage to equipment

1-8. If you had to deal with outage-related issues such as replacing equipment damaged by the loss of power, would there be labor costs, above and beyond the labor costs for normal operations?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following questions]

Please estimate the cost of additional labor to address outage-related issues.

\$ _____ additional labor costs to address outage-related issues

1-9. Would there be other tangible costs from this power outage that have not already been mentioned, such as for extra materials, fuel, labor to re-start your facilities, regulatory costs to dispose of hazardous materials, or costs to run and/or rent back-up equipment?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Please estimate the additional tangible costs.

\$ _____ other tangible costs

1-10. Would there be intangible costs due to this power outage, such as inconvenience, loss of goodwill of customers or suppliers, potential liability, etc.?

☐ Yes ☐ No

[If the respondent answers “yes,” ask the following question]

Please describe the intangible costs your business might experience during and after the outage.

Please enter your answer here. Use as much space as you need:

1-11. Some businesses may save money during power outages. Examples include savings from reduced electricity and materials use during partial or minimal operations and/or lower labor costs. Would your business save money during the power outage?

☐ Yes

☐ No

[If the respondent answers “yes,” ask the following question]

Please estimate how much the savings might be.

\$ _____ savings due to the power outage

[Question only for the respondent who stated that his or her business has business interruption insurance]

1-12. What percentage of the outage cost do you expect to be covered by your business interruption insurance policy?

_____ % of the loss covered by the insurance after paying a deductible of \$ _____

1-13. Based on the information you provided, we estimated the total cost to your business from the 6-hour power outage we described which affects a part of (the community).

Summary of the outage:

Time of year: February, Tuesday

Start time: Morning (relatively warm, 36 °F)

Outage duration: 6 hours

Affected areas: Your business and a few neighboring businesses

Cause: Power line damaged during digging

Advance warning before the outage: No

Category	Estimates
1-4-2. Additional labor costs to make up for operations/production lost during the outage	\$ (Auto generate)
1-5. Lost revenue from the power outage	\$ (Auto generate)
1-6. Damage to raw materials and/or inventory due to the outage	\$ (Auto generate)
1-7. Damage to equipment due to the outage	\$ (Auto generate)
1-8. Additional labor costs to address outage-related issues	\$ (Auto generate)
1-9. Other tangible costs, including costs to run back-up generators	\$ (Auto generate)
Costs subtotal:	\$ (Sum 1-4-2 to 1-9)
1-11. Savings due to the outage	\$ (Auto generate)
1-12. Losses covered by business interruption insurance policy	\$ (Auto generate)
Savings subtotal:	\$ (Sum 1-11 and 1-12)
TOTAL NET COST (Costs Subtotal – Savings Subtotal):	\$ (Auto generate)

The total net power outage cost for your business is estimated to be \$(total cost estimate from the table). Do you think the estimate is reasonable?

☐ Yes

☐ No

[If the respondent answers “no,” ask the following questions]

Please revise the total net power outage cost estimate.

\$ _____

Please explain why you revised the estimate. Were there any costs or savings that we did not include in our table?

Please enter your answer here. Use as much space as you need:

1-14. Now we would like to ask you how the same outage would affect your organization if you had advance warning that the power was going to be out. Imagine that (the utility) tells you on a Monday in February that they are going to have to turn off the power for approximately 6 hours the next day, on Tuesday morning, to perform some routine system maintenance. Would this advance warning help your business better prepare for the power outage?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Please estimate the expected percentage decrease in your business's total net power outage cost if you were given 24 hours of advance warning. Note that the total net cost of the 6-hour power outage without advance warning was estimated to be \$(total cost estimate after confirmation).

_____ % decrease

1-15. Now let's consider whether the cost of the outage might be different at another time of year. Your business's total net cost from the 6-hour power outage in February was estimated to be \$(total cost estimate after confirmation). Would your organization's power outage cost be different if the unexpected 6- hour power outage happened in July instead of rather than in February?

- ☐ My business's total outage cost would be higher.
☐ My business's total outage cost would be about the same.
☐ My business's total outage cost would be lower.

[If the respondent answers "my business's total cost would be higher," ask the following question]

Roughly how much higher would the cost be?

\$ _____ higher in July than in February

Please explain why the outage cost would be higher in July.

Please enter your answer here. Use as much space as you need:

[If the respondent answers "my total cost would be lower," ask the following question]

Roughly how much lower would the cost be?

\$ _____ lower in July than in February

Please explain why the outage cost would be lower in July.

Please enter your answer here. Use as much space as you need:

Next, we would like to know about your business's response to an imaginary outage that lasts several days or weeks. We will begin by asking a few questions regarding your past experiences and plans for future outages.

1. Has your business ever experienced an unexpected power outage lasting longer than 2 days?

☐ Yes

☐ No

[If the respondent answers "yes," ask the following questions]

How long did the outage last? When did it occur? What caused the outage?

Please enter the respondent's answer here. Use as much space as you need:

What steps did you take to deal with the outage?

Please enter the respondent's answer here. Use as much space as you need:

2. What, if any, consequences would your business experience:

If power were lost for 2 days unexpectedly:

Please enter the respondent's answer here. Use as much space as you need:

If power were lost for 1 week unexpectedly:

Please enter the respondent's answer here. Use as much space as you need:

If power were lost for longer than 1 week unexpectedly:

Please enter the respondent's answer here. Use as much space as you need:

3. Does your business have a plan for what to do during an unexpected long power outage that would last several days to several weeks?

☐ Yes

☐ No

[If the respondent answers "yes," ask the following question]

Please describe the plan for an unexpected long power outage in a brief sentence or two:

Please enter the respondent's answer here. Use as much space as you need:

[Scenario #2. Two-day long, city-wide outage in winter]

It is **an average (28 °F) winter morning** on a weekday in February. The power goes out with no warning. You learn from the radio that the Redoubt Volcano has had a major eruption, and the winds have brought a heavy ash cloud to **(the community)**. You can see ash in the air and on the ground when you look outside. The ash could damage **(the utility)**'s diesel generators, so there is no back-up power from **(the utility)**. Because it is winter, the streams are frozen, so the hydroelectric power plants are not producing electricity. The Federal Aviation Administration issues a safety warning to pilots in Southcentral Alaska, so planes cannot fly. **(The utility)** **says the weather forecast indicates that the winds will change in about 2 days (48 hours).** **(The utility)** **expects to restore power then.**

During the outage, all regular power to the city will be shut off. Private and social services in the **(the community)** that have their own emergency back-up generators with good air filters would continue to operate. Other public and private services that would normally receive back-up power from **(the utility)** and that do not have emergency generators would probably not be operating. This includes water and sewer service. Cellular towers have enough emergency back-up power to operate for several hours. You will lose both cell phone and internet services after the cell towers lose power. If you have generators or wood-fired heaters, these could be used for heating, but note that these appliances should be used carefully because they can produce carbon monoxide.

[Prompt for the respondent who stated that his or her business requires electricity for refrigeration or freezing]
A closed refrigerator will stay cold for up to four hours, and a full freezer will stay cold for approximately 48 hours if the door stays closed.

[Prompt for the respondent who stated that his or her business purchases business interruption insurance]
Your business interruption insurance may cover your loss of profit and/or food spoilage. However, your insurance deductible will need to be paid before insurance will pay.

2-1. Using the table below, please estimate the costs and savings that your business might experience due to this example 2-day power outage that affects (the community):

Summary of the outage:

Time of year: February, Tuesday

Start time: Morning (about average, 28 °F)

Duration: 2 days (48 hours)

Affected areas: (entire community)

Cause: Heavy volcano ash cloud from a major eruption of Mount Redoubt

Advance warning before the outage: Only for volcanic eruption, not for the power outage

Category	Cost or savings estimates
Additional labor costs to make up for the operations/production lost during the outage	\$
Lost revenue due to the power outage	\$
Damage to raw materials and/or inventory due to the outage	\$
Damage to equipment due to the outage	\$
Additional labor costs to address outage-related issues	\$
Other tangible costs, including costs to run back-up generators	\$
Costs subtotal:	\$ (auto sum)
Reduced personnel costs	\$
Other savings due to the outage (for example, reduced electricity and material consumption)	\$
Savings subtotal:	\$ (auto sum)

[Question only for respondents who stated that their business has business interruption insurance)]

What portion of the costs do you expect to be covered by your business interruption insurance policy?

_____ % of the loss covered by the insurance after paying \$ _____ deductible amount

[After respondent finishes filling in the table and/or answering the insurance question, ask the following]

The total net power outage cost is estimated to be \$(total cost estimate; costs subtotal – savings subtotal – insurance coverage). Do you think the estimate is reasonable?

☐ Yes

☐ No

[If the respondent answers “no,” ask the following questions]

Please revise the total power outage cost estimate.

\$ _____

Please explain the reason why you revised the estimate. Were there any costs or savings that we did not include in the table that you filled out?

Please enter your answer here. Use as much space as you need:

2-2. Would there be intangible costs due to this power outage, such as inconvenience, loss of goodwill of customers or suppliers, potential liability, etc.?

☐ Yes ☐ No

[If the respondent answers "yes," ask the following question]

Please describe the intangible costs you may experience during and after the outage.

Please enter your answer here. Use as much space as you need:

[If the respondent stated that his or her business has multiple locations, ask the following question]

2-3. Does the power outage have direct or indirect effects on your business's operations at other locations?

☐ Yes ☐ No

[If the respondent says "yes," ask the following questions]

How would other locations be affected by the outage? Select all that apply.

- ☐ Other locations will also lose power.
- ☐ Other locations will not lose power. However, because the affected facility's products or services are inputs to other locations, supplies to those locations will be disrupted.
- ☐ Other locations will not lose power. However, the production of products or services that cannot be served by the affected facility will be transferred to other locations.
- ☐ Other

[If the respondent answers "other," ask the following question]

Please describe the impact of the power outage on operations at other locations of your business.

Please enter the respondent's answer here. Use as much space as you need:

2-4. The total net cost of the 2-day power outage during February was estimated to be \$(total cost estimate after confirmation). Would your business's power outage cost be different if the 2-day power outage happened in July rather than in February?

- ☐ My total outage cost would be higher.
- ☐ My total outage cost would be about the same.
- ☐ My total outage cost would be lower.

[If the respondent answers "my total cost would be higher," ask the following question]

Roughly how much higher would the cost be?

\$ _____ higher in July than in February

Please explain why the outage cost would be higher in July.

Please enter your answer here. Use as much space as you need:

[If the respondent answers "my total cost would be lower," ask the following question]

Roughly how much lower would the cost be?

\$ _____ lower in July than in February

Please explain why the outage cost would be lower in July.

Please enter your answer here. Use as much space as you need:

[Scenario #3. 7-day-long (1-week-long), widespread outage]

Next, we would like to ask you about an even longer outage than the two we have discussed so far. It is a **relatively cold (19 °F) winter morning** on a weekday in February. At sunrise, you feel a big earthquake. The power goes out immediately. Fortunately, your home is not significantly damaged, and nobody is hurt. You learn from your battery-operated radio that the earthquake has severely disrupted the coastal areas of Southcentral Alaska and Southeast Alaska. The radio also tells you that **(the utility)**'s power plant and substation, and a number of other parts of the power system have been seriously damaged. Also, the underground fiber optic cables, communication system, water supply, and waste system are damaged. **(The utility) expects it will be a full week—7 days—before they can restore power to your home and most of (the community) area.**

You were given no warning and did not have a chance to prepare for this disaster. The government declares a state of emergency that bans all non-essential travel. **(The utility)**'s emergency generators are operated to power critical services, including undamaged portions of the water and sewer systems, some communications, **(the community)** community medical center, and other government buildings. The government is planning to evacuate all residents who have life-threatening medical conditions to nearby emergency shelters. Emergency responders tell you that they will begin to distribute basic supplies within the next day, including food, water, first aid supplies, flashlights, and batteries.

Because this outage is more widespread and takes a longer time to fix than the two previous scenarios, the consequences of this power outage would be very different. During this 7-day outage, only a few critical public services, including water and sewer service, communications services, and **(the community)** community medical center, would receive a limited amount of back-up power from **(the utility)**. Private and social services with their own emergency back-up generators and fuel stored on site would continue to operate. However, other services without back-up power will be immediately unavailable. If you cannot heat your facility, the temperature there may drop below freezing after a day or two. Exposure to low temperatures would damage temperature-sensitive equipment and facilities. Your water pipes could freeze and burst if you are not able to heat the building or drain the pipes. Even if you have business interruption insurance, your losses may not be covered because earthquake damage is often covered by a separate policy.

3-1. Please use the table below to estimate the costs and savings that your business might experience due to a 7-day (1- week) power outage that affects all of Southcentral and Southeast Alaska.

Summary of the outage:

Time of year: February, Tuesday

Start time: Morning (relatively cold, 19 °F)

Duration: 7 days (1 week)

Affected areas: All of Southcentral and Southeast Alaska

Cause: Catastrophic earthquake

Advance warning before the outage: No

Category	Cost or saving estimates
Additional labor costs to make up for the operations/production lost during the outage	\$
Lost revenue due to the outage	\$
Damage to raw materials and/or inventory due to the outage	\$
Damage to equipment due to the outage	\$
Additional labor costs to address outage-related issues	\$
Damage to raw materials, equipment, and/or inventory due to exposure to extremely low temperatures	\$
Damage to equipment, buildings, and/or other structures from frozen water pipes	\$
Other tangible costs, including costs to run back-up generators	\$
Costs subtotal:	\$ (auto sum)
Reduced personnel costs	\$
Other savings due to the outage	\$
Savings subtotal:	\$ (auto sum)

[After respondent finishes filling in the table, ask the following question]

Has your business purchased a separate policy that covers earthquake losses?

☐ Yes

☐ No

[If the respondent answers “yes,” ask the following question]

What portion of the cost do you expect to be covered by your earthquake business interruption insurance policy?

_____ % of the loss covered by the insurance after paying \$ _____ deductible amount

[After the respondent answers the insurance question, ask the following question]

The total net power outage cost is estimated to be \$(total cost estimate; costs subtotal – savings subtotal – insurance coverage). Do you think the estimate is reasonable?

☐ Yes

☐ No

[If the respondent answers “no,” ask the following questions]

Please revise the total net power outage cost estimate.

\$ _____

Please explain the reason why you revised the estimate. Were there any costs or savings that we did not include in the table that you filled out?

Please enter your answer here. Use as much space as you need:

3-2. Would there be intangible costs due to this power outage, such as inconvenience, loss of goodwill of customers or suppliers, potential liability, etc.?

☐ Yes ☐ No

[If the respondent answers “yes,” ask the following question]

Please describe the intangible costs you may experience during and after the outage.

Please enter the respondent’s answer here. Use as much space as you need:

[If the respondent stated that his or her business has multiple locations, ask the following question]

3-3. Does the power outage have direct or indirect effects on your business’s operations at other locations?

☐ Yes ☐ No

[If the respondent says “yes,” ask the following questions]

How would other locations be affected by the outage? Select all that apply.

- ☐ Other locations will also lose power.
- ☐ Other locations will not lose power. However, because the affected facility's products or services are inputs to other locations, supply to those locations will be disrupted.
- ☐ Other locations will not lose power. However, the production of products or services that cannot be served by the affected facility will be transferred to other locations.
- ☐ Other

[If the respondent answers “other,” ask the following questions]

Please describe the other impacts of the power outage on your business’s operations at other locations.

Please enter the respondent’s answer here. Use as much space as you need:

3-4. The total net cost of the 7-day (1-week) power outage during February is estimated to be \$(total cost estimate after confirmation). Would your business’s power outage cost be different if the 7-day (1 week) power outage happened in July rather than in February?

- ☐ My total outage cost would be higher.
- ☐ My total outage cost would be about the same.
- ☐ My total outage cost would be lower.

[If the respondent answers “my total cost would be higher,” ask the following question]

Roughly how much higher would the cost be?

\$ _____ higher in July than in February

Please explain why the outage cost would be higher in July.

Please enter your answer here. Use as much space as you need:

[If the respondent answers “my total cost would be lower,” ask the following question]

Roughly how much lower would the cost be?

\$ _____ lower in July than in February

Please explain why the outage cost would be lower in July.

Please enter your answer here. Use as much space as you need:

For the final step, we would like to collect some information about your business, past power outage experiences at your business, and any comments you want to add about your answers. Please answer the following questions to the best of your ability.

1. Is your business a:

- ☐ Sole proprietorship
- ☐ Partnership
- ☐ Franchise
- ☐ Branch in a larger chain or company
- ☐ Privately held company/corporation
- ☐ Publicly traded company/corporation
- ☐ Others. Please describe: _____

2. In a typical year, how many power outages does your business experience?

Power outages lasting less than 5 minutes	_____ times per year
Power outages lasting between 5 minutes and 6 hours	_____ times per year
Power outages lasting between 6 hours and 2 days	_____ times per year
Power outages lasting between 2 days and 1 week	_____ times per year
Power outages lasting longer than 1 week	_____ times per year

3. Please share any additional comments:

Please enter your answer here. Use as much space as you need:

Thank you very much for participating in this study.

If you have any questions or concerns, please feel free to contact the survey administrator.