Insurance Institute for Business & Home Safety®

PART 2:
PUTTING KNOWLEDGE INTO PRACTICE
(**AFTER** THE TRAINING)

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PART 2: PUTTING KNOWLEDGE INTO PRACTICE

ABOUT THIS GUIDE...

This *Commercial Wind Loss Training Tips and Facilitation Guide* was developed to support your company with the implementation of the mitigation strategies and best practices presented in the *Commercial Wind Loss Online Training Course*.

This guide contains two parts (PDFs):

Part 1: Laying the Groundwork (provided in a separate PDF) should be reviewed before taking the training. It outlines an overview of the training framework, along with strategies for motivating your team and successful implementation.

Part 2: Putting Knowledge into Practice provides next steps for incorporating the material presented in the online training into your protocols. The activities and reflection questions should prompt meaningful team discussions to ultimately help reduce your organizational risk.

Guided Team Review & Discussion Activities

Congratulations! Your team has completed IBHS' *Commercial Wind Loss Training*. Now what? You need to operationalize your team's newfound knowledge. Remember, your team's ability to adequately communicate wind-related risk to your policyholders is critical — otherwise, they won't choose more resilient strategies and/or make necessary improvements to prevent losses. Part 2 of this guide was developed to use as a springboard for conversations about wind loss. Use the brief course review and activities in this guide to help your team connect what they have learned to their daily job responsibilities. These activities are designed to take about an hour, but you may adjust to fit your team's schedule.

Part 2 includes three sections:

- An overview of the guided team review and discussion activities
- Content to use with your team (Pages 14 to 23 are designed for you to use during your group discussion — either project them, share them on your computer screen, or print them out)
- Facilitation guidance and answers/suggestions for activities

COURSE REVIEW: IDENTIFYING RESILIENCE

One of the most important takeaways from the training is how to recognize resilient buildings. Resilient construction and retrofit techniques don't always mean they are more expensive. In some cases, it can be as simple as closer fastener spacing. Understanding resilience also requires understanding risks associated with different construction types. As a wrap up, use the summary on the following pages to review the spectrum of building resilience with your team. Refer to the training itself for additional information about resilient systems.

ACTIVITIES FOR ENGAGING YOUR TEAM

Activity 1: Preliminary Discussion Questions

- Ask your team five critical questions related to the training

Activity 2: Explore A Decision Tree Completed by IBHS

- Review a hypothetical scenario fleshed out in a decision tree. Discuss each decision the risk engineer could make and discuss the outcomes as a group. Pay close attention to the best-case scenario (highlighted in green).
- Time permitting, review the acceptable ways to retrofit or replace the flashing.

Activity 3: Develop Your Own Decision Tree

- Review the scenario provided and develop your own decision tree with potential steps and outcomes. Discuss those potential outcomes as a group and identify the best one.

Activity 4: Brainstorm Your Organizational Response

- Review the scenario to discuss what your organization would do given its current practices and what you could do differently to improve the outcome.

Activity 5: Perform a SWOC Analysis

- Explore your organizations Strengths, Weaknesses, Opportunities and Challenges related to implementing the information and strategies presented within the training.
- Discuss your 3 biggest opportunities and challenges.

See the Facilitation Guidance section for support during the review and discussion activities. Contact IBHS at info@ibhs.org with any technical questions related to the building systems covered in this wind loss training.

Review: How Does Wind Effect Buildings?

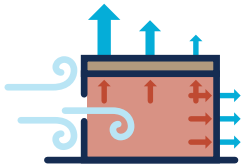
Wind loads are any pressures of forces that wind exerts on a building or structure. Wind loads are any pressures or forces determined by applicable wind load provisions of ASCE 7 “Minimum Design Loads for Buildings and Other Structures”. They are calculated by multiplying the pressures exerted on a building due to wind by the area upon which the pressures act.

The wind pressures exerted on a building are determined by the following factors:

- **Geographic location**

- **Building risk category**

- **Exposure category**
- **Building enclosure classification**



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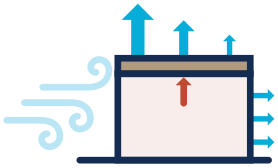

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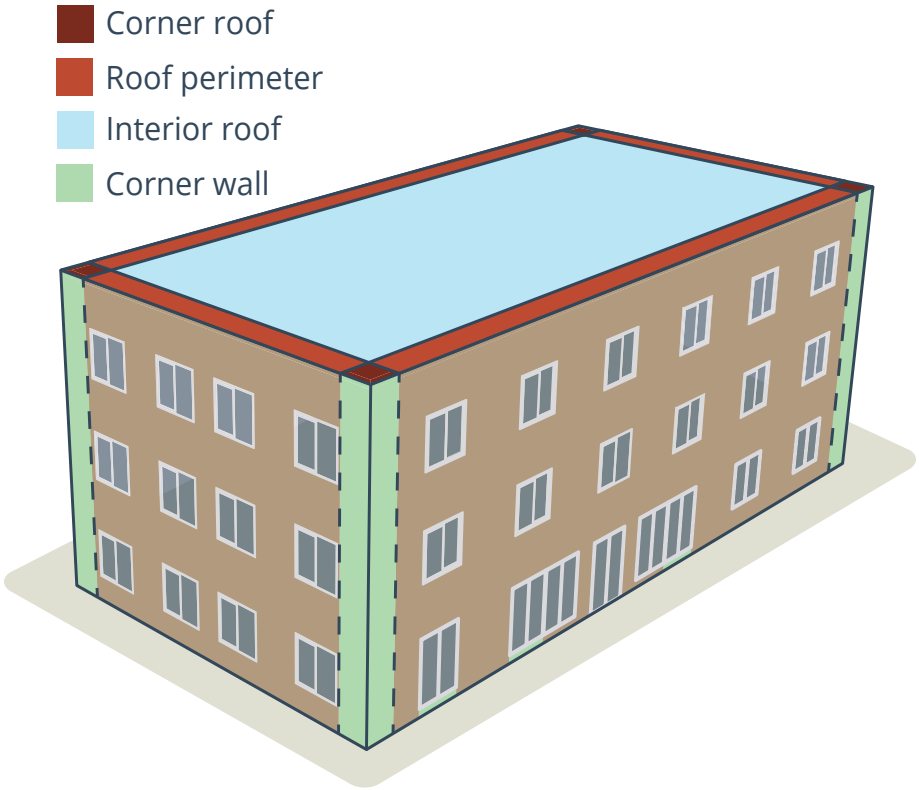
DIFFERENT AREAS OF A BUILDING MAY SEE HIGHER WIND PRESSURES. ASCE 7 DEFINES THE BUILDING INTO THE FOLLOWING ZONES:

- **Corners**, which receive the highest pressure (both the roof and walls)
- **Perimeter**, which receives the second higher pressure (the roof specifically), and
- **Interior**, which receives the lowest pressure (both the roof and walls)



Review: Wind-borne Debris & Wind Driven Rain

WIND-BORNE DEBRIS REGIONS ARE AREAS:

- Within one mile of the coast where the basic wind speed is 130 mph or greater, or
- In any area where the basic wind speed is greater than or equal to 140 mph

These areas have the highest risk of the building envelope (such as the glazing and doors) being breached by wind-borne debris. If the envelope is breached, the internal pressure increases dramatically which could lead to roof cover or structural failures.

WIND DRIVEN RAIN

- Wind-driven rain may find its way into a building through aged or deteriorated facade joints even when there is no wind damage to the façade.
- Inspect fixed windows, operable windows, doors, and louvers.
- New buildings: install pressure rated and impact rated fixtures.

Review: Resilient Building Systems

ROOF COVERS AND METAL EDGE FLASHING

- A roof cover that is properly attached and in good condition (without any tears)
- Metal edge flashing that is secure
- A routine maintenance plan in place
- Superior construction techniques

ROOF DRAINAGE SYSTEMS

- Are properly attached and free of debris
- Have closer spacing between gutter straps that are properly designed for uplift
- Are secured behind a well secured flashing system
- Use a thicker gauge gutter
- Systems meet ANSI/SPRI standards

ROOF MOUNTED EQUIPMENT

- Do not have loose or missing connections
- Do not have loose flashing nearby
- Have all panel fasteners in place
- Have an attachment designed to meet the site-specific conditions
- New systems should be designed for site specific wind conditions

Review: Resilient Building Systems

WINDOWS

Opening protection types:

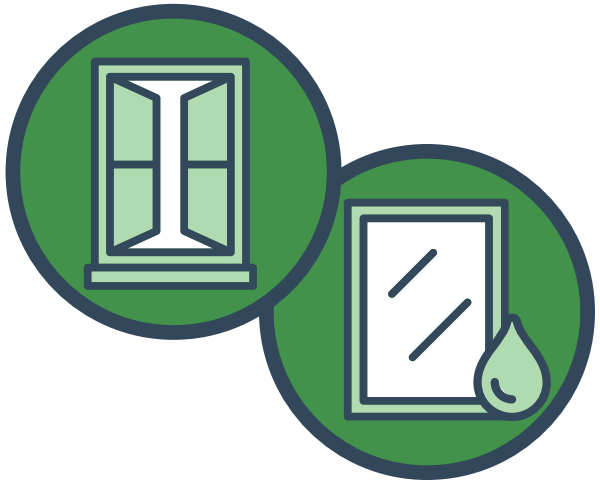
- **Passive** (preferred)
  - Impact rated window systems
- **Active** (requires deployment before a storm)
  - Permanent shutters (preferred)
  - Temporary shutters

DOORS

- Existing doors:
  - Look for labels with pressure rating
  - Verify the installation was done properly
  - Consider retrofits to increase resiliency
- New doors (large commercial and personnel):
  - Must be wind rated for the site-specific design pressures and minimum exposure category “C” or “D.”
  - Hurricane-prone regions, must meet the specific requirements.

PTAC UNITS

- Tilt the PTAC unit 2 degree on the bottom towards the outside
- Have properly and consistently installed weather stripping between the PTAC unit and sleeve
- Have internal drains with adequately sized pipes and freely flowing water
- Have damage free and properly installed caulking around the PTAC unit



Activity 1: Five Preliminary Discussion Questions

NOW THAT YOU HAVE TAKEN THE TRAINING....

1. How did the information compare to what you've seen **in the field?**

2. What questions do you still have about **how wind impacts** commercial buildings?

3. What do you think our organization could do differently to **better incentivize resilient buildings**?

4. What can management provide you with to help you **operationalize your new knowledge**?

5. What do you plan to do differently on **a daily basis?**

Activity 2: Explore A Decision Tree Completed by IBHS

A risk engineer performs an onsite inspection of an office building and notices from below that the flashing is wavy. **What do they do next?**

The risk engineer performs a physical inspection and discovers the flashing is loose from the facia. **What do they do next?**

Since it is minor, the risk engineer ignores the issue.

They recommend that the policyholder retrofit or replace the flashing. A week after the inspection, they follow up with the policyholder to confirm the issue was remedied.

They reattach the flashing back to the facia.

They ignore the issue.

A SEVERE WINDSTORM HITS THE BUILDING!

What happens next?

And by the way, what does it mean to properly retrofit or replace the flashing?

The building sustains so little damage that the policy holder doesn't bother to file a claim.	The buildings risk of loss has been lowered, but minor damage is still sustained.	The loose facia becomes completely detached, creating a cascading effect where all or partial loss of the roof cover occurs, allowing water to enter the building. Significant building and contents damage is sustained. The company has to close for an extended period during repairs.
Total cost: Minimal cost of retrofit or repair.	**Total cost:** Small claim for minor roof damage.	**Total cost:** Large claim for damage to facia, roof cover and interior water damage (including equipment, product, furnishings, etc.) plus extended period of business downtime.

The best outcome occurred when the risk engineer:

- Conducted a physical inspection,
- Identified the problem,
- Provided a mitigation solution, and
- Prevented an avoidable loss.

THE NUMBERS DON'T LIE...

A PROGRAM OF IBHS
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™

Every **$1 spent in FORTIFIED Commercial mitigation**, saves approximately **$4 in avoidable loss**.

Activity 3: Develop Your Own Decision Tree

SCENARIO

A loss control engineer went to a hotel for a physical site visit and observed stains to the suspended ceiling tiles.
What do they do next?

STEP 1

STEP 2

A SEVERE WINDSTORM HITS THE BUILDING! WHAT HAPPENS NEXT?

OUTCOME

See Page 15 for the answer key.

Activity 4: Brainstorm Your Organizational Response

Read the following scenario. Brainstorm as a group how the damage could have been prevented. Consider if your current internal strategies would have prevented this situation.

SCENARIO B:

A loss control contractor visits a restaurant to perform an inspection but didn't get on the roof or have drone footage available. Little did they know, there were rusted and missing connections holding down the roof mounted equipment. A derecho then comes across the plains and impacts the building. The business owner makes a claim for roof damage because the roof mounted mechanical system dislodged from its curb and slid across the roof membrane, causing large tears, water intrusion, and an opening in the roof, which led to business interruption.

Claims investigates to see what the cause of the damage was and if this could have been prevented...

Activity 5: Perform a SWOC Analysis

Use Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis to identify both internal and external factors that directly influence your business specifically related to operationalizing the knowledge within the *Commercial Wind Loss Training*.

Facilitation Guidance

This section provides **correct answers** and/or IBHS guidance for the team activities presented in the previous section.

ACTIVITY 1: PRELIMINARY DISCUSSION QUESTIONS

Use these discussion questions as prompts to gauge your team's overall reaction to the training. Consider utilizing "Ask IBHS" at info@ibhs.org to answer any open technical questions.

ACTIVITY 2: EXPLORE A DECISION TREE COMPLETED BY IBHS

Scenario: A risk engineer performs an onsite inspection of an office building and discovers loose flashing. Because of their newfound knowledge, they understand the importance (and ease!) of repair and communicates this to the policyholder. Once the policyholder has the flashing repaired, the underwriting department can underwrite the building in a more favorable light.

Best Outcome: Following a severe wind event, the claims department doesn't receive any claims from this policyholder!

How did we get here? For this best-case scenario to play out, a series of decisions to prioritize resilience must be made. Explore the decision tree on the following page to see how else this scenario could have played out. Consider what impact each decision can have on the outcome and what can go wrong.

IN ACTIVITY 2, WHAT ARE ACCEPTABLE WAYS TO RETROFIT OR REPLACE THE FLASHING?

Flashing retrofit:

Strengthening the fascia with exposed fasteners is a cost-effective option in lieu of replacement of the entire edge flashing system.

- Ensure that the screws penetrate at least 1 inch into the structure behind the flashing to engage a structural part of the wall or a properly secured wood nailer.
- The type of exposed fastener will depend on the type of substrate and may require the use of stainless-steel self-tapping concrete, sheet metal, or wood screws. Pre-drilling for metal anchors may be needed in some cases.
- To prevent leaks and the contact of dissimilar metals, fasteners with a metal backed EPDM, rubber butyl, or similar gasket should be used.
- The fasteners should be installed in the lower portion of the fascia and spaced approximately 12 to 24 inches and no greater than 12 inches apart in the corners of the building.

Flashing Replacement:

Should meet one of the following:

- Designed/tested in accordance with ANSI/SPRI/FM4435/ES-1
- NRCA Roofing & Waterproofing Manual: Architectural Metal Flashing, Condensation Control and Reroofing
- Florida Building Code RAS 111

ACTIVITY 3: DEVELOP YOUR OWN DECISION TREE

A loss control engineer went to a hotel for a physical site visit and observed stains to the suspended ceiling tiles. **What do they do next?**

The risk engineer performs a physical inspection of the roof cover. While on the roof, they identified that the low slope roof cover was a fully adhered single-ply membrane. They noted that the roof membrane had bubbles, worn seams, and what appeared to be excessive wear and tear. **What do they do next?**

The risk engineer visually observes the stains from below the ceiling only. **What do they do next?**

They recommend that a roofing contractor comes out to do necessary repairs or replacements. The roofing contractor completes proper tests and repairs.

They recommend that a roofing contractor comes out to do necessary repairs or replacements. The hotel does not move forward with any repairs because they could not understand the risk vs. reward.

They determine that the issue was not significant. No further action is taken.

They attribute the stains to normal moisture build up from the HVAC. They recommend replacing the tiles.

A SEVERE WINDSTORM HITS THE BUILDING! WHAT HAPPENS NEXT?

The roof cover stays intact. The building sustains no interior water damage and a claim was not filed.

Without identifying the issues on the roof, excessive moisture damage and poor roof cover condition led to roof cover failure. The building sustains significant interior water damage. Significant building and contents damage is sustained. The hotel has to close for an extended period during repairs with a loss of revenue.

ACTIVITY 4: PERFORM A SWOC ANALYSIS

Organizations use the Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis to identify both the internal and external factors that directly influence their business. Another term for SWOC is SWOT, which stand for Strengths, Weaknesses, Opportunities and Threat. SWOT and SWOC are the same thing, with "threats" and "challenges" being essentially the same thing.

- **Strengths** are used to determine what your business does well. If you know what you're doing well to promote proper building maintenance and resilient building strategies, you can build on these efforts. For instance, if you know that you already encourage roof inspections, you list that as a strength. You do not need to be the best in the industry at something to list it as a strength – your strengths are based on your own organizational performance.
- **Weaknesses** are those things that you struggle with or lack in your policies. If you know your weaknesses, you can try to improve or work around those weaknesses.
- **Opportunities** are the strategies provided in the Commercial Wind Loss Training that ultimately lead to the prevention of avoidable losses. Evaluate internally which opportunities are the biggest ones for your organization. If you identify these opportunities, you can develop strategies, training, and resources to achieve specific goals.
- **Challenges** are the issues confronting your organization when implementing strategies to promote resilience. They are the most important factors of your SWOC analysis because knowing your challenges will help you make informed and strategic decisions. You might have a solid plan catered to your strengths, weaknesses, and opportunities, but if you do not consider the challenges in your organization and within your industry, your plan could be useless.

MORE ON OPPORTUNITIES

To identify opportunities, it may be helpful to discuss what went wrong on a recent wind event, what could have been done to prevent the damage, and brainstorm how your team can minimize losses in the future. This will help you evaluate your company's current practices and see what (if any) new measures could be taken to help reduce claims.

MORE ON CHALLENGES

Like all paradigm shifts, prioritizing resilience in the face of weather perils will require overcoming roadblocks. By anticipating likely challenges (or threats), your organization will be better positioned to overcome them. It may be helpful to brainstorm with your team: ***What is stopping us from making this shift? What can we do to change this?***

Here are a few potential challenges that we see:

- Change is hard! Especially change involving new ways of thinking and/or challenging the way things have "always been done". But by focusing on the underlying reasons and benefits behind the shift, your team will be better positioned to embrace new policies and procedures.
- There are many players in the industry, such as roofing contractors, who also need to embrace this mindset shift.
- Investing more in resilient materials and construction methods may seem excessive compared to the norm. It sometimes requires higher upfront costs and the exact payback period is dependent upon the frequency or severity of damaging weather events.
- Some policyholders may not be sold on investing in more resilient construction. Consider how to promote and support the use of these construction practices.

Resources

MEMBERS ONLY COMMERCIAL WIND LOSS TOOLS

Using data and observations gathered during field and lab research, IBHS develops tools to help risk engineering and loss control staff evaluate and reduce risks and vulnerabilities to severe weather, including field tools to evaluate commercial structures that address specific natural hazards. Materials found at the link below will help risk engineering and loss control staff evaluate the wind resistance of different components of commercial structures.

Wind Loss Control Field Tools

ADDITIONAL RESOURCES

- FORTIFIED Commercial Construction Standard
- DisasterSafety.org
- Open for Business-EZ
- Wind Guidance for Home & Business Owners
- *Commercial Wind Loss Training* Glossary

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Contact IBHS at info@ibhs.org.

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