

G. Wires and Fire Insurance

1. Nicole Frazier Email- Insurance Presentation & Risk for Crop & Farms
2. Nicole Frazier Email- Wind Turbines on Farms WA, OR, ID
3. Nicole Frazier Email- Risk Management Plan & Fire Mitigation Plan for HH Wind Plan
4. Nicole Frazier Email- Fire Mitigation Company
5. Nicole Frazier Email- Wind Turbines on Farms WA, OR, ID; 2:01 PM
6. Nicole Frazier Email- Other Insurance Companies
7. Nicole Frazier Email- Wind Turbines on Farms WA, OR, ID; 10:14 AM
8. Carol Black Email- EPA Noise level- report from 1974

Denis Tracy

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Tuesday, November 25, 2025 4:50 PM
To: Denis Tracy
Cc: carol.black208@gmail.com
Subject: Nicole Frazier - Insurance Presentation and Risk Recap for Crop and Farms
Attachments: Insurance Recap .pdf; Nicole Insurance .pdf

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Denis,

I have put together a couple of things for you to review. Fire /Risk Mitigation, and Insurance for Crops and Farm/Ranch and Urban Home info is included as well.

Wishing you and yours a wonderful Thanksgiving!

Best,
N

11-25-2025

Risk Management, Mitigation and Insurability recap

Main Concerns:

The county has not yet presented HH Project Management on how they have accessed the potential risk and fire mitigation plans within the existing Wind Code nor to the public. The county commissioners have also turned a blind eye to potential insurance policy coverage changes and ultimate policy cancellations due to the project moving forward both on the farm/home policies and causing crops to be uninsurable as well.

Focus: Risk Management vs. Risk Mitigation

Risk management is a broad process that encompasses the identification, assessment, and treatment of risks within an organization. **Risk mitigation is a specific component of that process, focusing on implementing strategies to reduce the likelihood of risks occurring or the impact they may have**

Need: Identify Risks, Accessing the current risks and accepting the consequences.

Also Identifying hazards vs. vulnerabilities within the county inside and outside of the project areas. *Identifying what populations may have the most difficulty in preparing and responding to an emergency such as fire- for example there are over 530 households with disabilities etc. in Whitman County that could make it difficult to leave timely and safely in a disaster situation.*

Identifying levels of wildfire exposure around the expected phases of the HH Wind

Project. (See slide 8). The green area is Wildfire Transmission, which is the area near homes where flammable vegetation exposes homes, towns and communities to wildfire or fire danger. (Notice, most of the map is mint green, signifying that there is SIGNIFICANT FIRE RISK throughout the county).

Insurance Company Responses for many counties in WA State for Farm & Ranch, and Urban homeowners:

read slide 10 for a list of 6 main companies that will cancel homeowners and farm insurance should wind turbines be built. This includes cancellation of policies or drastic increases in premium from non-participating landowners. The changes in policy and premium are not isolated to those who chose to sign leases to HH. These changes will affect constituents living inside towns such as Colfax, Pullman, Colton, Uniontown, Garfield, Palouse etc. not limited to rural homeowners.

Crop Insurance effects: Man Made Fires are NOT a covered peril. If Landlord's and Farmers have a fire originate from a Wind Turbine and it burns crops, barns and homes, the crops are not covered by MultiPeril Crop Insurance. They will be subject to subrogation, along with the farm policy. (Please see Insurance Provision legal language from Policy Provisions Handbook 1137 Fire). **Please note that the Landowner is solely responsible for any fire that originates on their property.

Cost of Wind Turbines: Slides 16-19 lists the average cost of wind turbine fire damage and disasters, along with information on Wind Turbine Fire Suppression systems.

If you have any questions please don't hesitate to contact me.

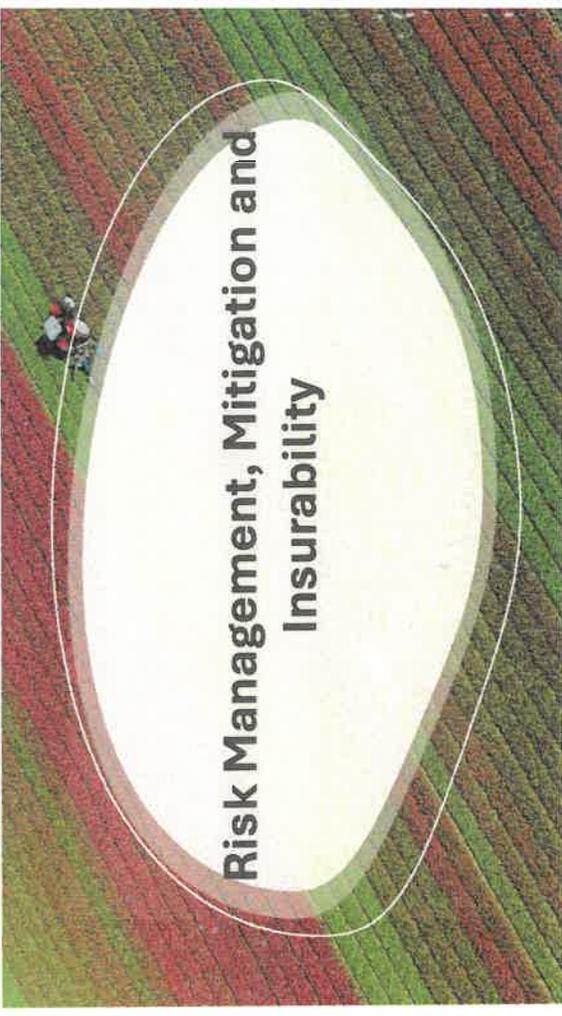
Best,

Nicole R. Frazier

509-954-8867

Fraziern99@icloud.com

The Measure of Risk Management



Risk Management vs. Risk Mitigation

Risk management is a broad process that encompasses the identification, assessment, and treatment of risks within an organization. **Risk mitigation is a specific component of that process, focusing on implementing strategies to reduce the likelihood of risks occurring or the impact they may have**

Introduction

⚠️ What is Risk Management

✓ The difference between Risk Management and Risk Mitigation

🌿 Crop Insurance Policy Coverages

🔥 Fire mitigation on Wind Turbines

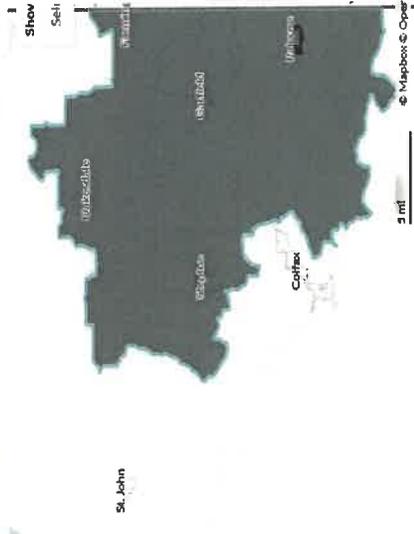


Potentially vulnerable populations may experience difficulty preparing for and responding to fire. Social and economic factors can make it more difficult for some people to prepare for, respond to, and recover from a wildfire.

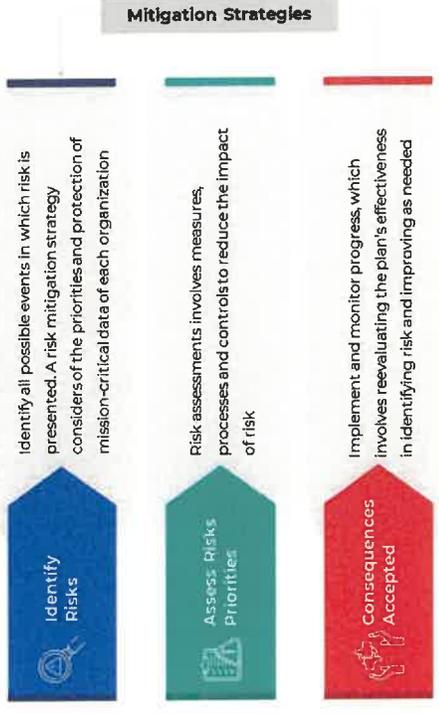
Learn how to use the information on this page

Tract 7, Whitman County, WA

Indicator	Number	% of	Percent	MADE	X
Families in poverty	37	2.5%	3.7%	2.5%	
People with disabilities	530	28%	14.9%	22.4%	
People over 65 years	710	38%	19.9%	22.3%	
People under 5 years	158	8%	4.4%	21.4%	
People of color	463	24%	13%	22.6%	
Black	0	0%	0%	0.4%	
Native American	28	1%	0.8%	10.6%	
Hispanic	98	5%	2.7%	11.8%	
Difficulty with English	9	0%	0.3%	11.8%	
Households with no car	63	3%	4.5%	22.2%	
Mobile homes	144	8%	10.2%	23.3%	

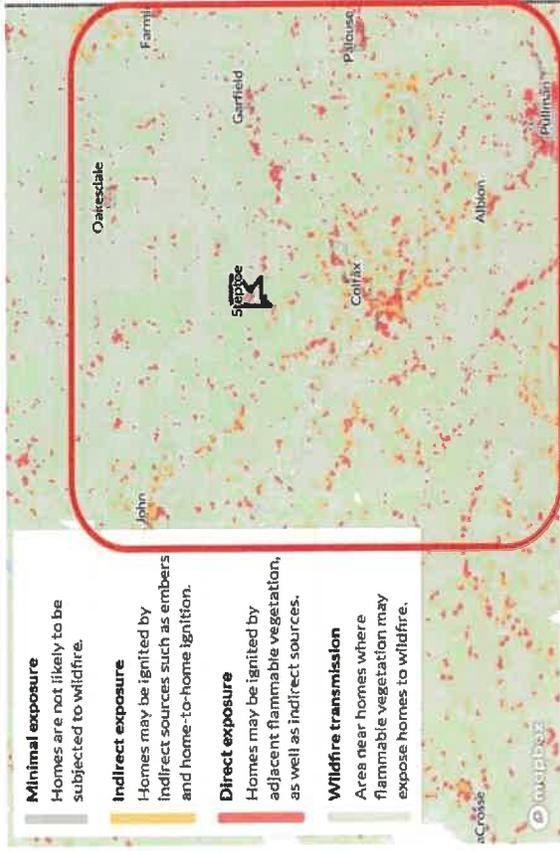


Risk Assessment And Mitigation Strategies



Mitigation Strategies

Looking at Hazards vs. Vulnerability



Who will be affected from increased liability by signing the Harvest Hills Wind turbine Project?

- Rural Landowners
- Rural Renters
- Urban or In-Town Landowners
- Urban or In-Town Renters
- This increase in liability affects EVERYONE even if you don't have turbines on your property. Insurance premiums are based on many factors, some of the most important are the law of large numbers, and proximity to risk or assumed risk.



Why is limited coverage and non-renewals occurring

To Limit exposure, insurers including major ones like State Farm are tightening underwriting in specific counties, even if they aren't fully pulling out of an entire state.



Insurance companies are using Risk modeling Tools where insurers use systems Verisk's Fireline to rate properties. Properties that are listed in high or extreme zones are often flagged for non-renewal



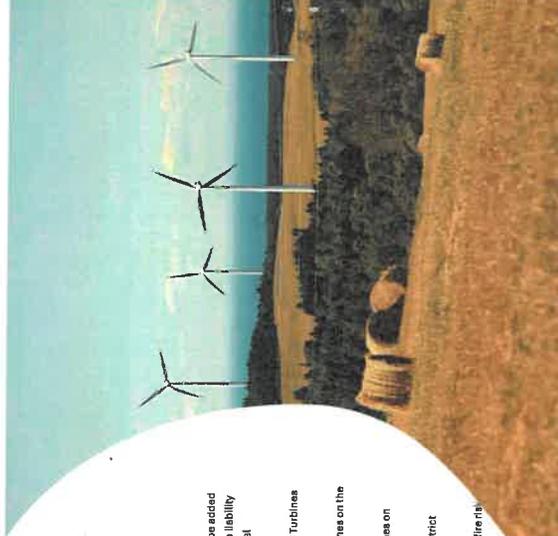
Some entire zip codes or regions are deemed uninsurable due to wildfire hazard, regardless of individual mitigation efforts



Average Response Time from Pullman FD Station #1 to Clear Creek Rd, Colfax, WA
 Shane Roche of Harvest Hills, specifically stated that he had made an emergency response plan with the Brett Nash, Fire Chief, Pullman, WA...
 27 Mins (assuming perfect conditions) response time to get to Clear Creek Rd.

Insurance Company Responses for many counties in WA State

- **Chubb Agribusiness Insurance:** Will not entertain coverage should Wind Turbines be added to any farm within Whitman, Garfield, Spokane, nor Latah Counties due to the increase in liability for many factors that are not limited to just fire or mechanical failure that cause additional damages to the proposed insured farms.
- **Nationwide Insurance:** No currently taking any new customers who will have Wind Turbines on their property
- **Mutual of Enumelaw (MOE):** Will not write any farm policies with known Wind Turbines on the properties
- **Travelers Insurance:** Will not take any policy checks considering putting Wind Turbines on their farm or properties
- **Orange Insurance:** Accepting policies with astronomical increase in premium and strict underwriting rules
- **State Farm Insurance:** Officially banned 4 counties in WA State due to extreme wildfire risk along with non-renewals



Who is Responsible for Man Made Fires on your Farm?



YOU ARE. The landowner is solely responsible for any fire that occurs on their property and originates on their property.



When a fire starts on the landowner's property and burns through their property line to the neighbors, the neighbors have the right to sue for damages. The landowner's insurance can also be subrogated against to collect damages as well, causing more increased in premiums for both parties along with high risk of non-renewal or cancellation.

Cost of Average Wind Turbine Fire



Per Geube, and insurance provider, a few studies showed the increasing and costly damage that Wind Turbine fires can cause.



Between 2008 and 2015, the total amount in fire related damaged paid by Geube insurance, (this is only one insurance Carrier's reporting) fluctuated significantly from less than \$4M in 2011 to over \$18M in 2013. In a 3-year span, the damage increased by 4.5x.



The recent estimates of wind turbine fires put the average cost around \$7M-\$8M.

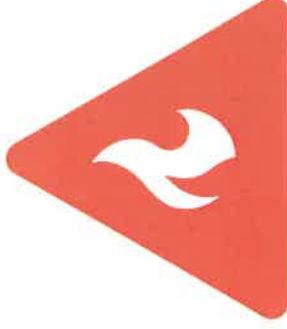
Crop Insurance Provisions Regarding FIRE

Is man made fire and insurable cause of loss on Multi-Peril Crop Insurance policies?

NO!

Would a fire that originates by a wind turbine be considered man made?

YES!



1137 Fire

REF: FAD 038
FAD 080

General Information

(8) Wildfires that are not due to a naturally occurring event are not insurable. Therefore, wildfires started by arson, burning of trash, third parties, or undetermined causes are not insurable COIs. However, in accordance with FAD-080, "This does not mean that losses because of fires that started as arson, or other man-made causes can never be covered. It is possible that fire experts may be able to establish that an arson or other man-made fire can eventually become a natural disaster because naturally occurring events, such as excessive wind or drought conditions, may cause the fire to spread much further than it would without such naturally occurring events. If the fire experts determine that at some geographical point, a fire started by arson can be considered a naturally occurring fire, then those losses in the area where the expert has determined the ignition source of the fire is considered naturally occurring and would be covered. However, those losses in the area where the ignition source of the fire remains attributable to arson or other man-made causes cannot be covered." If the fire is a naturally occurring fire, insured crop acres required to be covered (i.e., plow to create fire break) by state or local authorities whose responsibility involves fighting fires to prevent the fire from spreading even further will be considered damaged due to insurable cause of loss. Attach to the PW verifiable documentation for insurable causes and, if applicable, uninsurable causes.



Ignition Sources on Turbines

The Converter and capacitor cabinets in the Nacelle

The Transformer

The Nacelle area

The hydraulic area is sometimes, but not often still considered an ignition source

There are companies that specialize in Fire Suppression Systems in Turbines, but Shane from Harvest Hills, a Vestas Company has stated that none of the proposed turbines will have any fire suppression included in them.

Thank You

Nicole R. Frazier
Assistant Vice President, Marketing
Northwest Division Rain & Hail Insurance LLC
509-954-8867
Frazier99@icloud.com



There are companies that specialize in Fire Suppression Systems in Turbines, but Shane from Harvest Hills, a Vestas Company has stated that none of the proposed turbines will have any fire suppression included in them.

Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:14 AM
To: Megan Zumbuhl
Subject: FW: Wind Turbines on Farms WA, OR, ID

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 1:31 PM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Re: Wind Turbines on Farms WA, OR, ID

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Hi Denis,

I am ok with it becoming Public Record. The neighbor's insurance absolutely can be subject to that of the participating wind turbine landowner just simply due to the risk associated with that location. That can equate to non-renewals, cancellations and premiums so high that they become unaffordable. That is what all the constituents are not understanding. I will forward you a conversation between Art Swannack and I, as he admitted that the small Lamont Church was sent a non-renewal letter simply because of proximity to a fire risk mapped area, the church itself had not had a fire claim, nor a fire near it.. I can speak to that example as I was an agent at HUB - St. John, when he received it along with many others in that Lamont area. He is VERY aware of all of the negative insurance possibilities that putting these turbines can cause to landowners and non-land owners here in the County. He would rather look the other way. How will the commissioners explain to people in Colfax, Palouse, Garfield, and Pullman who live inside the towns, why they can no longer afford their insurance policies? Not a position I would want to be in. The risk does not out way the rewards as far as I can see it.

And just so you are aware, the insurance rates in Whitman County have gone up substantially. Some of people in the group said they have over doubled what they have paid in the past 20 years, just increased in the past year due to fire risk. So many in Whitman County are on fixed incomes. It's definitely not a chance I would be taking.

N

On Dec 1, 2025, at 10:58 AM, Denis Tracy <DenisT@whitmancounty.gov> wrote:

Hi Nicole,

Please keep in mind that anything I would get from you would be subject to a public record request. Can't be private.

One main question I have is whether the neighbor's insurance cost would go up, or their ability to get insurance at all would disappear, if someone next door puts up windmills. So if windmills nearby farmer Jones (but not on Jones' property), what will be the effect on farmer Jones' rates/ability to get fire insurance?

Best,

Denis

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 10:40 AM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Fwd: Wind Turbines on Farms WA, OR, ID

I'm sharing this with you in confidence as it is private. Chubb will not insure nor take on any farms in Whitman County or elsewhere should wind turbines be put up due to adverse risk associated.

N

Sent from my iPhone

Begin forwarded message:

From: "Frazier, Nicole - 11" <Nicole.Frazier@rainhail.com>
Date: December 1, 2025 at 10:14:00 AM PST
To: fraziern99@icloud.com
Subject: FW: Wind Turbines on Farms WA, OR, ID

Nicole R. Frazier

AVP Marketing

Rain and Hail, NW Division

Office: 800.967.8088

Cell: 509.703.9239

Fax: 515.559.1561

Nicole.Frazier@RainHail.com

For more information about the Agriculture Insurance from Rain and Hail visit www.RainHail.com.

<image003.png>

From: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>

Sent: Thursday, February 13, 2025 3:21 PM

To: Frazier, Nicole - 11 <Nicole.Frazier@rainhail.com>

Subject: FW: Wind Turbines on Farms WA, OR, ID

Nicole

See below.

More than likely Chubb Energy would need to get involved.

Let me know if you have any questions.

Mark.

<image004.png>

Mark Cummings, AFIS
AVP Agribusiness Marketing

72 North Franklin Street, PO Box P, Wilkes Barre, PA 18773-0016, USA
M 208-505-7991
E mark.cummings@chubbagrusiness.com

<image005.jpg>

From: Becker, Douglas - 42 <Douglas.Becker@chubbagrusiness.com>
Sent: Monday, February 3, 2025 3:29 PM
To: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>; Dyer, Kristin - 42 <Kristin.Dyer@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: RE: Wind Turbines on Farms WA, OR, ID

Can go into more discussion, but on the surface – would be expecting they have other coverage in place in which case we would be probably excluding liability with the wind turbines. If they have them, they generally either just get paid a lease for the ground or they may be also getting some \$\$ by the energy created – so contracts may be something to help us know better what is being expected of them and by whom.

Kinda of reminds me of old days when cel tower was being put up on the edge of the farm – concern was if we had the premises for someone climbing one or if it fell over in the wind and was tall enough that it could land on the road, that we maybe would get pulled in – thus one question was – how far from the roadway are we to account for broken blade coming off. Back to added item with wind turbine – would they look to my policy for a fire that gets started in the area if a generator / gearbox were to start on fire.

Possible the Chubb energy is in this space as the complement?

Sorry – maybe making for more questions than answers at this point, but not sure I am ready to take this exposure open arms if with it the expectation is that I am including it in my liability for the added liability coverage exposures.

Thanks

Doug Becker - CPCU, AFIS
VP Underwriting

Agriculture- Farm & Ranch

9200 Northpark Drive, Suite 250, Johnston, IA 50131, United States
O 515-559-1213 M 515-864-6141 F 515-559-1201
E Douglas.Becker@chubbagrusiness.com

From: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>
Sent: Monday, February 3, 2025 4:15 PM
To: Becker, Douglas - 42 <Douglas.Becker@chubbagrusiness.com>; Dyer, Kristin - 42 <Kristin.Dyer@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: FW: Wind Turbines on Farms WA, OR, ID

Can the two of you assist me with the question below?

I know for sure we are not providing any coverage for the turbines but are we okay with them being on the farm itself?

Thank you.

Mark.

<image001.png>

Mark Cummings, AFIS
AVP Agribusiness Marketing

72 North Franklin Street, PO Box P, Wilkes Barre, PA 18773-0016, USA
M 208-505-7991
E mark.cummings@chubbagrusiness.com

<image002.jpg>

From: Frazier, Nicole - 11 <Nicole.Frazier@rainhail.com>
Sent: Monday, February 3, 2025 3:02 PM
To: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: Wind Turbines on Farms WA, OR, ID

Hello Chubb Team! . .

I have had a lot of coverage questions start to come up here and there regarding if Chubb allows Wind Turbines on Farms with a continuation in coverage or increase in premium. As Mark and I were discussing, in WA and OR, I was told that MOE and Travelers are absolutely not allowing these, and also those farms run the risk of non-renewals or termination if found out that they are being put up on the farms.

I did hear that Grange is allowing them, but I am not privy to premium increase amounts or what the exact stipulations entail for farm coverage should there be any fires or pieces causing havoc. Just trying to gain more knowledge. Thank you in advance!

Best,

N

NICOLE FRAZIER

AVP MARKETING

Rain and Hail, Northwest Division

Office: 800.967.8088

Cell: 509.703.9239

Fax: 515.559.1561

Nicole.Frazier@RainHail.com

For more information about the Agriculture Insurance from Rain and Hail visit www.RainHail.com.

Rain and Hail

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Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:12 AM
To: Megan Zumbuhl
Subject: FW: Risk Management Plan and Fire Mitigation Plan for HH Wind Plan- response

From: Nicole Frazier <frazier99@icloud.com>
Sent: Monday, December 1, 2025 1:43 PM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Re: Risk Management Plan and Fire Mitigation Plan for HH Wind Plan- response

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On Sep 10, 2025, at 12:56 PM, Nicole Frazier <frazier99@icloud.com> wrote:

Art,
Please see my responses below in Red & Underlined:

Couple of questions for you Nicole.

1. Doesn't Palouse/Colfax fire departments cover the response area for the proposed wind project, not Pullman? I'm sure District 12 would join a joint response if needed but I don't believe they are the primary responder. Shane is the one who publicly spoke about who would be the first to respond during the HH public presentation back in Feb at WSU's Alumni Center. He publicly said that him and the (then) Fire Chief, Brett Nash, had a clear emergency plan that was based out of the Pullman Fire Dept #1 . I found it to be a very interesting response, considering the location of the project. Also, I think it is imperative that the county has something in writing verifying an actual emergency plan with Palouse, Colfax and Pullman. It just makes sense doesn't it?
1. Where did you get the \$7m to \$8m/wind tower fire damage number? As per your resource listed below, Fire Trace, I too, requested info a couple of months ago. There is a complete slide deck that actually lists your info you found, on their slide 3, my is from slide 5. Happy to share that presentation for your reference. I ask because I was recently looking at frequency and size of such fires in the PNW since 2019. It seems they burned anywhere from a few acres to up to 500 acres of vegetation (that was the biggest fire I could find in Washington and Oregon). The Tower would need rebuilt and replaced and that is the companies expense, but burning 500 acres of wheat at 70 bu/ac at \$6/bu is like \$200K. 99% of farmers cannot afford a \$200,000 uninsured loss. Just wondering what was damaged by such fires which caused the high costs you cite.

2. You're correct crop insurance doesn't cover man caused fires. However isn't it normal for landowners to have or demand the Lessee's have, liability insurance coverage for damage caused by the Lessee's equipment or actions? Thought that was normal practice in regular farm leases for farming purposes let alone some other type of business lease. Unfortunately, MANY farmers don't make it a lease requirement, not for a liability/property policy, nor for crop. I have also seen a LOT of landlord's liability policies lapse or they choose to non-renew without the farmer knowing, and some of what I have seen, they were cancelled for years before disaster struck. The landlord cited that they felt like that was solely the Farmer's responsibility. I agree with you, I would think that a grower would make this a requirement, and also a requirement of annual proof of adequate insurance.
3. I know locally we experienced cancellations of our church insurance not due to claims, but due to being in an area rated "wildfire prone" by the insurance company, even if it was within the small town of Lamont. This is such a good example, I do remember this happening, along with multiple farms out there that were sent non-renewal letters for the same reasoning, even without any claims. Do you have documents by insurers stating clearly that they won't cover a farm which leases out ground to a private developer for wind turbines? I am not able to share any direct policy holder names, or such documentation for obvious reasons. . I do however have other substituting documentation stating the above. The locations I inquired about were Garfield, Columbia, and Whitman county for coverage just so you know. The other thing to keep in mind, (which this happened to 5 growers in Garfield County, with potential Vestas wind farms, insured's requested quotes from their agent regarding their farm policy should they place wind turbines on their farm...the agent did as they were asked, and now each and every single one of those farmers put that insurance carrier on notice, not only of the possible massive increase in liability but also the EXACT location in which they were inquiring about additional coverage. Each of their farms, are more likely now on a watched area, as Whitman, Garfield, Columbia, Spokane, Adams and more are being excluded in coverage, and even cancelled and non-renewed.

As a side note I did some research on wind tower fire frequency. The data said the highest rate was one fire in 2000 turbines over their lifetime of 20 years. The lowest said one fire in 15000 turbines over the lifetime. If you use the highest frequency rate of one in 2000, it comes out to one fire in 15 years for a 150 tower development. It's publicly available information. Here's one source: <https://www.firetrace.com/fire-protection-blog/should-you-opt-in-to-fire-suppression-on-your-wind-turbines#:~:text=How%20common%20are%20fires%20in,more%20prone%20to%20fire%20risk.o>

I really appreciated you getting back to me with well thought out responses and questions Art. Looking forward to tonight's meeting! Please see the complete slides from the Fire Trace resource that we both have referenced.

Best,

Nicole

Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:12 AM
To: Megan Zumbuhl
Subject: FW: Fire Mitigation company
Attachments: The-Complete-Guide-to-Wind-Turbine-Fire-Protection-2.pdf

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 1:47 PM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Fire Mitigation company

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Here are the slides that Art and I were referencing. Though he didn't have the whole thing. I provided it in my email response to him.

Best,
N

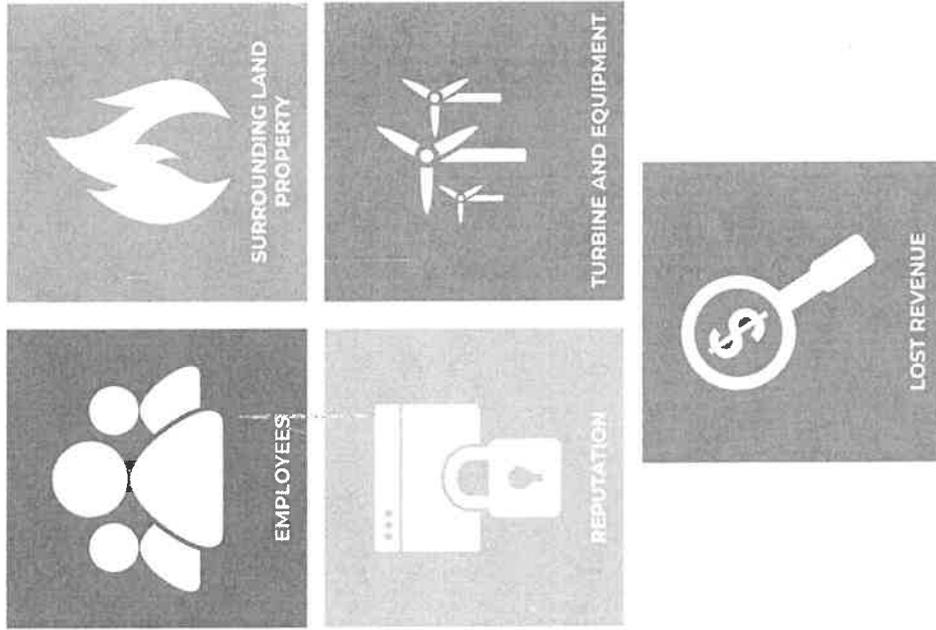
THE COMPLETE GUIDE TO WIND TURBINE FIRE PROTECTION

Assessing Risk | Types of Fire Protection Systems | ROI Calculation

ASSESSING RISK

To understand whether installing fire suppression systems in wind turbines is a practical decision for your business, you need to assess four factors:

- The likelihood a wind turbine will catch fire
- The cost of a fire in a wind turbine
- The cost of protection using one or more fire suppression systems
- The ability to prevent an increase in insurance rates at next renewal for mitigating fire risk



FREQUENCY

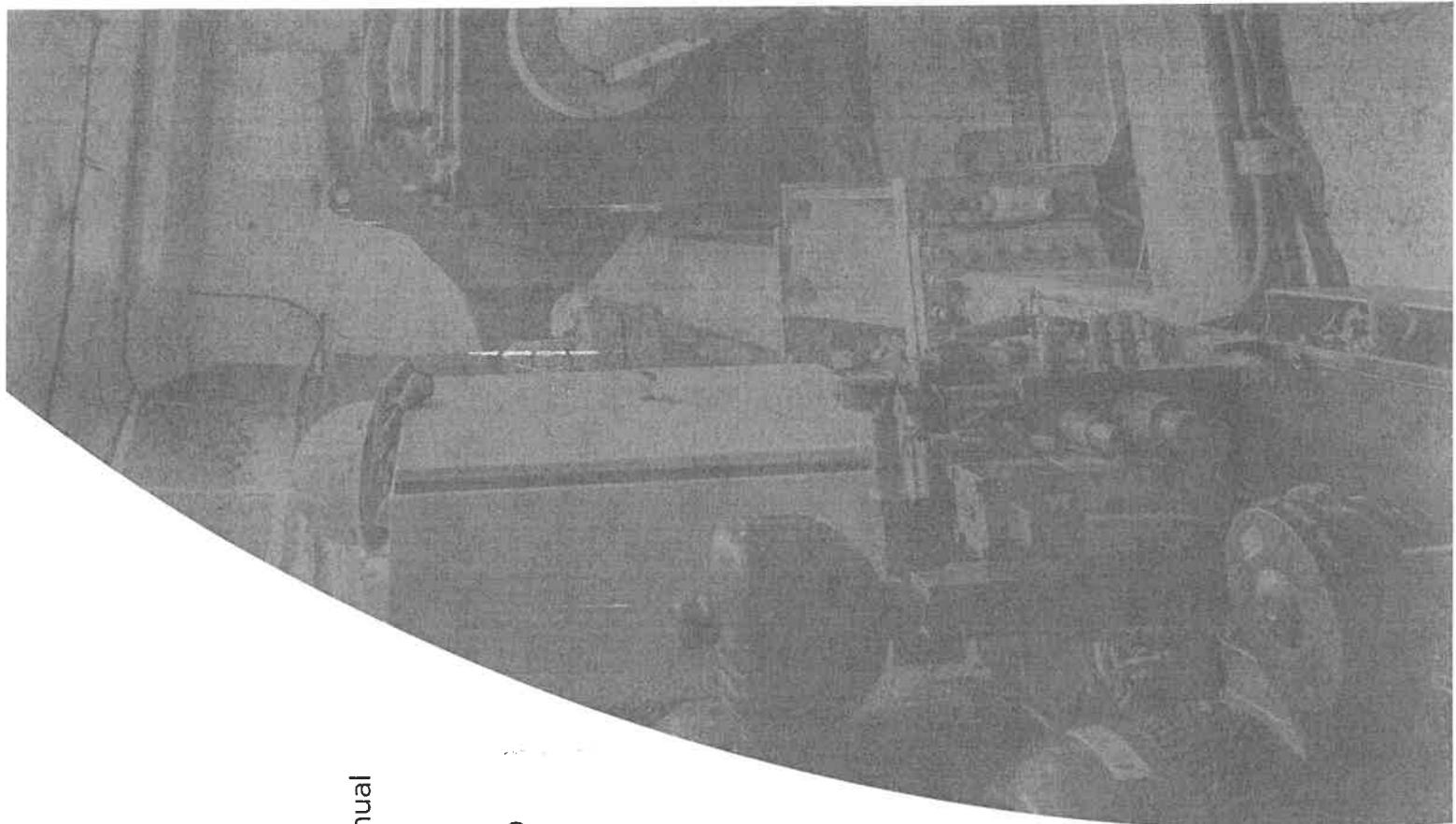
Several different authorities have reported estimates of the annual rate at which wind turbines catch fire. These include:

- 1 in 6,000 (GCube Insurance, 2015)
- 1 in 1,710 (International Association for Fire Safety Science, 2014)
- 1 in 10,000 (Fire Protection Engineering Magazine, 2019)
- 1 in 2,000 (Wind Power Engineering Magazine, 2020)

For the purpose of this report, we will use the Wind Power Engineering figure, because it is the most recently published.

With wind turbines catching fire at a rate of 1 in 2,000 each year, a typical wind farm with 150 turbines will experience 1-2 fires during an operating span of 20 years.

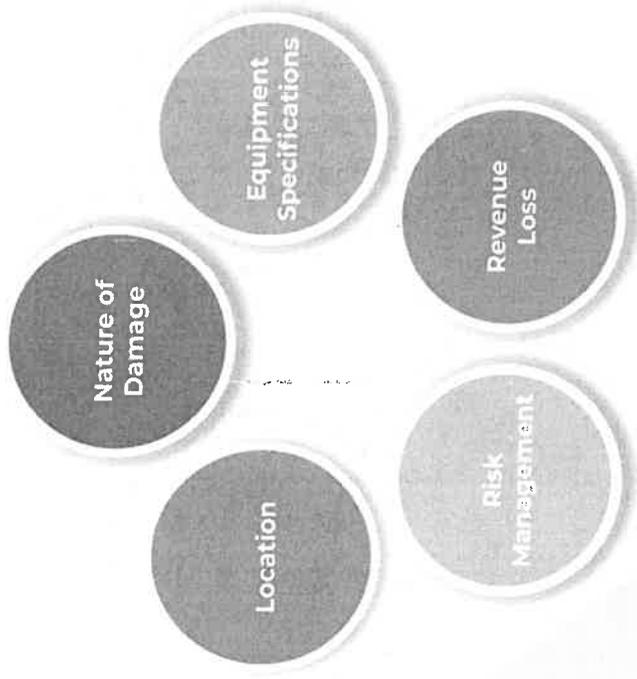
*In other terms, the average turbine has a **1 in 100 chance of catching fire** over an expected 20-year life.*



COST OF A FIRE

The cost of a wind turbine fire can vary significantly due to a number of factors, including:

- The size and output of the turbine affected
- Extent of the damage and availability of replacement parts
- Whether or not parts can be salvaged
- If the fire spreads to nearby equipment or vegetation
- If required to temporarily shut down the entire wind farm or complete a root cause analysis



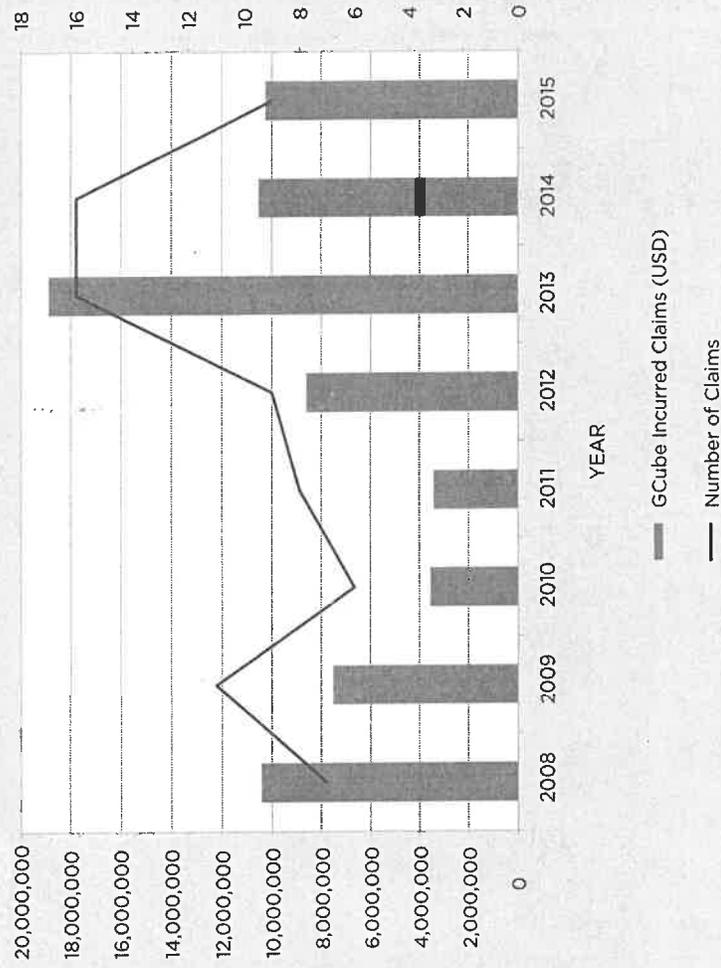
FIRE CLAIMS 2008 - 2015

Between 2008 and 2015, the total amount in fire related damages paid by GCube insurance fluctuated significantly from less than \$4M in 2011 to over \$18M in 2013.

In 2015, GCube estimated the average wind turbine fire costs \$4.5M.

GCube estimates that the average wind turbine fire costs \$4.5M. Most wind turbine fires originate in the nacelle, making them extremely difficult to fight. Nacelle fires typically result in a total loss of the turbine.

More recent estimates of wind turbine fires put the average cost around \$7-8M.



Source: GCube December 2015 Report - Towering Inferno, Global Trends in Wind Turbine Downtime Events

TYPES OF PROTECTION

Several different technologies can be used for fire protection in wind turbines. These include fire detection, arc flash detection, condition monitoring systems, and gaseous fire suppression systems. Most technologies focus on fire prevention. Only fire suppression systems, like those offered by Firetrace, can mitigate fire damage once a fire has started.

Firetrace systems target specific ignition sources in the wind turbine. This allows a flexible, modular approach to fire protection that can be customized for different turbine makes and models.

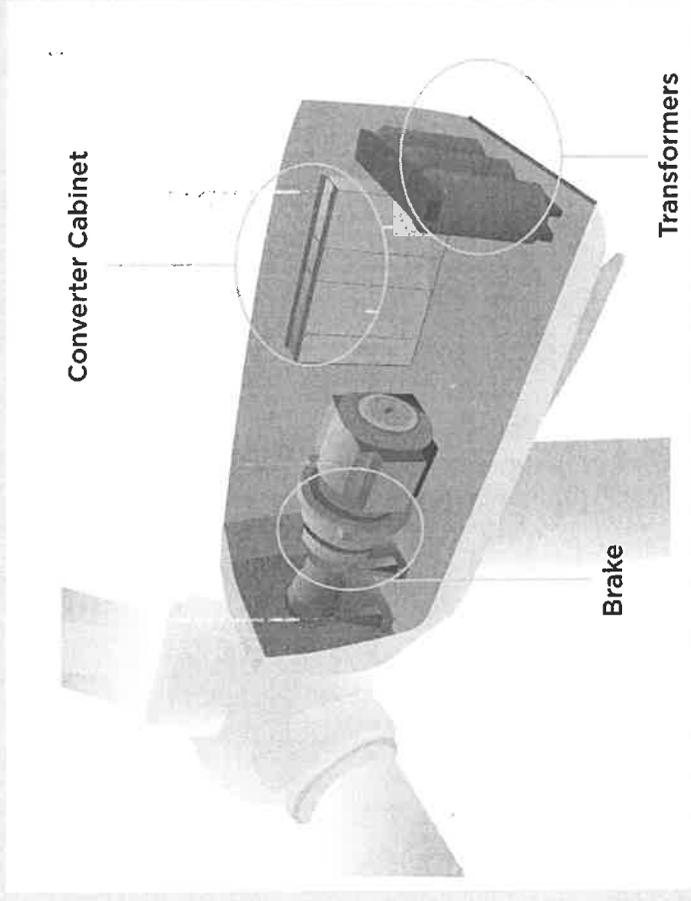


IGNITION SOURCES

Broadly speaking, there are three primary ignition sources – or areas of risk – in a typical wind turbine:

- The converter and capacitor cabinets in the nacelle
- The transformer
- The nacelle brake area
- The hydraulic area is sometimes, but not often, considered a fourth ignition source

Of the three ignition sources in a wind turbine, most fires start in the converter cabinet or capacitor cabinet, located in the nacelle. According to Renewable Energy Loss Adjusters (RELA), electrical faults are the leading cause of fires: “This involves anything from short circuit, overloading, cable failure, and crimping failure to generator failure.”



COMMON APPLICATIONS OF FIRE SUPPRESSION SYSTEMS

CONVERTER AND CAPACITOR CABINET PROTECTION

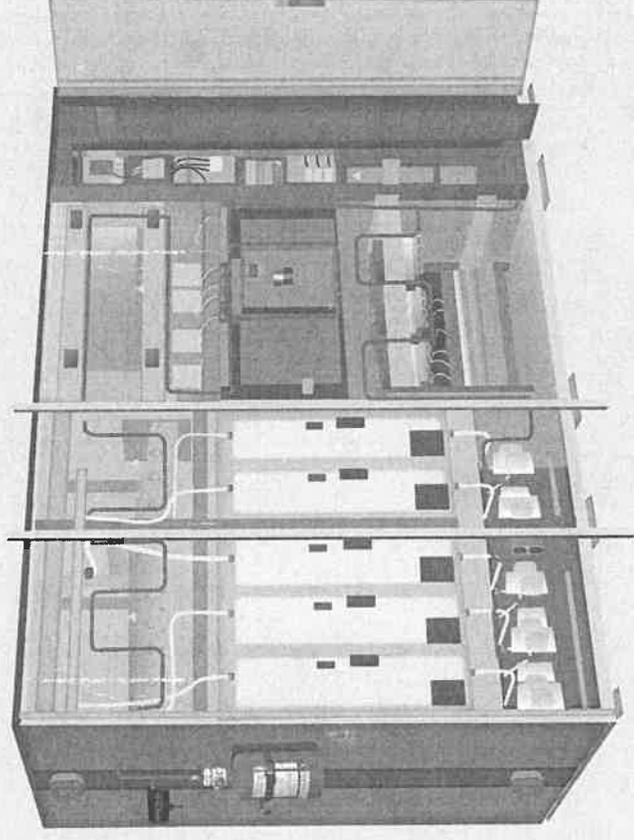
Because most fires start in the converter cabinet or capacitor cabinet, most wind turbine owners protect these areas first. Generally, both cabinets can be protected using a single Firetrace system. This is made possible by the design of the Direct Low Pressure (DLP) system, with flexible detection tubing that can be routed throughout the bank of cabinets. Suppression gas is delivered directly through the tubing.

NACELLE BRAKE AREA PROTECTION

The nacelle brake area is also relatively straightforward to protect in most wind turbines. Firetrace recommends an Indirect Low Pressure (ILP) system for nacelle brake area protection. This system also detects fires using flexible detection tubing, but it delivers suppression gas through separate nozzles.

TRANSFORMER PROTECTION

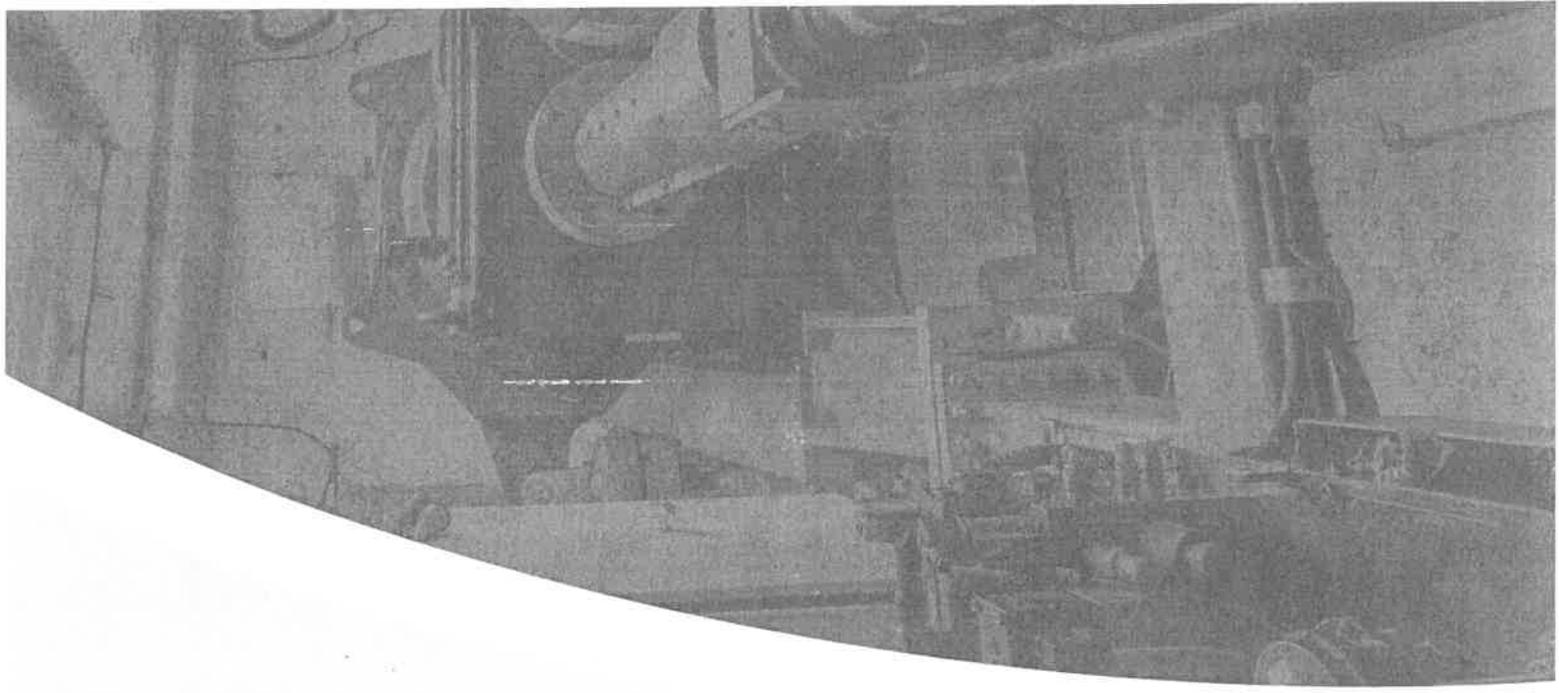
The transformer area, which is larger, may require a more robust system with multiple cylinders to ensure suppression agent effectiveness.



When installing a direct low pressure system on a capacitor cabinet or converter cabinet, route the flexible detection tubing around all possible ignition sources.

COSTS OF FIRE SUPPRESSION SYSTEMS

Firetrace systems are available to purchase directly from leading wind turbine manufacturers. This allows project construction capital to be used toward the installation of fire suppression systems for new wind projects. Aftermarket installations are also feasible due to the simple design of the systems. Firetrace recommends budgeting \$5,000 per turbine for aftermarket installations as an initial estimate.

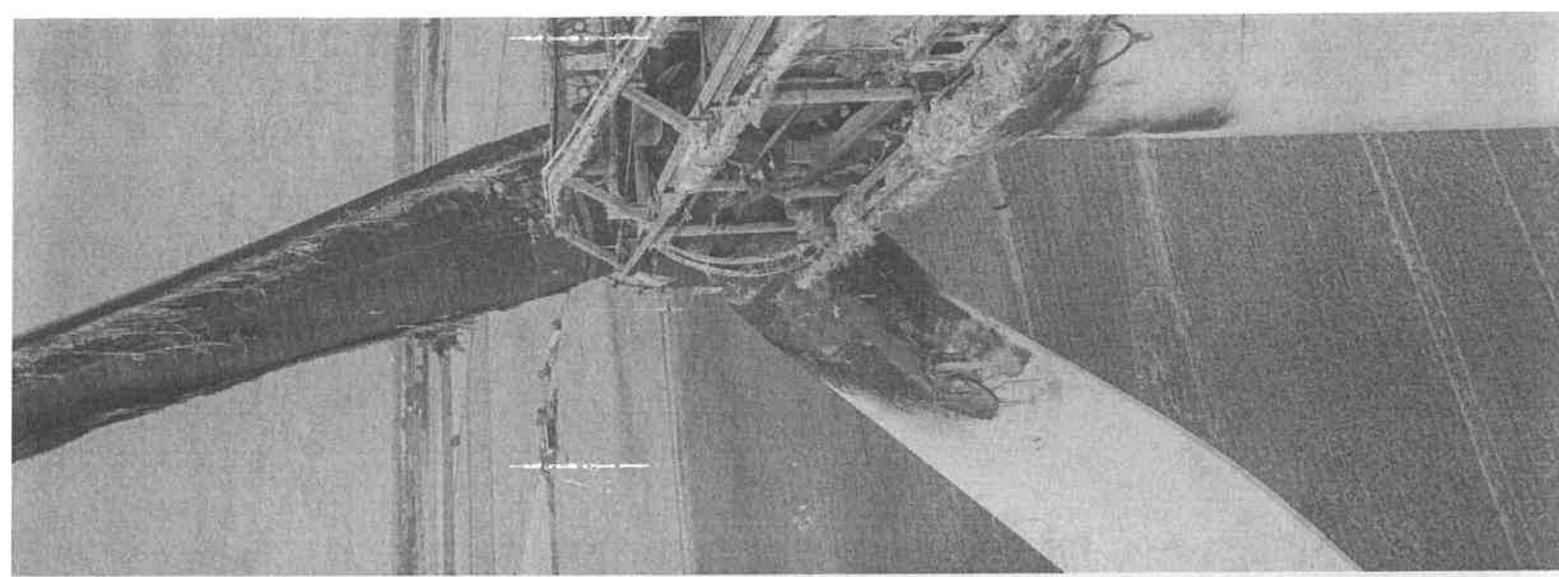


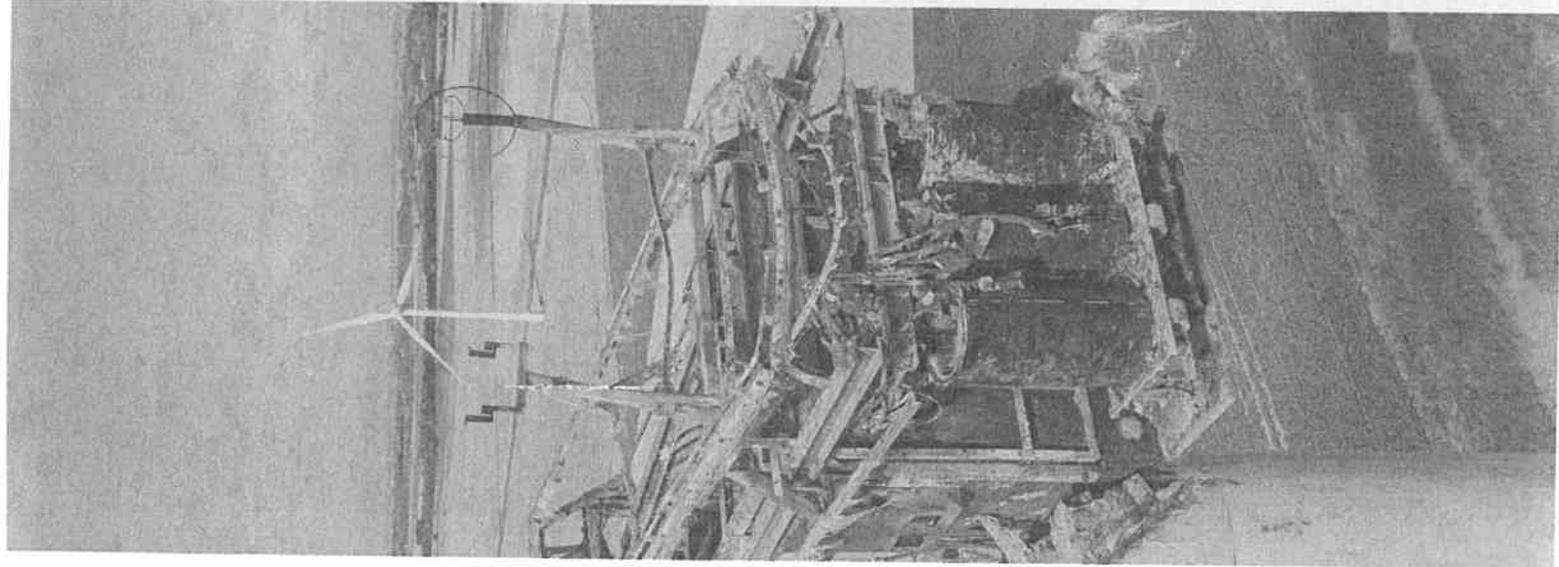
GUIDELINES FOR RECOMMENDING FIRE SUPPRESSION SYSTEMS

Although each customer will be different, we believe that the following table provides practical guidelines for the recommendation of fire suppression systems.

This analysis assumes that a typical wind turbine is valued at \$1M per MW. Given that most turbine fires result in a total loss of the turbine, this is the investment that is at risk with a wind turbine fire. We have also assumed a rate of 1 fire per 2,000 turbines per year, based on data from Wind Power Engineering Magazine presented earlier in this report.

This approach leads to stronger protection for larger and more expensive wind turbines. As the size and capacity of wind turbines increases both on shore and off shore, owners and operators should re-evaluate their approach to fire protection.





ON SHORE RANGE		OFF SHORE RANGE	
TURBINE CAPACITY	TURBINE COST	RECOMMENDED INVESTMENT*	RECOMMENDED LEVEL OF PROTECTION
1MW	\$1M	\$ 10,000.00	Capacitor & Converter Cabinets
2MW	\$2M	\$ 20,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area
3MW	\$3M	\$ 30,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area + Transformer
4MW	\$4M	\$ 40,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area + Transformer
5MW	\$5M	\$ 50,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area + Transformer
6MW	\$6M	\$ 60,000.00	Capacitor & Converter Cabinets and Nacelle Brake Area + Transformer
7MW	\$7M	\$ 70,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area + Transformer
8MW	\$8M	\$ 80,000.00	Capacitor & Converter Cabinets + Nacelle Brake Area + Transformer

*Based on cost of a wind turbine, rate of fire at 1 in 2,000 per year, and typical turbine lifetime of 20 years

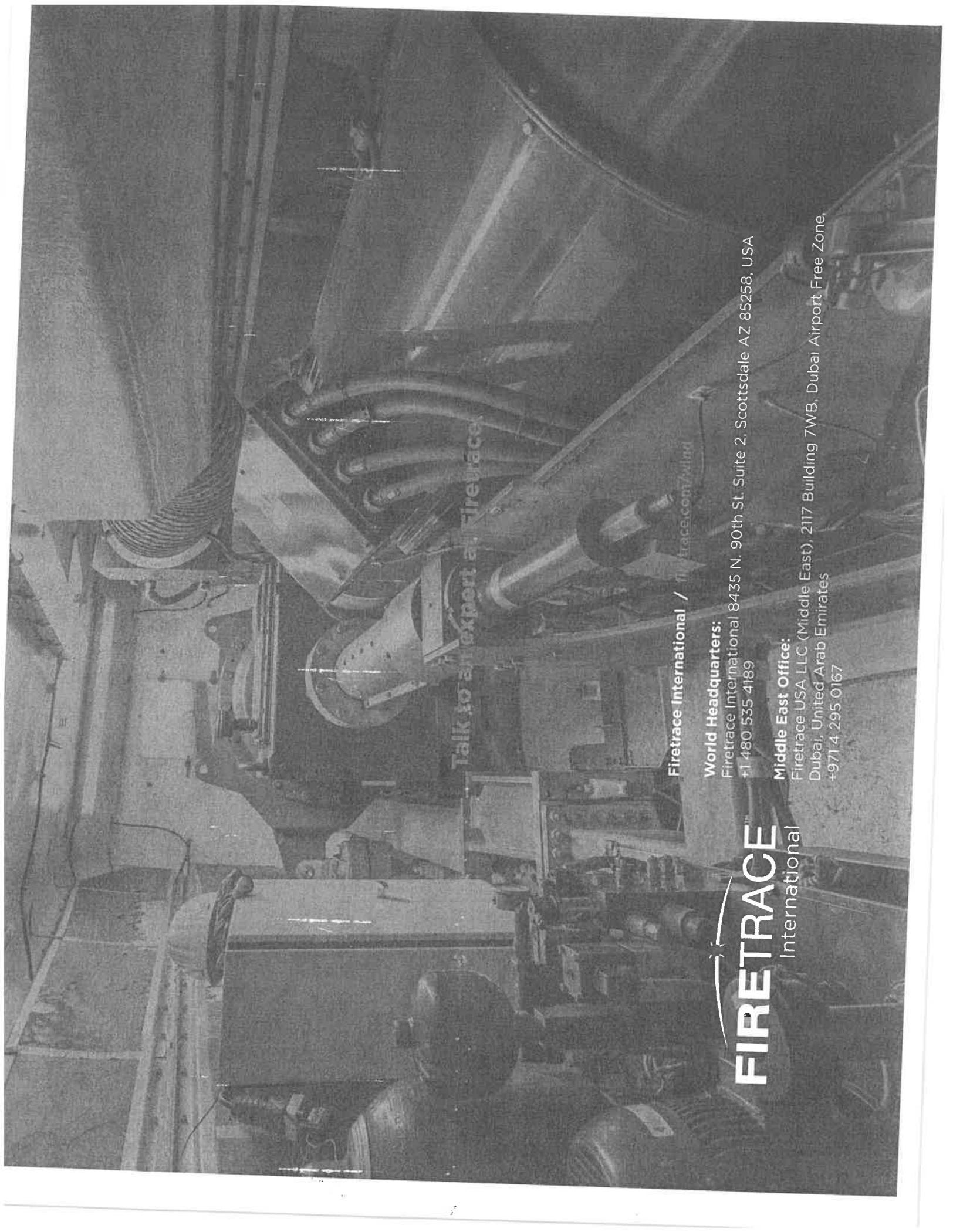
HOW FIRE SUPPRESSION CAN IMPROVE YOUR INSURANCE RATES

By not having a fire suppression system, you can expect more total loss claims from fire. While your insurer may pay you a large claim after a fire, the increases to your policy can be quite large. The money has to come from somewhere. After a fire claim, you can expect to see:

1. Increased premiums
2. Increased deductibles
3. Restrictions in cover

Fire suppression systems can reduce your fire loss risk, and in turn save your insurer millions in claims. While it is difficult to reduce your premiums in this hardened insurance market, it is reasonable to communicate to your underwriter how they benefit from you having fire suppression systems. You have a strong argument for your insurers reducing an increase in premiums/deductibles or maintaining your current rate to incentivize you to install fire suppression systems.

Fire suppression systems can provide a strong return on investment even without insurance incentives, but as your insurer benefits so much from you mitigating fire loss then it is fair to prove the business case for incentives to them.



FIRETRACE[™] International

Talk to an expert at Firetrace

Firetrace International / firetrace.com/world

World Headquarters:

Firetrace International 8435 N. 90th St. Suite 2, Scottsdale AZ 85258, USA
+1 480 535 4189

Middle East Office:

Firetrace USA LLC (Middle East), 2117 Building 7WB, Dubai Airport Free Zone,
Dubai, United Arab Emirates
+971 4 295 0167

Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:11 AM
To: Megan Zumbuhl
Subject: FW: Wind Turbines on Farms WA, OR, ID

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 2:01 PM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Re: Wind Turbines on Farms WA, OR, ID

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Just to add more clarity regarding Crop Insurance. There is no restrictions so far on specific areas obtaining Hail-Fire Insurance for Crops. That is a private product, but regarding Multi-Peril Crop Insurance or MPCl, no man made fire is covered. So if Farmer Joe's wind turbines start a fire, and that fire spreads to the neighbor's, he is completely liable and responsible for any damages, burned /destroyed grain, etc.

On the Home/Farm side of the insurance- any damages caused by a landowner, or homeowner, they are responsible for those said damages. The neighbors would have the right to subrogate against the owner and collect for damages. In a normal harvest season, I see the burned up crops that a neighbor's fire started, it usually gets worked out between neighbors but it can cause a lot of tension, and also loss of income. Not to mention, the farm's insurance on which the fire started, is usually non-renewed and can threaten the damaged neighbor's farm's insurance as well.

We just aren't in a climate anymore especially being so close to CA for Insurance Companies to allow risk such as possible fire at that magnitude.

Best,

N

On Dec 1, 2025, at 10:58 AM, Denis Tracy <DenisT@whitmancounty.gov> wrote:

Hi Nicole,

Please keep in mind that anything I would get from you would be subject to a public record request. Can't be private.

One main question I have is whether the neighbor's insurance cost would go up, or their ability to get insurance at all would disappear, if someone next door puts up windmills. So if windmills nearby farmer Jones (but not on Jones' property), what will be the effect on farmer Jones' rates/ability to get fire insurance?

Best,

Denis

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 10:40 AM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Fwd: Wind Turbines on Farms WA, OR, ID

I'm sharing this with you in confidence as it is private. Chubb will not insure nor take on any farms in Whitman County or elsewhere should wind turbines be put up due to adverse risk associated.

N

Sent from my iPhone

Begin forwarded message:

From: "Frazier, Nicole - 11" <Nicole.Frazier@rainhail.com>
Date: December 1, 2025 at 10:14:00 AM PST
To: fraziern99@icloud.com
Subject: FW: Wind Turbines on Farms WA, OR, ID

Nicole R. Frazier

AVP Marketing

Rain and Hail, NW Division

Office: 800.967.8088

Cell: 509.703.9239

Fax: 515.559.1561

Nicole.Frazier@RainHail.com

For more information about the Agriculture Insurance from Rain and Hail visit www.RainHail.com.

<image003.png>

From: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>
Sent: Thursday, February 13, 2025 3:21 PM
To: Frazier, Nicole - 11 <Nicole.Frazier@rainhail.com>
Subject: FW: Wind Turbines on Farms WA, OR, ID

Nicole

See below.

More than likely Chubb Energy would need to get involved.

Let me know if you have any questions.

Mark.

<image004.png>

Mark Cummings, AFIS
AVP Agribusiness Marketing

72 North Franklin Street, PO Box P, Wilkes Barre, PA 18773-0016, USA
M 208-505-7991
E mark.cummings@chubbagrusiness.com

<image005.jpg>

From: Becker, Douglas - 42 <Douglas.Becker@chubbagrusiness.com>
Sent: Monday, February 3, 2025 3:29 PM
To: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>; Dyer, Kristin - 42 <Kristin.Dyer@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: RE: Wind Turbines on Farms WA, OR, ID

Can go into more discussion, but on the surface – would be expecting they have other coverage in place in which case we would be probably excluding liability with the wind turbines. If they have them, they generally either just get paid a lease for the ground or they may be also getting some \$\$ by the energy created – so contracts may be something to help us know better what is being expected of them and by whom.

Kinda of reminds me of old days when cel tower was being put up on the edge of the farm – concern was if we had the premises for someone climbing one or if it fell over in the wind and was tall enough that it could land on the road, that we maybe would get pulled in – thus one question was – how far from the roadway are we to account for broken blade coming off. Back to added item with wind turbine – would they look to my policy for a fire that gets started in the area if a generator / gearbox were to start on fire.

Possible the Chubb energy is in this space as the complement?

Sorry – maybe making for more questions than answers at this point, but not sure I am ready to take this exposure open arms if with it the expectation is that I am including it in my liability for the added liability coverage exposures.

Thanks

Doug Becker - CPCU, AFIS
VP Underwriting

Agriculture- Farm & Ranch

9200 Northpark Drive, Suite 250, Johnston, IA 50131, United States
O 515-559-1213 M 515-864-6141 F 515-559-1201
E Douglas.Becker@chubbagrusiness.com

From: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>
Sent: Monday, February 3, 2025 4:15 PM
To: Becker, Douglas - 42 <Douglas.Becker@chubbagrusiness.com>; Dyer, Kristin - 42 <Kristin.Dyer@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: FW: Wind Turbines on Farms WA, OR, ID

Can the two of you assist me with the question below?

I know for sure we are not providing any coverage for the turbines but are we okay with them being on the farm itself?

Thank you.

Mark.

<image001.png>

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AVP Agribusiness Marketing

72 North Franklin Street, PO Box P, Wilkes Barre, PA 18773-0016, USA
M 208-505-7991
E mark.cummings@chubbagrusiness.com

<image002.jpg>

From: Frazier, Nicole - 11 <Nicole.Frazier@rainhail.com>
Sent: Monday, February 3, 2025 3:02 PM
To: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>
Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>
Subject: Wind Turbines on Farms WA, OR, ID

Hello Chubb Team!

I have had a lot of coverage questions start to come up here and there regarding if Chubb allows Wind Turbines on Farms with a continuation in coverage or increase in premium. As Mark and I were discussing, in WA and OR, I was told that MOE and Travelers are absolutely not allowing these, and also those farms run the risk of non-renewals or termination if found out that they are being put up on the farms.

I did hear that Grange is allowing them, but I am not privy to premium increase amounts or what the exact stipulations entail for farm coverage should there be any fires or pieces causing havoc. Just trying to gain more knowledge. Thank you in advance!

Best,

N

NICOLE FRAZIER

AVP MARKETING

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Cell: 509.703.9239

Fax: 515.559.1561

Nicole.Frazier@RainHail.com

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Rain and Hail

A Chubb Company

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resulting in any way from the receipt, opening or use of this email is expressly disclaimed.

Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:14 AM
To: Megan Zumbuhl
Subject: FW: Other insurance companies

-----Original Message-----

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 10:51 AM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Other insurance companies

Caution! This message was sent from outside your organization.

Longtime agent in Pomeroy, Jennie Bowman of McGregor Risk told me about Mutual of Enumclaw and Travelers refusing coverage in Garfield and Whitman County, along with Grange choosing to possibly consider coverage with a drastic increase in Premiums should Wind Turbines expand and be placed. This news came about after some of the farmers inquired about coverage and possible premium increases. They are now on a watch list so to speak because all main insurance carrier's are using fire risk as the main cause to non-renew policies all over WA State, especially following the continual fires in CA.

Windy Osborne , long time agent at Dorsey Insurance let me know about State Farm no longer writing new business and non-renewing due to fire risk areas , regardless of rural locations, this includes urban or residential homes as well.

Best,

N

Sent from my iPhone

Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:14 AM
To: Megan Zumbuhl
Subject: FW: Wind Turbines on Farms WA, OR, ID

From: Nicole Frazier <fraziern99@icloud.com>
Sent: Monday, December 1, 2025 10:40 AM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: Fwd: Wind Turbines on Farms WA, OR, ID

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Date: December 1, 2025 at 10:14:00 AM PST
To: fraziern99@icloud.com
Subject: FW: Wind Turbines on Farms WA, OR, ID

Nicole R. Frazier
AVP Marketing
Rain and Hail, NW Division
Office: 800.967.8088
Cell: 509.703.9239
Fax: 515.559.1561
Nicole.Frazier@RainHail.com

For more information about the Agriculture Insurance from Rain and Hail visit www.RainHail.com.

Rain a

A Chubb Comp

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CHUBB

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M 208-505-7991
E mark.cummings@chubbagrusiness.com

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From: Becker, Douglas - 42 <Douglas.Becker@chubbagrusiness.com>

Sent: Monday, February 3, 2025 3:29 PM

To: Cummings, Mark - PM <mark.cummings@chubbagrusiness.com>; Dyer, Kristin - 42 <Kristin.Dyer@chubbagrusiness.com>

Cc: Scherting, Justin - 42 <Justin.Scherting@chubbagrusiness.com>

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Mark.

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Megan Zumbuhl

From: Denis Tracy
Sent: Tuesday, December 16, 2025 10:15 AM
To: Megan Zumbuhl
Subject: FW: EPA Noise level - report from 1974

From: Carol Black <carol.black208@gmail.com>
Sent: Sunday, November 30, 2025 1:14 PM
To: Denis Tracy <DenisT@whitmancounty.gov>
Subject: EPA Noise level - report from 1974

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A 1974 EPA report on available sleep data found an indoor nighttime noise level of 35 dBA as acceptable for sleep.
Title: *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.*

Hope you found some quality time with family and friends for the holidays.

Carol Black