

① Were the test flights conducted over clear, open space?

② How did you obtain wind velocities at helipad height for the test flights? Without the ability to get a measurement at height, is it likely that flights were conducted beyond 25 knots?

③ Was hovering conducted within areas exposed to wind wakes?

④ Do you agree that boundary layer turbulence has no aggravating impact on leeward wake zones around ~~the~~ bluff bodies?

⑤ How does the model
over predict real life
control issues?

⑥ Was the recommendation
to lower the wind limitation
to 20 knots based on
any actual threat to
safety encountered during
the flights? Is it the
recommendation really just
a 'best practices' approach?

⑦ Do you agree that
medium weight dual engine
helicopters will be more
stable?

⑧ Is the space between
the pad and the rooftop
beneficial?

⑨ Do you agree that separation zones are minimized by the surrounding environment.

⑩ Are there electronic data collection devices that can be used in future test flights to measure pilot workload and controllability?

⑪ Are the obstructions at the helipad more benign than what is encountered on a ship?

⑫ Was your validation strongest at the most critical conditions?

• Did the IDOT test flight
place their helicopters in the
most challenging winds?

How does this helped
compare to others that
you've used?

= Katharine

RATE SAFETY ?

How would you expect
a medium weight, dual
engine helicopter to
respond to the downbursts
encountered on June 22?

6/23/11

THE HELIPORT WILL BE USED ONLY TO BRING
SICK CHILDREN.

NO OTHER USE WHATSOEVER RIGHT!

PLEASE CONFIRM

THANKS.

9pm Fri 24 June 2011

2 Q's from listening/learn...

1. Weather Center atop Children's Hosp.
use for all Chicago: I'm tired of mere "Cooker by the Lake"

2. Bigger width landing pad -
cover entire roof area
raise up to top of elevator shaft --
so it's never in way

if can put in smaller lift/lower for ~ 1/2 floors
so then can access/exit ^{to/from} elevator to Hosp.

Gregory Thorne
312-329-9283

If the heliport is approved
How can we be certain that it
will be used only for Children
and not adults, ~~and non life threatening~~
~~and~~ non life threatening situations,
or other purposes?

(front)

Why did Children's
Hospital report to the
News channels and
send a letter that
IDOT had found no safety
or wind problems with
the heliport and that

DOES THE HELIPORT
MEET IDOT
STANDARDS
WITHOUT FURTHER
TESTING?

(back)

it was approved -
(See 10pm NBC News
last night for example).
Karen Reid

WILL CMH CONTINUE TO PERFORM ^{TESTS} ~~TESTS~~
ON THE HELIFORT?

Are you committed to only
using twin engine helicopters?

Are you committed to using only
twin engine helicopters ~~at~~ the
hospital?

Question =

I understand that CMH has physicians on the staff of Central DuPage Hospital in the suburbs - west. Also a pediatric Emergency Room, ICU and neonatal ICU.

How is this facility utilized for children who need to be brought to CMH in Chicago - ER not used?
(over)

I AM PROFESSOR OF ANESTHESIA + CRITICAL CARE AT UC
I AM UNAWARE OF ANY DATA SHOWING HELICOPTER SAVE LIVES. I AM AWARE THEY HAVE A HIGH FAILURE RATE - MEN WERE BANNED FROM NYC
— WHAT EVIDENCE DOES CHICAGO HAVE THAT HELICOPTER TRIP/SPIN SAVES LIVES?
J MOSS MD PhD

Why could not the facility be used to take the pressure off the main hospital for critically injured kids??

Thank you for addressing this concern of mine.

① WHY DO OTHER CHILDREN'S HOSPITALS IN LARGE DENSE CITIES (SUCH AS PRESBYTERIAN IN NYC) NOT SEE THE CRITICAL NEED TO MOVE SICK CHILDREN BY ~~HAS~~ HELICOPTER? CHILDREN'S HERE HAS REJECTED USE OF A CLOSE-BY POLICE/~~HEA~~ COAST GUARD HELIPAD BECAUSE IT WOULD REQUIRE ONE MORE TRANSFER. WHY DON'T OTHER HOSPITALS HAVE SUCH CONCERNS?

② HAS CHILDREN'S IDENTIFIED EMERGENCY LANDING SITES IN THE AREA? (2 YRS AGO THEY HAD NOT.) WHY? THEY SHOULD BE IDENTIFIED WELL BEFORE AN EMERGENCY AS SUCH LOW LEVEL FLIGHTS.

If helicopter pilots have greater latitude in deciding the approach to a landing site, ~~why do helicopters have a higher percentage of crashes.~~

Why are SMT helicopters still crashing when in service

Go

Comments were made about how cold it is in here. We have contact building maintenance to address this issue.

THE MODELS EXPERIENCED TOGETHER WITH THE HISTORY AND THEORIES DOES NOT TAKE INTO CONSIDERATION

- (1) AGE AND CONDITION OF AIRCRAFT BEING HIRED OR USED.
- (2) EXPERIENCE AND TRACK RECORD OF PILOTS.
- (3) LAB THEORY IS GREAT BUT TRY WALKING DOWN MIES VAN'DIROE NORTH OF CHICAGO AVENUE TO DELAWARE AT VARIOUS TIMES AND GET BLOWN AWAY BY THE

Has this extensive type of
wake study turbulence review
been done for any other land base
heliport that you know of?

JUDGE NEVILLE

QUESTION FOR IDOT EXPERTS

WIND DIRECTIONS AT CHICAGO AVE LAKEFRONT
ARE FROM EAST IN SPRING, SOUTH IN SUMMER
SW DURING SUMMER STORMS, NW DURING
WINTER STORMS AND VARIED AT OTHER TIMES.

CONSIDERING THAT WE HAVE HAD ABOUT
4 MODERATE WEATHER DAYS SINCE
MARCH 1, IS IT A COINCIDENCE THAT
2 OF YOUR FLIGHT TESTS WERE ON
THESE CALM DAYS.

JIM REID
PRESIDENT

5. Didn't test winds on exit paths and escape paths
do the engineers realize there are 4 flights/patient

23 June 2011

After attending meeting + meeting(s) long time ago

- Gregory favors building Hospital Helipad
 - GUT favors flying children + adults (at critical time)
- MOST OF TIME

- GUT opposes flying life/death patients SOME of time
Storms/wind/low visibility

MAIN DILEMMA: Pilots learn + set out rules: fly/not fly
AND FOLLOW.

Add up how many lives saved in future years.

mid 1960's off PANAM (MetLife) Bldg Manhattan Midtown, New York City

Copter plunged to ground, 7 killed on helo, 2 killed on ground.

BUT if more than 9 lives saved over 25 yrs or so,
Helipad + copter flights worth it + saves more lives than take

312-329-9243 or 312-388-9243

Gregory Thurn

IT WAS MENTIONED THAT
75 CHILDREN'S LIVES WERE
SAVED - WHAT WASN'T
MENTIONED WAS THAT
OVER THE PAST FEW YEARS
MANY HELICOPTER'S CRASHED
AND MANY LIVES WERE
LOST - PILOTS, NURSES, DOCTORS
AND PATIENTS -
PAULETTE

What is the probability
of accident free
interval over
a 5 year interval?

Was any future development
in the streeterville area
been considered in study?

① What contacts has IDOT's Council
or IDOT or their consultants had with
Children's Hospital and or its consul or consultants

② Dr. Horn is it not true that helicopters are
known to be the least safe air craft.

③ If Children's Hospital and Northwestern is
convinced of the safety of their Helipad will they
indemnify family's and property owner in the event of crash

④ Why didn't IDOT ask the experts about operational
safety - shouldn't that be the concern of all

Thomas Philipson

Does Helicopter
flight in streeterville
increase the risk
of ice dislodgement
from Hitchcock building?

IS THERE ANY POSSIBILITY OF
REHABBING MISS FIELD AND
~~USE~~
USING IT FOR HELICOPTERS?

It is 5 MINUTES AWAY.

Why are there so many
accidents in medical helicopters,

Barker Moss

The drawing showing the
easterly approach shows two
aborted flight directions one
north and one south.

De Veillette chose to discuss
only the aborted flight path
to the north. Why?

The north arrow was as wide
as Water Tower Place. Is it
possible a pilot could tell the
difference between Fleet and
"slow" buildings?

7-24-11

LAST NIGHT IT WAS STATED THAT 75 CHILDREN'S LIVES WERE SAVED.

I WONDER IF IDOT KNOWS HOW MANY LIVES - CHILDREN, NURSES, DOCTORS AND PILOTS - WERE LOST IN THE NUMEROUS HELICOPTER CRASHES DURING THE PAST FEW YEARS.

PAULETTIC
A RESIDENT IN STREETERVILLE

IF A HELICOPTER CRASHES THE DEBRIS SCATTERS FOR MILES. THIS WOULD BE A DISASTER IN SUCH A DENSE AREA AS STREETERVILLE.

IF NORTHWESTERN OR ANYONE ELSE BUILDS A NEW BUILDING NEARBY WILL IT AFFECT HELIPORT SAFETY?

HAS ANYONE DISCUSSED WITH EXPERIENCED HELICOPTER PILOTS WHETHER THEY WOULD RATHER

LAND AT LUTHERAN GENERAL (WHICH HAS A VERY GOOD CHILDREN'S HOSPITAL) ~~WHICH~~ AND

HAVING TO MAKE 3 OR MORE ATTEMPTS AT THE PROPOSED HELIPORT WOULD TAKE THE EXTRA 5 MINUTES OR RISK

- ① I've been told that New York has banned helicopters in the city due to danger.
- ② What would be an alternative landing area if it became necessary?
- ③ In this city of questionable weather - why would you build a building with a helipad on top and tall high-rises - where wind gusts can be very strong?

E. GRADY

After living in the John Hancock Bldg. for many years, fog has completely obscured the view from my windows more than $\frac{1}{3}$ of the time.

Would the helicopter fly by instrument at ground level? I have been blown into cars in the street level.

HERE IN The city which has more

over → Challenging Wind Patterns with All of the TALL Buildings Channeling Wind Gusts?

RISK - REWARD

Why risk one accident into a high rise building that could kill a few hundred people?

CORRECT ME IF I AM WRONG.

Why do we need emergency helicopter service for children when there is a heliport at UOFC, Rush AND LOYOLA

Gregory Johnson

6AM 24 June 2011

The issue is create adherence to safety/wind policy on an issue-by-~~issue~~-incident, copter by copter, pilot-by-pilot fly/not fly, land/or land at other nearby site that minority of times.

No one knows future winds, I cautiously find not studying/studying of each gust or eddy, no reason to approve or disapprove of heliport.

If more lives (children + adults) are saved than killed. Heliport is safe.

I lived near New York City in 1960's when copter off heliport killed 9 people. I live near Northwestern Hosp. last summer when close/fast to emergency surgery from Brain aneurysm saved my life. Am I that important?

Why now? Isn't there good reason this has never been allowed?

FOR DR. VILLETTE:

COULD HORN WIND STUDY RESULTS BE USED AS THE BASIS FOR FLIGHT SIMULATOR TRAINING OF PILOTS FLYING INTO CMH HELIPORT, AS SUGGESTED BY MR. ALEXANDER LAST WEEK?

FOR DR. CORK:

WHAT WOULD BE A CONSERVATIVE LIMIT G.W. WIND/GUST FOR INITIAL OPERATIONS INTO THIS HELIPORT?

In what FAA document or IDOT document
is a rejected landing path defined or required?
~~Is it really the same as required?~~

Question

Does the helipad meet
IDOT standards without
further testing?

To the wind experts:

In your professional opinion is it technological
and or economical feasible to study all
variable/possible wind conditions at this
proposed helipad and on all potential
approach paths to the helipad to
conclusively prove the helipad is
safe or unsafe?

Verheer

Does US Navy dynamic interface
testing base safety on whether
or not the aircraft crashes?

~~Or does it use a formal
pilot rating system?~~

Judge -

2 IDOT questions
Are just for
Jerry Hayt
Ray Syms
Please

FOR IDOT

WHAT WAS THE MEAN HORIZONTAL WIND SPEED AND GUST SPREAD ABOVE THE HELIPORT WHEN IDOT ~~LANDED~~ LANDED AT THE HELIPORT?

HOW DID IDOT DETERMINE THESE WIND SPEEDS AND GUST SPREADS?

yes, definite ✓

IS A FT SAFE TO LAND AT THE HELIPORT WHEN A PILOT DOES NOT KNOW THE WIND SPEED OR GUST SPREAD?

? ✓

DO YOU BELIEVE A SAFETY DECISION CAN BE MADE BASED UPON ONE SUCCESSFUL LANDING?

DO YOU AGREE THAT THIS HELIPORT DOES PUT A PILOT UNDER AN INTENSE WORKLOAD?

How close did I get
GET TO THE STREET
ON DEPARTURE?

yes ✓

MR SYMS INDICATED
THAT THE PILOTS "FEEL"
TRUMPS THE AWOS
IS ITS IDOT'S POSITION
NOW THAT ALL RATE
WIND INFORMATION AT THIS
HELIPORTS NOT NEEDED?

MR SYMS TESTIFIED REGARDING
~~HELICOPTER ACCIDENTS~~ ~~HOW MANY~~
HAVE THERE BEEN SINCE JULY
2009?

MR SYMS TESTIFIED CONCERNING
LACK OF DATA OF HELICOPTER
ACCIDENTS, ~~HOW MANY HELICOPTERS~~
ARE YOU AWARE THERE HAVE
BEEN 23 ACCIDENTS SINCE
JULY 2009?

FOR IDOT

WHAT IS THE
EMERGENCY LANDING
AREA FOR THIS HELIPAD?

What is the

where are the
emergency landing
areas along the
flight paths & at
the helipad

TO Dr. Vaillat

① Wouldn't a typical pilot plan ahead and avoid distractions when on final approach?

② Weren't "real world variables" present in the flight tests flown on June 22 and June 23 as well as the 19 prior test flights?

③ Don't HEMS pilots have duty time limitations?

④ Are you aware of any other hospital helipad that imposes strict operating limitations and requires that pilots complete an education and orientation program specific to that site?

⑤ Do pilots routinely alter course to avoid unanticipated weather activity?

TO DR. VAILLETTE

- ① Would a medium weight, dual engine helicopter have greater thrust, greater power margins, and greater ability to minimize the impact of downdrafts?
- ② Given a choice between having a/cos information for a landing location and not having it, which would you prefer?
- ③ Is it fair to compare civil flight tests with military tests?
Isn't the military pushing aircraft to the outer limits of their envelopes or even testing new, unproven aircraft?
- ④ Why didn't you do a safety study?

To Dr. Corke:

- (1) Aren't bluff body aerodynamics Reynolds number independent such that viscosity dependency is of little or no importance?
- (2) You criticized lack of agreement between gust variables in RWPI & the Horn report, but didn't they use entirely different quantities? - gust factor of 4 for Horn but 3 second gust values for RWPI.
- (3) Do you agree that a medium weight dual engine helicopter would demonstrate greater stability?
- (4) Would you expect the data produced through real life flights collected with a flight data recorder to be more reliable than simulator data?

For Corke

1. Are effects such as BUI, retreating blade stall, transonic flow ~~and~~ important for predicting pilot controls on a GOLF decelerating approach?

2. Are these effects ~~can~~ included in the simulation models used by industry and government for predicting pilot controls ~~and~~ and handling qualities?

~~3. Are there~~

3. Was the error analysis of the flight dynamics model standard engineering practice in ^{the} modeling and simulation community? Are there examples of this approach in the modeling and simulation literature?

4. Is it reasonable to evaluate error based on the approach trajectories in which there are random turbulence disturbances that cannot be expected to in sync between flight test and simulation?

1
RA

- Define intense work load, what are the other categories & how are they quantified?
- Dr Corke made the statement and referred to you (Dr Veillette) as an expert pilot, how much pilot in command time do you have in helicopters and have you ever flown the Bell 206 or BK-117?
- Can pilots do anything to avoid settling with power, are they taught strategies and techniques to stay out of this situation?
- Given a rejected landing occurs along the approach path prior to or at the critical decision point wouldn't that occur well prior to the heliport location?
- You discuss issues with visibility, what is the minimum visibility that HEMS can conduct operations?
~~(RAM SPACES 2021 Day Center 10 3 miles)~~
- You discussed fatigue in your report, are pilots regulated as to how long they can work? Does this apply to medical teams?

RA

- What are the minimum ceilings that HEMS operations can be conducted you made reference to low ceilings.
~~(1000' Day 800' Night 1000')~~
- When flying do you utilize just one weather reporting station for safe operations or do you look at all weather reporting stations within your operational area.
- Given the large approach and departure fan that CMT described wouldn't it be possible to take off without a tail wind in all cases?
- ~~Do all wind socks point one direction or do they rotate?~~
- The pilots that you observed in the simulator, were they operating on a regulated 14 hour max FAA time duty shift, how long had they been awake at Zam?
- During a critical phase of flight would you look inside the cockpit to change a radio frequency.

BA

- Do pilot get any training on how to interpret winds & turbulence in use of an Awos or a windsack?
- Do pilot get any training on how to abort a landing?
- The pilots you tested in the simulators were they military pilots or civilian pilots?
~~Are~~ military pilots more focused on completing the mission at all cost vs, a civilian pilots who are more apt to make the abort decision sooner.
- What do other heliports across the country use to indicate wind? are Awos used traditionally at heliports?
- You stated that Awos wx is an hour old is that true regarding the radio and telephone transmissions, or when there is a significant change?
- Can a pilot get other Awos reports while in flight?

Cross of Horn/CD

1. What would be an acceptable level of error for the wind simulation when compared to the RWDI Wind tunnel experiments?
2. What would be an acceptable level of error for the helicopter/pilot simulation when compared to the actual test flights?
3. Is it standard engineering practice to require a simulation to be verified and validated?
4. If a study is not verified and validated can it be used to make a safety determination?
5. Did you know the wind speeds, gust spreads and wind shear at the helipad when the flight tests were run? If so, where was that information derived?
6. When the mean wind speed is 20 knots at the 30 foot sample height at Midway and the gusts are 15 knots what is the wind speed and gusts at the heliport? How is that calculated?
7. What are the error bounds or margin of error for the flight control predictions?
8. ~~Did the IDOT contract require a determination of the error bounds for the Helicopter/pilot simulation and wind simulation?~~ *WAS* *made*
9. *(You showed one of them)* Figures 3.6-1 to 3.6-5 of your report compares the wind simulation prediction to the wind tunnel experiment what was the level of error when the simulation was compared to the wind tunnel study?
10. Does the wind simulation include the effect of rotors on the airwakes?
11. In the flight tests that occurred yesterday 6/22/11 the helicopter hovered above the heliport but did not land why not?
12. In a flight test that occurred today after a landing how close did the helicopter get to the side and top of the Streeter building on departure?
13. Do you agree that the CFD model must be validated to a known experiment like the RWDI model?
14. Does the report you filed make any conclusion about the ability of the Super-AWOS to predict dangerous wind conditions?
15. Do the flow predictions of the wind simulation indicate that the AWOS will significantly under-predict the mean wind speeds for west wind conditions?
16. ~~Today the winds were from a westerly direction did IDOT test the escape route identified by CMH as directly over Water Tower Place?~~
17. ~~How close is Water Tower Place to the heliport?~~
18. ~~How much taller is Water Tower Place than the heliport?~~
19. ~~Is the Horn report a formal engineering safety study which identifies a comprehensive set of hazards and risks, and a plan to avoid or mitigate the hazards and risks?~~
20. ~~Does the Horn report conclude it is safe to operate at the heliport?~~

STEPHANIE HAYNES

21. For ~~AWOS~~ - Has the algorithm the AWOS uses to compute wind shear been validated for a highrise urban environment?

Will the results of the flight test
be shared with the public?