

Solutions to mitigate Wind related Accidents

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Too many Tower Cranes, both Traditional and Luffing are experiencing WIND related accidents - - in most cases these incidences are primarily due to operator error. However, in my opinion, the Manufacturers need to step up and adopt safety designs that can protect against human error. (It may take governmental action to get this started)

For instance:

- 1). I have yet to see a flat-top hydraulic luffing-Jib (boom) buckle backwards. This is due to its boom being hard-fixed at any angle, and structurally more robust. So, why not design an apparatus that can lock a luffing boom in its Out-of Service position.
- 2). A cranes PLC can easily be programmed to automatically configure the crane if the Operator forgets, or does not properly configure the crane as per the manufactures out-of-service instructions.

Either one of these measures would significantly reduce wind related accidents.

Other measures that can reduce the odds of tower crane accidents include:

- PLC program that records vital information for the purpose of facilitating accident investigation.
- Erection crews (including crane operators) max hours worked limited to 10/hrs per day and or 60/hrs per week. (Fatigue is a common factor)
- During assembly / disassembly, the assist crane used should not exceed 85% of it capacity when in populated ares.. (general public within cranes collapse radius)
- Wire rope inspection scanners. (Visual inspection not reliable)
- HV bolts checked with torque / tensioning equipment. (Visual not reliable)
- Use cranes that have "Pin" Mast connections.
- Anchor the crane to a concrete foundation.
- Manufacturers must make available all safety / service bulletins (on-line, easy access)
- Fire suppression systems on electrical panels and especially on all diesel engines cranes.
- If a cranes hook radius can contact power lines, provide crane with a zone protection system, or protect power line with insulated covers.
- Do not add anything that will increase the wind-sail-area of a crane
- Wind-sock (flag) on upper structure so to verify (from ground) the cranes orientating to the wind.
- Prescribe to a Weather monitoring service that gives alerts.
- Rescue device on all tower cranes. (that fire/rescue workers will use!)
- Criminal charges need to be brought when egregious actions result in death or serious bodily harm.

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