Piers, Wharves & Docks

Exposures and Concerns

By: Christopher L. Pesce
May 10, 2011

Statistics

- Estimated industry losses for 2010: $30,000,000 +
- Already at or above this amount through Q2 2011
- Estimate dock losses account for 10%-15% of the Rec. Marine Market (est $275m - $300m)
- For large property losses, (>50k), PWD account for 40 - 50% of the total property losses.
- Average dock loss is $140,000 - $160,000, for one carrier the average was $448,000.
- Most frequent cause of loss are Windstorm (often non-CAT) and Collapse from Weight of Ice and Snow
- Other leading cause of loss include Fire, Collision, Tsunami, Drought and even damage by vehicles…
Hazards Map

- WINTER STORM / COLLAPSE / WIND
- COLLAPSE
- WEIGHT ICE & SNOW
- TORNADOS
- SEVERE WEATHER
- COLLAPSE
- DROUGHT / WIND
- TSUNAMI
- Quake
- OCCASIONAL WIND
- WIND
- COLLAPSE
- CAT WIND
- WEIGHT ICE & SNOW
- COLLAPSE
- WIND

Piers, Wharves & Docks

- 17 Miles Inland
Piers, Wharves & Docks

The Story of Grand Lake, OK - 2011

• 46,000 acre lake with 1,300 miles of shoreline

• Over 30 marinas on the Lake

• A severe winter storm in early Feb 2011 dumped over 2 feet of snow in a 48 hour period

• EVERY marina on the lake suffered a collapse claim of varying severity

• No construction type proved to be immune from damage
The Story of Grand Lake, OK - 2011
TORNADO’S

In one day, April 27th 2011 at least 12 marinas were hit amounting to somewhere between $3,000,000 - $6,000,000 in dock damage

The most devastating outbreak of Tornados in a single day in over 40 years
Tornado Damage April ’11 Storms

The devastation of an F4 Tornado
Tsunami’s

Tsunami 2011
Underwriting Considerations

- Do we know what we're covering?
- Do agents know enough to report all of exposures?
- Valuations –
  - Consistently Undervalued
  - ACV v Replacement Cost
- Ordinance and Law Concerns
- Business Interruption Coverage
- Is our loss control experienced enough to know what they're looking for?
- Post loss considerations – Cheapest bid or better construction?

Carrier Policy Definitions

1. Your piers, wharves and docks, floats, platforms, gangplanks, pilings, wiring, pipes, ground tackle, moorings, buoys, … and all other property which forms a part thereof...

2. Property Covered includes: docks; piers; wharves; moorages;

3. …means piers and docks owned by you… covered property extends to wharfs, jetties and breakwaters… includes water lines, gas lines, electrical power, lighting fixtures and equip permanently affixed to the dock or pier.

4. Docks and piers means docks, piers and their supporting structures, electrical and water lines connected to…
Floating Docks

Fixed Docks
Wharves - Defined

1. Structures erected on the margin of Navigable Waters where vessels can stop to load and unload cargo.

2. A platform built out from the shore into the water and supported by piles; provides access to ships and boats.

3. A structure or platform of timber, masonry, iron, earth, or other material, built on the shore of a harbor, river, canal, or the like, and usually extending from the shore to deep water, so that vessels may lie close alongside to receive and discharge cargo, passengers, etc.
Jetties & Breakwaters

Jetties, Breakwaters and Wave Attenuators

Beachfront Villa
Wave Attenuators

Wave Attenuator Comparison Between Equivalent Caisson and Defender M
For similar attenuation of a 9-second wave period

12 tonnes per 1/4 meter
or 4 tonnes per linear foot
Caisson Type
50 tons per 1/4 meter
or 15 tons per ft.
Implications of coverage

Other items that show up on docks

- Floating Homes
- Boat Houses
- Restaurants, Tackle Stores, Sales Offices, etc

Are all of these items on the schedule and were they contemplated in the statement of values?
Knowing what’s qualifies as covered property has serious implications:

- Application of Coinsurance for ACV or Replacement Cost Calculations
- Insurability of desired property
- E&O when damage occurs to uncovered property
- How you issue your policies, scheduled vs blanket coverage

### Policy Structure Matters

Example 1
- **Scheduled**
  - A = $100k
  - B = $100k
  - C = $100k

Example 2
- **Blanketed**
  - PWD = $300k
  - Barge
  - “D” Dock???
**Policy Structure Matters**

### Traditional Marine Form
- Flood & Quake not excluded
- Law & Ordinance excluded
- B.I. available, sep. limit from real property
- Deductibles sep. from Real Prop

### Added to Real Property From
- Flood & Quake ARE excluded with Flood buyback
- Law & Ordinance included
- Property Bells & Whistles Inc.
- B.I. the same limit for real and wet property
- Separate deductibles typical

### E&S Property Markets (Large Property placements)
- All property subject to one limit & one large deductible
- BI included over wet and dry
- Ordinance may or may not be included
- Flood and Quake, if included have sub-limits across wet & dry

---

**Largest Challenges to Adjustment**

### Valuations
- What property is contemplated under the contract?
- ACV, RC or Agreed Amount?
- ACV – Typical depreciations of 2% - 5% per year
  - Wood Docks: 20 Yr schedule
  - Composite or Pressure Treated: 40 Yr schedule
  - Metal Docks: 50 years tops
- Determining prior damage
- Determining Business Income Loss – Time of year dependant
- Not replacing the KIA with a Mercedes
Largest Challenges to Adjustment

Construction Cost

| Floating Docks                          |  |  |
|-----------------------------------------|  |  |
| Concrete Pontoono                        | $60+ | Cost per SqFt |
| Steel or Wood Frame docks with IPE Wood Decking | $40 - $50 | Cost per SqFt |
| Steel or Wood Frame Docks with Wood Decking | $15 - $35 | Cost per SqFt |
| Steel or Wood Frame Docks with Plastic Decking | $6 - $15 | Cost per SqFt |
| Wood or Concrete Fixed Piers             | $250 - $400 | Cost per SqFt |
| Metal Roof Systems & Supports            | $15 - $30 | Cost per SqFt |
| Marine Electrical Systems                | $1,000 - $2,500 | Per Boat |
| Domestic water system                    | $200 - $400 | Per Boat |
| Fire Stand Pipe System                   | $250 - $400 | Per Boat |
| Bulkheading (wood, plastic, steel, aluminum or concrete) | $1,500 - $4,000 | Cost per LFt |
| Pilings (wood, Steel, Concrete or Composite) | $500 - $3,000 | Each |
Ordinance & Law Considerations

Generally speaking – East and West Coast have reasonably stringent building codes for dock construction, Mid-west and other inland territories...not so much.

• Local Code for wind resistance, weight loads and wave height
• Encapsulated v Un-encapsulated Styrofoam
• Construction type
• Anchoring and pilings (weight, height, width etc)
• Electrical – Compliance with NEC
• NFPA for fire code compliance
Engineered vs Non-Engineered

**Engineered Docks**
- Designed by an engineer to very specific requirements for wind loads, weight loads etc.
- Designed specifically for the environment they’re in (predominant wind is out of the East..)
- Construction is typically superior due to the load requirements
- Anchoring or piling configurations are well thought out
- Load testing assumes xxx amount of vessel are tied to the docks during an event.

**Non-Engineered Docks**
- Not necessarily designed poorly but not looked at from an engineering standpoint.
- Construction typically lacks additional cross member supports that give the unit addition load capacity for wind and weight.
- Minimum amount of

---

**Piers, Wharves & Docks**

How can we improve Underwriting Results for PWD?
1. Tighter forms that clearly articulate what is covered and what’s not
2. Move away from Blanket Coverage or insist on detailed valuations
3. Greater application of ACV over RC
4. Educated Loss Control
5. Understand the Diff in Engineered Dock v Non-Engineered
6. More rate
7. More deductible – model closer to standard property market
8. Cool the Earth
9. STOP WRITING DOCKS!