

API Cybernetics Meeting

Orlando, Florida April 9, 2008



Lessons Learned – August 2007 Flood

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Marathon Pipe Line


Marathon

100 Year Flood – Findlay, OH

August 2007



Marathon Facility

Blanchard
River

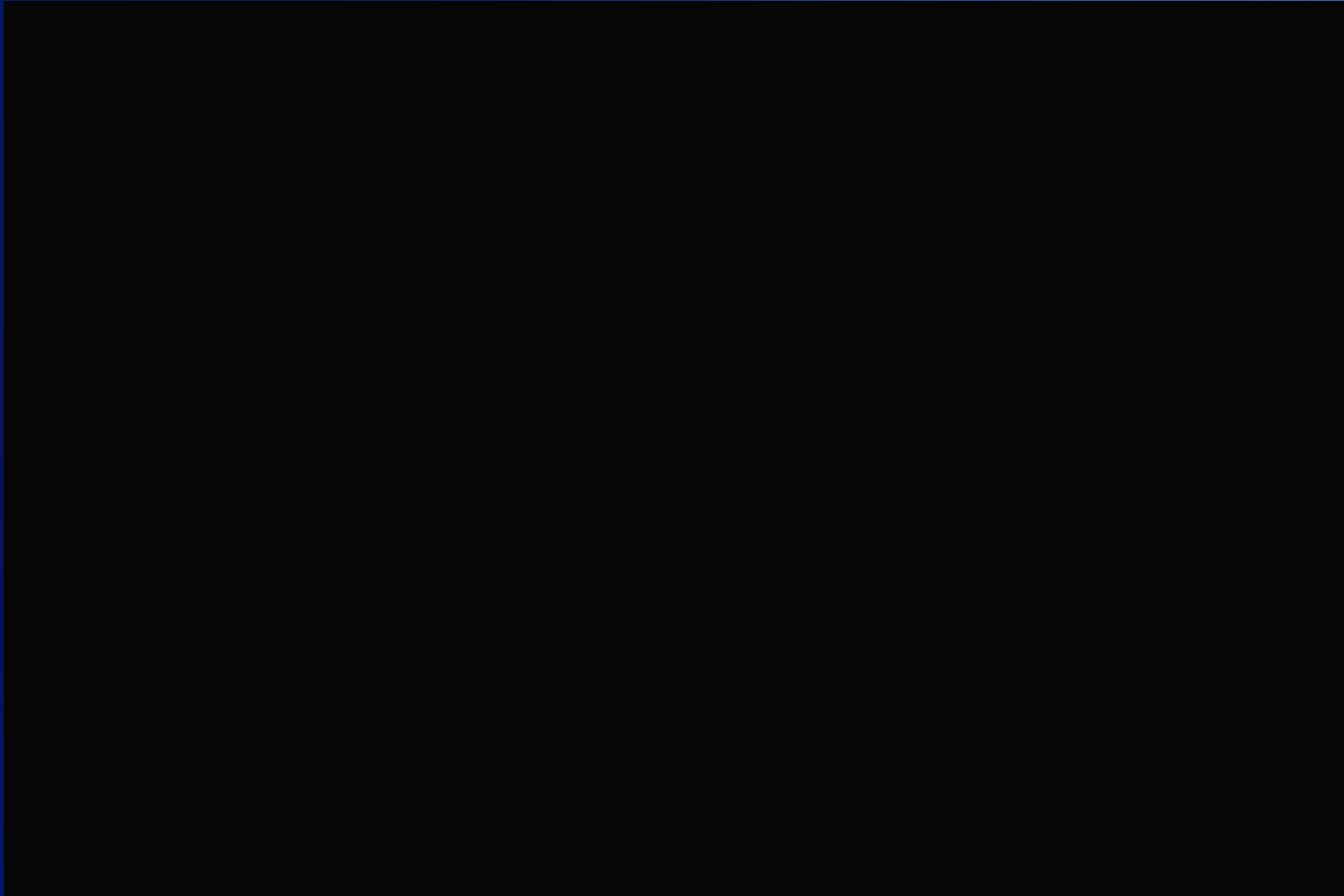
Lessons Learned:



- ◆ Disasters and Emergencies Can Happen
- ◆ Have a Business Continuity Plan
- ◆ Practice the Plan
- ◆ Have a Backup Operations Center
- ◆ Ensure it is capable of an extended period of operation
- ◆ Take care of the people
- ◆ Incorporate other business critical people and groups in the plan
- ◆ Be Prepared

Summary Video: ---- as you see this, be thinking of your OC, your BOC & plans and how you would respond

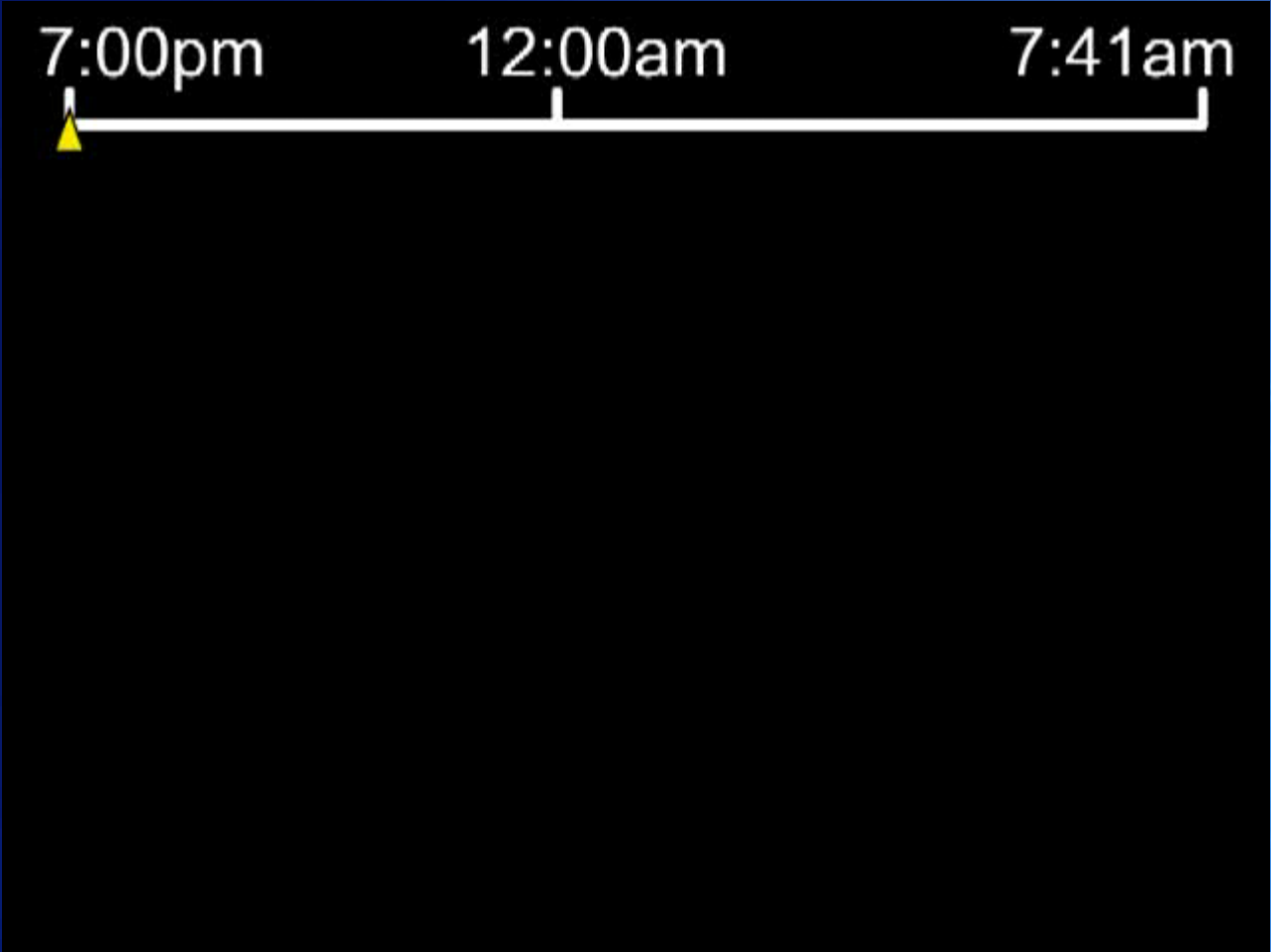
The Flood



Facts of the Flood



- ◆ **100-Year Flood**
- ◆ **Worst Flood Since 1913**
- ◆ **Record Rainfalls**
 - **6 Counties**
 - **36 Hours**
 - **All Same River Watershed Area**
- ◆ **River Crested Higher Than Predicted**



August 21



- ◆ **Aug 20 forecast for 8/21 scattered thunderstorms**
- ◆ **Many neighborhoods experiencing runoff type flooding that was typical in past heavy rains**
- ◆ **Findlay has gone through numerous minor floods**
 - Predictions were flood levels below “action level” for impact to the building complex
 - “things will be better tomorrow”
 - No proactive planning for evacuation was done

August 22, 2007 after midnight - river levels were exceeding predictions



3:00 AM – Findlay basement is filling;

~ 3:30 am - Proactive data push & send CPM & SCADA resource to BOC

3:30 AM – Decision made to mobilize 6 AM shift to Back-up Operations Center

3:38 am - Lost main building power, still had UPS power to the OC

5:00 AM

- Lost UPS power to Operations Center
- SCADA & CPM equipment went down hard
- evacuated existing shift wading thru knee deep water, went to predetermined location, verbal shift change (cell phones)

7:00 AM – Humanitarian Team Effort initiated for affected employees

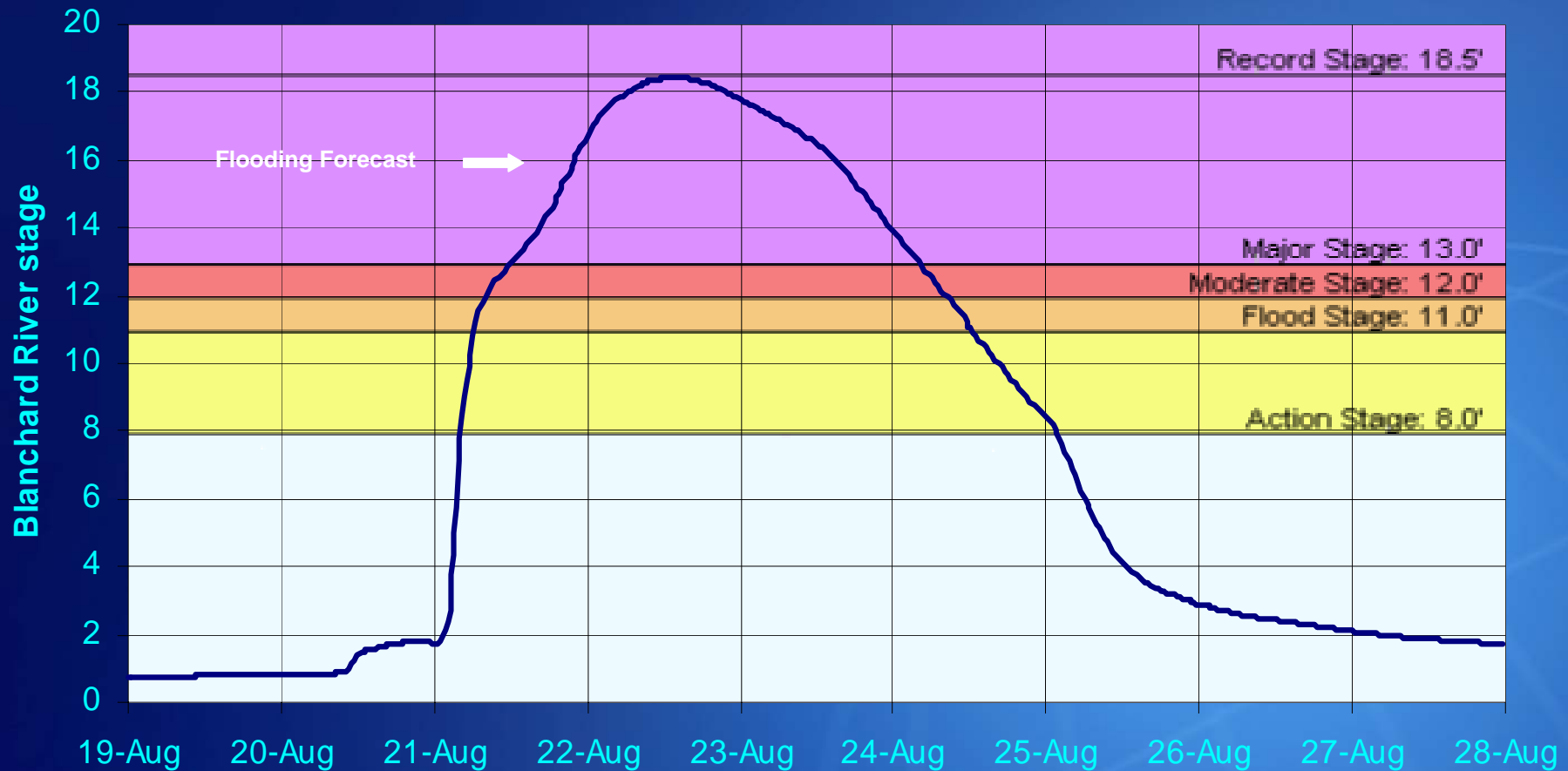
8:00 AM – 6 AM shift arrives at BOC

11:00 AM – Operational Control for all systems established at BOC

1:00 PM – River crests at highest level since 1913

Seven Days later – Operational Control returns to Findlay

August 2007 Findlay Flooding



What Happened:



- ◆ **BOC was activated within 4 hours of evacuation**
- ◆ **Technically everything went as planned, SCADA – CPM – Communications (voice & data)**
- ◆ **Lines were restarted using pre-established plans**
- ◆ **Business Continuity Plan implemented**
 - Evacuation, field notification, move to BOC, restart
 - Scheduling personnel deployed to BOC location
 - Logistical challenges of obtaining hotels, food and transportation for multiple 12-hour shifts were solved
- ◆ **Humanitarian plans were established**
 - Landlocked employees
 - Critical personnel to BOC site – home evacuation
 - Assistance with homes and flooding
 - AND employees helping employees

People make the difference !



What did we learn?

Things to consider for support



- ◆ **Support personnel were stretched thin**
 - **2 CPM Engineers**
 - **4 SCADA Systems Analysts**
 - **Activating BOC**
 - **1 CPM engineer and 1 SCADA Systems Analyst**
 - **Maintaining BOC (24x7 support coverage)**
 - **1 CPM workstation that was covered by CPM engineers**
 - **Difficult and stressful environment**
 - **Customers want tickets, inventory, etc. regardless... thought we could do these things periodically, manually... NOT**
 - **Efforts to recover at the Findlay OC**
 - **Had to think outside of the box for phone and data circuits**
 - **Staff Findlay to restore systems and staff BOC**
 - **Long, extensive and exhausting days**

“Lessons Learned”



- ◆ **Never say Never – think out of the box**
- ◆ **Prepare, Prepare - Live Drills work**
- ◆ **Long Term Plan – a “must have”**
- ◆ **Plan for the Return (staff both ends?)**
- ◆ **Know your building (intimately) – power, communication (voice & data & One-call), water, sewer, natural gas, HVAC (critical for computer room)**
- ◆ **All hands on Deck - Mobilize additional management and leadership during transition to BOC**
- ◆ **Could your Backup Operations Center sustain operation for 6 months straight?**
 - **Human Factors critical, too.**
 - **System redundancy (Dial Back-up, Servers, Automatic Ticketing)**
 - **Back-up to the Back-up**
- ◆ **Now have a monitoring plan for river levels including pre-established action levels that escalate to proactive evacuation**

Questions



Wanted – Person willing to endure
difficult office conditions