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Permitting in the Aftermath of a Natural Disaster

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Linn County (IA) Public Health
NACAA Permitting Conference
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Cedar Rapids, IA

June 13, 2008



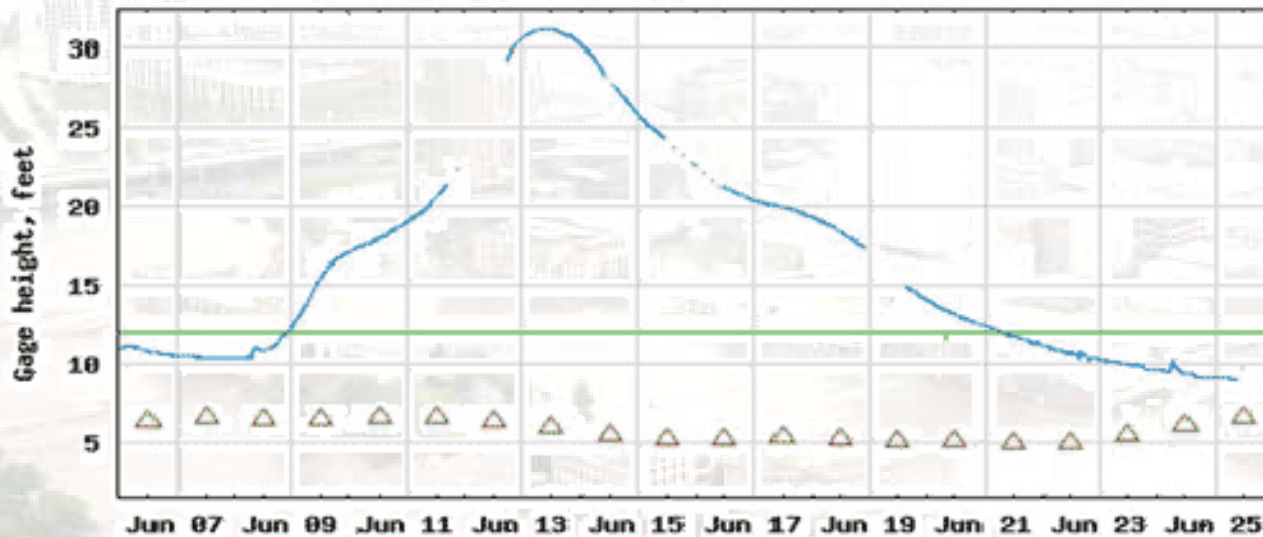




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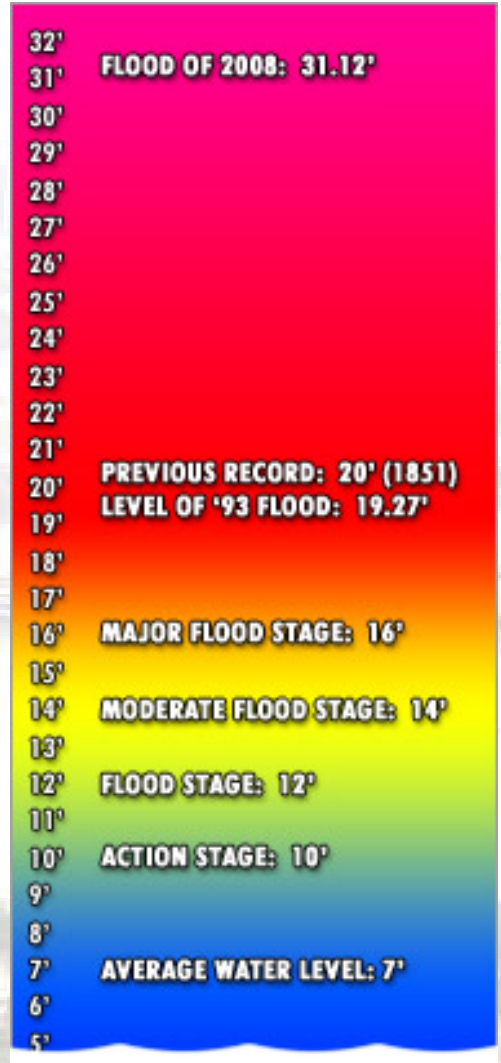
River Stage

USGS 05464500 Cedar River at Cedar Rapids, IA



----- Provisional Data Subject to Revision -----

- △ Median daily statistic (6 years)
- Gage height
- National Weather Service Flood Stage





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Flood Statistics

- **18,623 estimated persons in impacted flood area**
- **10 square miles (14%) of the city affected by the flood waters**
- **7,198 affected parcels:**
 - 5,390 residential
 - 1,049 commercial
 - 84 industrial
 - 51 agricultural
 - 486 non-profit organization
 - 138 other
- **Water Supply**
 - 3 of 4 collector wells disabled
 - 29 of 46 vertical wells disabled
 - production reduced to under 75% capacity.
- **Demolition & Construction**
 - 72,428 tons of debris collected and removed in first 6 weeks.
 - 2,782 contractors certified from over 409 companies during first week of flood recovery.
 - 70 homes demolished by city
- **Impacted City Facilities:**
 - City Hall
 - Public Works Drinking Water System
 - Water Pollution Control Facility
 - Police Department Central Fire Station
- **Impacted County Facilities**
 - Administrative Office Building
 - Elections Depot
 - County Courthouse
 - Juvenile Courts
 - Correctional Center
 - Sheriff's Office
 - Community Services Building
 - Veteran Affairs
- **Estimated \$2.4 billion in damage to public infrastructure.**
- **Nearly 200,000 documented volunteer hours.**
- **Not one flood related death**



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Air Quality Response Issues

- Continuity of Operations
- Water Supply
- Emergency Power
- Short-term Industry and Utility Issues
- Demolition Debris
- Long-term Recovery



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Regulators are People Too

- What is “reasonable” in these extreme situations?
- Are your actions as a regulator “fair?”
- In an attempt to be helpful, will you only be creating more problems down the road?
- Not everyone will make it back.
- How are the people in the agency coping with their personal situation while being asked to perform their work?



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Continuity of Operations

- Linn County Public Health was only one two county building not directly flooded.
- However...
 - No power, took 48 hours to set up emergency generator.
 - No phones, computers, computer servers, email, internet, or fax machines.
 - Cell phones and laptop internet cards had limited service as the cell tower was down.



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Continuity of Operations

- As a result of conditions, need to determine:
 - When to set up remote working site?
 - How long will before transferring operations to another agency (e.g. Linn County to Iowa DNR)?
 - What decision will you make without access to records including permits?
 - Communications backup on email addresses and phone numbers.



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Water Supply

- With only one supply well left, city issued water restriction that impacted industry production and pollution control equipment.
 - “If you have enough water to make product, you have enough water to operate the pollution controls.”
 - For industry outside flood impact area, issued variances to permit operating limits allowing for reduced scrubber water flow at reduced production rates.
 - Is operating and testing data available to support determinations?





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Emergency Power

- Shortly after flood waters receded, home owners and businesses returned to begin cleaning up.
- With no power, emergency generators and combustion turbines began arriving.
- Most business and industry call requesting authorization and we needed to respond.
- No “emergency provisioning” in local code other than “variance” procedures. Can’t issue variances for federal regulation (e.g. PSD, NSPS, NESHAP).
- Subsequent state and county codes adopted regulation for “Temporary Electric Generation for Disaster Situations.”









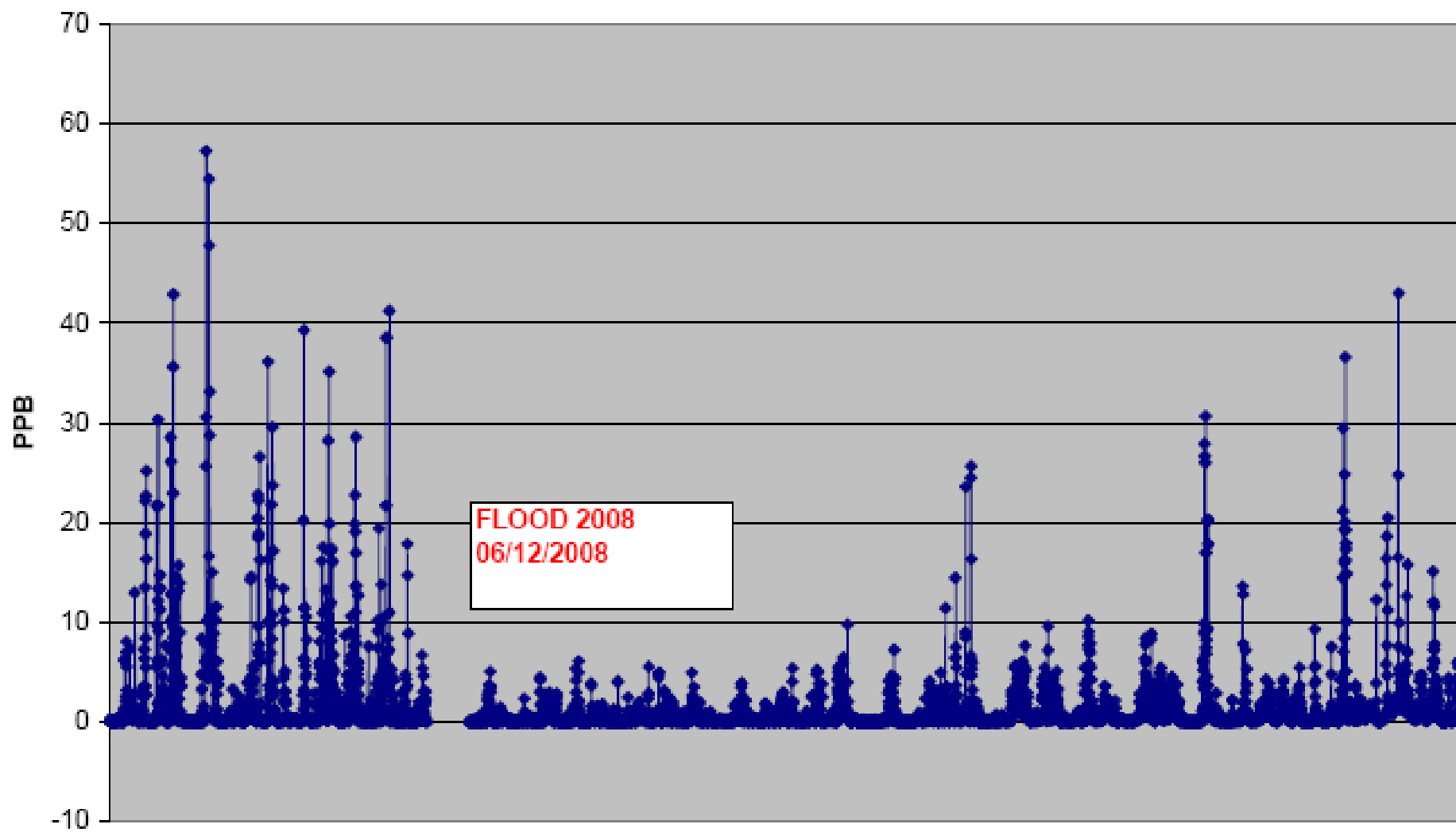
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“Give Me Steam”

Peter Gabriel and the Citizens of Cedar Rapids

- Downtown Cedar Rapids relies on steam for heat including city, county, and federal buildings, two hospitals, and college.
- The coal-fired steam plant also provides process steam to Quaker and Cargill.
- 550 MMBtu/hr of temporary natural gas fired boilers brought in to replace lost steam production.
- Need to provide steam heat to building by late September making it infeasible to follow a traditional permitting process.

191130040- TRACE SO2 2008
04/2008 - 12/2008





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Permitting Steam Plant

- Steam prices went from \$8 to \$36 per 1000 pounds which drove a lot of uncertainty among customers.
- Unclear which boilers would be repaired or removed and by which dates.
- Developed Administrative Order that directed Alliant Energy to develop an offset strategy or permit gas boilers under PSD by 9/15/09.
 - Could not operate coal boiler during interim period.
 - Modeled gas boilers for NAAQS compliance.
- City considered buying or rebuilding “bio-fuel based” plant to replace Alliant Energy facility.
- Permits were applied for in June, offsetting emission increases of natural gas boilers.



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Demolition Debris

- Approximately 80,000 tons of flood debris has been generated.
- Recently closed landfill was reopened to accept this waste stream.





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Solid Waste & Air Quality

- Asbestos Containing Material, 40 CFR Part 61.
 - 10 day notification waiver
 - EPA force majeure waiver
 - Facility demolished under order of agency because the facility is structurally unsound.
 - Demolition of structurally unsound building must be treated as ACM in its entirety.



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Solid Waste & Air Quality

- Waste reductions / volume reduction
 - Incinerators or air curtains
 - Exempt from OSWI regulations if used less than 8 weeks with provision to petition for additional 8 weeks.
 - Shredders
 - No assurances that solid waste was free of asbestos, lead, or other hazardous materials.
 - Gasification
 - As with shredder, staging and pre-processing of waste was a significant issue that could not be overcome.



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Landfill Gas Collection System

- NSPS Subpart WWW – Municipal Solid Waste Landfills.
 - Most recent Tier 2 testing, which showed NMOC to be less than 50 mega grams, exceeded 5 years and therefore testing required.
 - Existing system was not compliant with the current standard.
 - Expected results are that 50 mega grams will be exceeded with new data. New system will need to be installed and operated for 15 years at an estimated cost of \$2 million.



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Landfill Permitting

- EPA determination that Title V Permit be reapplied for within one year of resuming operation.
- Landfill gas collection system had been recovering methane for fuel in electric generation prior to flood.
 - Permitted and installed flare.
 - Residential odor complaints led to additional H₂S analysis and ambient air monitoring.
 - Third party contracting of methane recovery.







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Long-term Industry Permitting & Compliance

- Documentation of events/decisions and preparedness planning for future events.
- Ongoing review of “Modification or Reconstruction” pursuant to NSPS.
- Lost compliance records.
- Consulting with city and county governments for rebuilding efforts.
 - Steam production
 - Landfill
 - City Waste Water Treatment Facility
 - Rebuild Green



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Long Term Permitting & Compliance Issues

- City of Cedar Rapids Energy Efficiency and Conservation Strategy
 - A draft energy management strategy
 - A study of co-incineration (conversion of solid waste and wastewater biomass to energy and steam)
 - Preparation of comprehensive energy management plan encompassing all City departments
 - Implement LEED standards among designs suggested by City-contracted architects for post-flood City-owned building repair/rebuild projects.



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Rebuilding is an Opportunity

- Sustainability
- Repowering
- Restructuring
- Preparedness
- Building new relationships
- Helping other prepare

