Disaster Simulation Exercises: One Company’s Approach

Presented by:

Chris Wright
Amgen Inc.
Senior Manager, Worldwide Crisis Management

Pioneering science delivers vital medicines®
Agenda

• Company Background
• Vision / Mission
• Exercise Design Team and Planning Activities
• Exercise Evaluation Tool and Process
  – Exercise Set Up
  – Pre-Exercise Activities
  – Emergency Response Component
  – Recovery Operations Component
  – Final Report Out of Evaluation
• Tips for Facilitating Exercises
• Questions and Answers
Our Worldwide Presence

- The Netherlands
- Belgium
- Ireland
- Spain
- Switzerland
- Juncos, Puerto Rico
- Washington, DC
- Louisville, KY
- West Greenwich, RI
- Cambridge, MA

- Norway
- Luxembourg
- The Netherlands
- Belgium
- Ireland

- England
- France
- Switzerland

- Greece
- Poland
- Portugal
- Spain

- United Arab Emirates
- India

- Australia
- New Zealand

- Hong Kong
- Mexico City, Mexico
- Louisville, KY

- Boulder, CO
- Longmont, CO

- Thousand Oaks, CA
- South San Francisco, CA

- Burnaby, BC
- Bothell, WA
- Seattle, WA
- Longmont, CO
- Boulder, CO

- Finland
- Sweden

- Estonia
- Latvia
- Lithuania
- Russia
- Czech Republic
- Slovakia
- Hungary

- Austria
- Germany

- Italy

- Hungary

- Denmark

- England

- Portugal

- France

- Norway
Our Manufacturing/Distribution Base

- Longmont
- Boulder
- Thousand Oaks
- Rhode Island
- Breda, NL
- Bothell
- Fremont
- Puerto Rico
- Kentucky
Vision and Mission
Amgen Worldwide Business Continuity & Crisis Management Mission

Amgen's Worldwide Business Continuity & Crisis Management mission is to understand, prioritize, and mitigate the potential impact of a business interruption and to enable a rapid response in a manner that:

– protects life safety
– enables the recovery and resumption of critical business operations
– serves as focal point for coordinating emergency and crisis response activities as rapidly as possible across all Amgen sites and organizations
Exercise & Testing

Objective

• Evaluate current state ability to respond to, manage and develop recovery action plans.
• Exercising can be accomplished in various forms which include testing individual elements, inter-related elements or the whole emergency response, crisis management, business continuity and IS disaster recovery program.
• Testing methods may include technical testing, structured walk-through, focused live exercises and/or disaster simulation exercises.
Exercise Design Team and Planning Activities
Exercise Design Team

- Comprised of at least five corporate staff and one representative from the site/function(s) being exercised
- Start meeting approx. 2 months prior to exercise date and then every week until exercise
- Same team produces, facilitates and evaluates exercise
- Participants must keep information confidential
- Participants can not fill a role in exercise
Exercise Design Planning Activities

- Scenario Development
  - Past Incidents/Exercises
  - Risk/Threat Assessment Data
  - FM Global Data
  - Site/Function Input
  - BC Plans
  - IS Systems/Equipment
- Storyboard/Timeline Development
- Victim Roles/Recruitment
- Outside Agency Interaction
- Simulated Damage Plan
Simulated Damage Tags

- Depict structural, and uncontrolled utilities damage
- Teams develop “Safety Plans” for building entry

- Depict equipment, document and infrastructure damage
- Teams identify business impact and develop “Recovery Action Plan”
Exercise Evaluation Tool and Process
Evaluation Tool and Process

• 13 Page Evaluation Tool Document
  – Provided to participants prior to exercise day
  – Based on expected practices in each component
  – Each component has several sections, sub-sections and specific elements
# 2008 Disaster Simulation Exercise

**Amgen <Site Name>**

**Overall Evaluation:** No Observation

## Pre-Event Preparation Component

## Plans

### Site Emergency Management Plan

<table>
<thead>
<tr>
<th>Description</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans are current and meet Amgen standard for content</td>
<td>No Observation</td>
</tr>
<tr>
<td>Plans have been distributed to appropriate people / locations</td>
<td></td>
</tr>
<tr>
<td>Plans are accessible under any circumstances</td>
<td></td>
</tr>
<tr>
<td>A list of required materials for all teams is included in plan</td>
<td></td>
</tr>
<tr>
<td>A minimum of two deep assignments for each position on Site Command and Recovery Teams</td>
<td></td>
</tr>
<tr>
<td>Plan includes provisions for food, water, and toilet facilities for Emergency and Crisis Management/Recovery Operations staff</td>
<td></td>
</tr>
</tbody>
</table>

### Business Continuity Plans

<table>
<thead>
<tr>
<th>Description</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plans are current and meet Amgen standard for content</td>
<td>No Observation</td>
</tr>
</tbody>
</table>
# 2008 Disaster Simulation Exercise

**Amgen <Site Name>**

## Execution

### Evacuation

- Notification of need to evacuate is done in an appropriate manner based on scenario
- Evacuation of building is timely and orderly
- Evacuated staff are aware of evacuation routes and assembly area locations
- Accountability of building occupants is effectively done

### Emergency Operations Center/Field Command Post

- Access to EOC is controlled by individual(s) with current list of authorized personnel
- Access to Field Command Post is controlled by individual(s) with current list of authorized personnel
- Response to this location by Command Team staff is prompt
- Incident Safety Plan is quickly developed
- Materials needed to manage response element in EOC are on hand or quickly available
- Materials needed to manage response element at Field Command Post are on hand or quickly available
- A current hazardous material list for use by arriving emergency responders is readily available
- Who is filling which roles in EOC is clear
Evaluation Tool and Process

• Exercise facilitators take notes during the exercise
• After the exercise they gather together and go through the evaluation tool, element by element, and rank each element as:
  – Exceptional
  – Acceptable
  – Improvement Needed
  – No Observation
• Detailed written comments are included in evaluation report
## Communications

### Site Command/Life Safety Management Team

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔄 Communications with the Site Crisis Management/Recovery Team and other levels of management are done in an effective and timely manner</td>
<td>Acceptable</td>
</tr>
<tr>
<td>🔄 Incident Action Plan is communicated to all necessary management and response teams</td>
<td></td>
</tr>
<tr>
<td>🔄 Safety and Equipment requirements are communicated to each team prior to team deployment</td>
<td></td>
</tr>
<tr>
<td>🔄 Frequent updates to CMC/ROC from EOC or Field Command Post</td>
<td></td>
</tr>
<tr>
<td>🔄 Changes to plans are communicated to necessary management and response teams</td>
<td></td>
</tr>
<tr>
<td>🔄 A clear communications plan is established</td>
<td></td>
</tr>
<tr>
<td>🔄 Appropriate communication devices are available for use</td>
<td></td>
</tr>
<tr>
<td>🔄 The incident “safety plan” and other safety issues potentially impacting other team(s) are prominently posted and effectively communicated.</td>
<td></td>
</tr>
</tbody>
</table>

### Emergency Response Teams

<table>
<thead>
<tr>
<th>Item</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔄 Teams establish and maintain communications with Emergency Operations Center/Field Command Post</td>
<td>Acceptable</td>
</tr>
<tr>
<td>🔄 Safety and Equipment requirements are communicated to each team member prior to team deployment</td>
<td></td>
</tr>
<tr>
<td>🔄 Teams communication with outside agencies is appropriate</td>
<td></td>
</tr>
<tr>
<td>🔄 Team leader communicates clear plans of action to team members</td>
<td></td>
</tr>
<tr>
<td>🔄 Team leader confirms receipt and understanding of incident safety plan</td>
<td></td>
</tr>
<tr>
<td>🔄 Internal team communication maintained throughout exercise</td>
<td></td>
</tr>
<tr>
<td>🔄 Safety issues potentially impacting other team(s) are proactively communicated</td>
<td></td>
</tr>
</tbody>
</table>
Evaluation Tool and Process

• Overall result is based on weighted average of all sections and results in exercise being rated as:
  – Exceptional
  – Acceptable
  – Improvement Needed
Exercise Set Up

• Day before exercise:
  – Conduct pre-event evaluation of equipment
  – Review scenario and storyboard
  – Walk areas involved in exercise
  – Finalize simulated damage plan
  – Write envelope messages
  – Assign facilitators to monitor specific elements
Exercise Set Up

• Day of exercise:
  – Post simulated damage tags
  – Moulage and brief victims
  – Brief observers
  – Place victims
  – Set up other exercise issues (Haz Mat Spill)
  – Communications check (Nextel’s)
Pre-Event Preparation Component

• Plans
  – Site Crisis Management Plan
  – Business Continuity Plans
  – IS Disaster Recovery Plans

Key Evaluation Elements:
  – Current and meet standard
Pre-Event Preparation Component

• Pre-Staged Materials
  – Emergency Response Materials
  – Site Command/Life Safety Management Team Materials
  – Site Crisis Management Team Materials
  – Organization Recovery Management Team Materials
Pre-Event Preparation Component

• Pre-Staged Materials

**Key Evaluation Elements:**

– *Materials are accessible under expected circumstances*

– *Sufficient quantities of PPE are in place*

– *Issue tracking boards are available*
AMGEN
Emergency Services
Command Unit
Emergency Response Component

• Participation
  – Site Command Team
  – Emergency Response Teams
  – Support Personnel

Key Evaluation Elements:

– All positions that should be staffed based on scenario are staffed

– Staff on the teams have appropriate training and are current with required certifications
Emergency Response Component

• Participation

Key Evaluation Elements:

– *All positions that should be staffed based on scenario are staffed*

– *Staff on the teams have appropriate training and are current with required certifications*
Emergency Response Component

• Communications
  – Site Command/Life Safety Management Team
  – Emergency Response Teams

Key Evaluation Elements:
  – Teams establish and maintain communications
  – Team leader confirms receipt and understanding of Incident Safety Plan
Emergency Response Component

• Management
  – Site Command/Life Safety Management Team

Key Evaluation Elements:
  – *EOC or Field Command Post location and size is appropriate*
  – *Development of Incident Action Plan is appropriate based on scenario and available response teams*
Emergency Response Component

• Execution
  – Evacuation

Key Evaluation Elements:
  – Evacuation is timely and orderly
  – Evacuated staff are aware of exits routes and assembly areas
Emergency Response Component

• Execution
  – Emergency Operations Center/Field Command Post

Key Evaluation Elements:
  – *Response to location by team members is prompt*
  – *Incident safety plan is quickly developed*
Emergency Response Component

• Execution
  – Building Entry Evaluation Team (BEET)

Key Evaluation Elements:
  – Teams effectively use materials/equipment
  – Rapid safety evaluations conducted and documented on appropriate forms
Emergency Response Component

• Execution
  – Emergency Response Teams

Key Evaluation Elements:
  – Care for victims in an appropriate manner
  – Wear appropriate PPE
  – Effectively respond to all incidents
Recovery Operations Component

• Participation
  – Site Crisis Management/Recovery Team
  – Organization Recovery Management Team(s)
  – Field Recovery Team(s)
Recovery Operations Component

• Participation

Key Evaluation Elements:

– All positions that should be staffed based on scope of scenario are staffed
– Leadership from each impacted organization participate and actively manage recovery operations
– Staff on teams have appropriate training
Recovery Operations Component

• Communications
  – Site Crisis Management/Recovery Team
  – Organization Recovery Management Team(s)
  – Field Recovery Team(s)

Key Evaluation Elements:
  – Teams establish and maintain communications
  – Clear communication plan is established
Recovery Operations Component

• Management
  – Site Crisis Management/Recovery Team
  – Organization Recovery

Key Evaluation Elements:
  – Safety is a consistent consideration in leaders consideration of recovery activities
  – Recovery action plan is developed based on scenario and available resources
  – Impact of loss of IS systems is noted and addressed
Recovery Operations Component

• Execution
  – Field Detailed Damage Assessment/Recovery Teams

Key Evaluation Elements:
  – *Team members understand their role and responsibilities*
  – *Team leaders communicate the safety plan to all team members prior to deployment*
  – *Required PPE is worn*
DAMAGE ASSESSMENT CHECKLIST

Please note all damage on the “Preliminary Data Center and Server Assessment Form”

**Data Center Assessment**
The following items should be checked immediately following entry into a data center.

- Ceiling Tiles
- Sprinkler Heads
- Smoke/Heat Detectors
- Floor Tiles
- Fire Damage
- Water Damage
- Air conditioning
- Power
- Power Distribution Unit

**Comments (please make note of damage)**

- [ ] Ceiling Tiles
- [ ] Sprinkler Heads
- [ ] Smoke/Heat Detectors
- [ ] Floor Tiles
- [ ] Fire Damage
- [ ] Water Damage
- [ ] Air conditioning
- [ ] Power
- [ ] Power Distribution Unit

**Computer Server Racks**

- Network & Server Equipment askew in the cabinets
- Cabling (torn, stretched, disconnected)
- Melting
- Movement of racks (alignment of racks, do doors open)
- Dust
- Server Status Lights
- Disk Light (green is working, any other color please note on Data Center Assessment Form)
# Preliminary Data Center and Server Damage Assessment Form

(Please note only equipment that has sustained damage)

<table>
<thead>
<tr>
<th>Building</th>
<th>Damage Assessed By</th>
</tr>
</thead>
</table>

**General Data Center Assessment:**

**Rack Assessment:**

<table>
<thead>
<tr>
<th>Rack No.:</th>
<th>(indicate type of damage, if applicable)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hostname</th>
<th>Model</th>
<th>Describe Damage to Server (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rack Assessment:**

<table>
<thead>
<tr>
<th>Rack No.:</th>
<th>(indicate type of damage, if applicable)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hostname</th>
<th>Model</th>
<th>Describe Damage to Server (if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building #</td>
<td>Floor</td>
<td>Damage Assessment Conducted By:</td>
</tr>
<tr>
<td>-----------</td>
<td>-------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Data Equipment**

**DAMAGE (check one):**
- Fire & Heat
- Water Damage
- Physical Impact
- Electrical Surge (power)
- Fire Suppression System

**EQUIPMENT DAMAGED:**

<table>
<thead>
<tr>
<th>Repairable</th>
<th>Replace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Originating Services</td>
<td></td>
</tr>
<tr>
<td>Station Cabling</td>
<td></td>
</tr>
<tr>
<td>Fiber Optic Cabling</td>
<td></td>
</tr>
<tr>
<td>Data Termination Panels</td>
<td></td>
</tr>
<tr>
<td>Relay Rack Hardware</td>
<td></td>
</tr>
</tbody>
</table>

**MAIN ENTRANCE VDER ONLY:**

<table>
<thead>
<tr>
<th>Repairable</th>
<th>Replace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Splice Case</td>
<td></td>
</tr>
<tr>
<td>Fiber Optic Splice Case</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**


Final Report Out

• Usually conducted the next morning
• Site decides on attendees
• Exercise Facilitation Team member from the site delivers with comments added by other team members
• Q&A at end of session
Tips for Facilitating Exercises
Tips for Facilitating Exercises

• Have facilitators and observers wear special vests
• Ensure facilitators understand scenario and expected actions
• Have code word in case of a real emergency
• Be flexible and ready for anything
• Monitor weather conditions (Before and during)
• Make sure outside agencies understand what you want from them
Questions