GUIDELINES FOR PANDEMIC SIMULATION DRILLS

In accordance with PAHO Service Contract TT/CNT/0700010.001 the following are the guidelines for “Pandemic Simulation Drills”.

Firstly, there is need to clarify the terminology used;

**Exercise**
The exercise is an activity designed to enhance emergency preparedness by evaluating the emergency operations, plans, policies, procedures or facilities and persons trained in emergency management. Exercises consist of duties, tasks or operations similar to those in real emergencies, therefore they are responses to simulated events with realistic actions either articulated or acted out.

There are different types of exercises, these are listed below, inclusive of defining characteristics\(^1\):

**Orientation**
- Informal
- No simulation
- Discussion of roles and responsibilities
- Introduction of policies, procedures, plans and responsibilities

**Drill**
- Single Emergency Response Function
- Single agency involvement
- Often a field component

**Table Top**
- Informal discussion of simulated emergency
- No time pressures
- Low stress
- Useful for evaluating plans and procedures and resolving questions of coordination and responsibility

**Functional**
- Policy and coordination personnel practice emergency response
- Stressful realistic simulation
- Takes place in real time
- Emphasizes emergency functions
- EOC is activated

**Full Scale**

\(^1\) Source: FEMA Independent Course Study: *An Orientation to Community Disaster Exercises*, 1995
- Takes place in real time
- Employs real people and equipment
- Coordinates many agencies
- Tests several emergency functions
- Activate EOC
- Produces high stress

**Simulation**
A simulation describes a replicated or created event used to test an emergency plan or standard operating procedure. It is part of the overall exercise.

**STEPS IN PLANNING AN EXERCISE**

Based on the above there are certain basic steps in planning an exercise. Included as Annex 1, is a generic list that was provided to Guyana and will also be forwarded to St. Lucia and Jamaica. This list should be used as a checklist to guide the simulation planning process. Annex 2 is the Microsoft Project Plan used in Guyana and also in the other two countries. The following categorizes the steps into three phases;

**BEFORE THE EXERCISE**

Planning is critical for a successful exercise. There are certain specific planning steps that must be taken, these are listed below;

- Review Plan
- Conduct Needs Assessment
- Assess Capability
- Determine Exercise Scope
- Write Purpose Statement Organise Design Team
  - Simulators and Controllers
- Organise Evaluation Team
  - Evaluators
- Prepare Objectives
- Write Narrative
- List Major and Detailed Events
- Determine Expected Actions
- Write Messages
- Develop Evaluation Format

A fundamental requirement is the National Influenza Pandemic Preparedness Plan (NIPPP). A simulation cannot be designed if there is no plan to test. A planning team should be developed which will include a small group of persons from the country to be tested and the regional team. The NIPPP should be reviewed to ensure all critical elements are included.
Subsequently, a **needs assessment** should be conducted to determine the overall planning needs and problem identification. These include the areas to be tested, a preliminary listing of the resources required, amongst others. Assessment is the backbone of exercise design.

The **capability** to conduct the exercises should also be determined, this will influence the scope. The **scope** refers to putting realistic limits on the exercise. For example, it is not possible to test all hazards, all operations and all agencies. Therefore, the focus may be those of highest priority, such as the surveillance and response or facility surge capacity, within a specific geographical area i.e. such as a small community or a specific hospital.

The scope provides the foundation for the **purpose statement**. This is essentially a single sentence which states the goal of the exercises. For example, the purpose of this exercise is to test and evaluate the following emergency functions;

- Screening and testing
- Infection control
- Command and coordination

The statement of purpose is also a concise way to introduce the plan to others.

The **objectives** take the purpose statement one step further. They state exactly what the exercise is meant to accomplish. Objectives define who will do what according to what standard. They should be simple, clear, specific and measurable.

Example: *Participants should demonstrate the ability to don Personal Protective Equipment (PPEs) within (a specific time according to standard) in a manner which will protect them from infection, in order to carry out their responsibilities as stated in the Emergency Plan.*

The **narrative** is a brief scenario that sets the stage for the exercise. It provides the background information for the emergency and helps participants approach the exercise as a real situation.

**Major and detailed events** are realistic problems designed to motivate the actions required from players during the course of the exercise. For example,

Major event – *About 20 persons have just shown up at the front of the facility, requesting on medical attention.*

Detailed events:
- *2 Patients complain of fever, cough and are very tired.*
- *5 Patients are children*
- *One gentleman is very rowdy and walking around speaking loudly and up close to other patients and hospital staff.*
The whole point of the exercise is to get the participants to think and act in certain ways, usually prescribed in the emergency plan. The expected actions should be documented to assist with evaluation.

The major and detail events are sometimes recorded in messages sent to the players in order to get them to carry out the expected actions. Messages keep all players involved and spread the activities.

The evaluation format is a structured approach to ensuring that the actions undertaken by players are appropriate and if not, to critique the actions and recommend improvements. An evaluator should be provided with an evaluation form for the exercise.

DURING THE EXERCISE

The conduct or execution of the exercise

If all the necessary logistics are organized and in place, the execution for the table top and the full scale will only need approximately three days for each country. The table top will be designed for 2 hours, with an immediate After Action Review (AAR) debriefing.

In the actual execution of the exercise the local planning team are observers/evaluators and may actually assist with inserts or messages; the regional team are the exercise simulators, evaluators. The simulation must be coordinated by either a lead simulator or controller who is very familiar with the script and the disaster plans. The progress of the exercise must be monitored to ensure that the messages and inserts are relevant. This can be addressed by the development of a MSEL – Multiple Scenario Events List with Expected Actions developed during the design phase (sometimes referred to as the Master Sheet). Prior to the exercise the simulators should meet at least for an hour and plan the execution.

The full scale will take one day (6-8 hours) since it involves the mobilization and deployment of actual resources. All persons should be labeled with either name tags or arm bands to indicate their role in the simulation. The victims will be deployed with the appropriate case description sheet to the medical post and the response team treats with the victims according to standard operating procedure and the emergency plan.

A safety officer should be appointed for the Full Scale exercise to maintain safety standards for all.

AFTER THE EXERCISE

Conduct Post – Exercise Meeting
After Action Review

This is a critical component of the exercise and must be done in the following sequence;

Immediate debriefing – done immediately after the simulations, primarily to get the impression of the players, their views on the exercise and their own performance

Detail Debriefing – Planning teams and Players

This is a more structured approach to reviewing the exercises. In this process each event in the MSEL is reviewed against the expected actions and what actually occurred. The Disaster Plans are also analyzed to determine applicability and the performance of the players are analyzed to determine knowledge of roles and functions, use of resources, availabilities of resources etc. Based on the outcomes of this meeting the recommendations for improvement can be made.

The detail debriefing should be conducted within the first two weeks immediately after the exercise. For the Avian Influenza simulations the detail debriefing will be conducted the day after. This process must be carefully managed by an experience simulator/controller to avoid conflict and/or emotional flares.

Write After Action Report

Reports are essential to the whole lessons learnt process. These should be written within the first two weeks after the simulation and should clearly indicate the weaknesses of the plans and the approach for making the necessary improvements and changes.

Conduct Follow-Up Activities

Follow up activities may include the following:

- The revision of the plan – re-writing or insertion of new sections as recommended
- The acquisition of additional equipment and
- Additional training for staff
ANNEX 1

Guidelines for developing an Exercise

Why a simulation?

- Test current emergency plan
- Reveal planning weakness
- Reveal resource gaps
- Identify additional training needs
- Improve co-ordination
- Clarify roles and responsibilities
- Improve individual performance
- Gain recognition of the emergency program

Exercise Definition

- An activity is designed to:
  - Promote NIPPP awareness and overall preparedness
  - Test or evaluate emergency operations, policies, plans, procedures or facilities
  - Train personnel
  - Demonstrate capability.

Exercise consist of

- Duties, tasks or operations similar to those in real emergencies
- Responses to simulated events
- Realistic actions

Developmental step getting started; Step 1

1. Announce exercise
2. Review current plan
3. Conduct needs assessment
4. Assess capability to conduct exercise
5. Develop exercise scope
6. Select exercise type
7. Address costs and liabilities

Mark the status of your emergency program in these and other areas to identify those most in need of exercising
New    Updated    Exercised    Emergency    Used In

Emergency Operations Plan
Plan Annex (es)
Standard Operating Procedures
Resource List
Maps, Displays
Reporting Requirements
Notification Procedures
Mutual Aid
Policy Making Officials
Coordination Personnel
Operations Staff
Voluntary Organizations
EOC/Command Center
Communication Facility
Warning Systems
Sampling techniques

CAPABILITY TO CONDUCT AN EXERCISE

Another important part of choosing an exercise is whether you have the skills, resources, manpower and support to conduct an exercise. The requirements vary according to the type of exercise. The questions below concern important exercise requirements. There are sure to be others, but this point out the level of effort and other requirements placed on the locality.

SUGGESTED QUESTIONS CONCERNING CAPABILITY TO CONDUCT AN EXERCISE

1. What and when was your last exercise

2. What exercise experience is on your staff
   Yourself
   Staff

3. How much preparation time can you reasonably expect to have allocated to developing an exercise?
   Actual person days
   Elapsed time to exercise

4. What manpower can you reasonably expect to have devoted to developing an exercise? List their names and person days available.
   Own Staff
   Other agencies
   Volunteers
5. What skills can that manpower provide? List names of staff providing the skills.
   Planning, Logistics, Promotion, Materials, Scenarios, Other

6. What physical facilities do you use when you conduct an emergency operation? Note
   whether they would be available for the exercise.

7. What communication facilities and systems do you use in a real emergency? Note
   whether they would be available for the exercise.

8. What is the expected attitude of the personnel to the exercise?
   Facility Chief: _______________________
   Emergency Service personnel: _______________________

SCENARIO DEVELOPMENT WORKSHEET/EXERCISE SCOPE

1. List the highest priority hazards in your community or company.

2. What geographical areas or subdivisions are most vulnerable to these high priority
   emergencies?

3. List the agencies/departments from "most" to "least" in the three categories
   below:
   
   Frequently in Operation | Experienced with Major Disasters | Participation with Emergency Management Program

4. The type of personnel you want to have in the exercise are:
   _____ policy making (elected officials, department heads)
   _____ Coordination (managers, EOC representatives, dept. deputies)
   _____ Operations (field personnel, headquarters staff level
   _____ Public representatives (media)

5. The type(s) of operations you want participants to engage in include:

6. Check the degree of stress, complexity and time pressure you wish to instill in the
   exercise.
   
   Stress High Medium Low
   Complexity _____ _____ _____
   Time Pressures _____ _____ _____

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Statement of Purpose For An Emergency Exercise

Instructions
1. Examine the answers on the Scenario Development Worksheet. They form the basis for a statement for the planned emergency management exercise.
2. Examine the answers on the Scenario Development Worksheet to write an exercise statement of purpose. Fill in the spaces of the following statement:

The purpose of the proposed emergency management exercise is to improve the following emergency operations:
   a. 
   b. 
   c. 
   d. 
   e. 
by involving the following agencies and personnel:
   a. 
   b. 
   c. 
   d. 
   e. 
   f. 
in a simulated ____________________________ HAZARD emergency at ____________________________ Geographical area

Exercise Development Step 2

1. Identifying Resources
2. Defining Objectives
3. Developing Simulation Materials
4. Preparing Facilities, Displays & Materials
5. Identifying, Selecting & Training Staff

Good Objectives

- Specific
- Realistic, Yet Challenging
- Results Oriented
- Measurable

Exercise Objectives examples
- The PPEs will be appropriately donned within........
- The samples will be extracted using the .....methodology

Narrative Checklist

- What event?
- How did you find out?
- What time?
- What happens in sequence?
- How fast, how strong, deep, dangerous?
- What response has been taken?
- What damage is already reported?
- Other factors?

Exercise Development – Critique and Evaluation Step 3

- Actions to be observed, identified
- Actions & decisions critiqued after exercise
- Evaluations & recommendations by evaluation group
- Follow-up on recommendations to be implemented

Safety issues

- Appoint an exercise safety officer
- Include safety as one of the key points in the exercise development activities
- Each exercise team member should consider safety within their discipline
- Identify all possible safety problems or hazards and resolve each
- Address safety as part of pre-exercise briefing
- Include safety factors in simulator and evaluator info packets
- Examine each field location before the exercise
- Assure the authority of the safety officer
- Provide for immediate termination of exercise
## ANNEX II

**Microsoft Project Plan for Exercises in Guyana**

<table>
<thead>
<tr>
<th>ID</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Predecessors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Project Simulations - NIPPP Simulations</td>
<td>1 day</td>
<td>Tue 10/07/07</td>
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<tr>
<td>2</td>
<td>Start</td>
<td>26 days</td>
<td>Wed 11/07/07</td>
<td>Wed 15/08/07</td>
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<tr>
<td>3</td>
<td>Planning</td>
<td>4 days</td>
<td>Wed 11/07/07</td>
<td>Mon 16/07/07</td>
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<tr>
<td>4</td>
<td>confirm and document Problem Areas</td>
<td>1 day</td>
<td>Wed 11/07/07</td>
<td>Wed 11/07/07</td>
<td>1</td>
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<td>Review and finalize Scope Purpose and Objectives</td>
<td>1 day</td>
<td>Wed 11/07/07</td>
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</tr>
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<td>6</td>
<td>Review and finalize Scenario</td>
<td>4 days</td>
<td>Wed 11/07/07</td>
<td>Mon 16/07/07</td>
<td>5S</td>
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<td>7</td>
<td>Identify and establish General Planning and Coordinating group</td>
<td>1 day</td>
<td>Wed 11/07/07</td>
<td>Wed 11/07/07</td>
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<td>Conduct a Needs Assessment</td>
<td>1 day</td>
<td>Wed 11/07/07</td>
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<td>Assess Capacity to Conduct Exercise</td>
<td>2 days</td>
<td>Wed 11/07/07</td>
<td>Thu 12/07/07</td>
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<td>Laises with health facility to identify persons for planning and coordinating</td>
<td>2 days</td>
<td>Wed 11/07/07</td>
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<td>9S</td>
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<td>11</td>
<td>Discuss specific issues relating to location staff etc for script design</td>
<td>1 day</td>
<td>Wed 11/07/07</td>
<td>Wed 11/07/07</td>
<td>10S</td>
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<td>7 days</td>
<td>Thu 12/07/07</td>
<td>Fri 20/07/07</td>
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<td>13</td>
<td>Identify persons to assist with Logistics</td>
<td>1 day</td>
<td>Thu 12/07/07</td>
<td>Thu 12/07/07</td>
<td>7</td>
</tr>
<tr>
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<td>Analysis of Alternative sites (if necessary)</td>
<td>2 days</td>
<td>Fri 13/07/07</td>
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<td>13,6S</td>
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<td>15</td>
<td>Identify necessary props</td>
<td>3 days</td>
<td>Fri 13/07/07</td>
<td>Thu 17/07/07</td>
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<td>Determine cost of props</td>
<td>2 days</td>
<td>Fri 13/07/07</td>
<td>Mon 16/07/07</td>
<td>15S</td>
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<tr>
<td>17</td>
<td>Prepare existing equipment</td>
<td>6 days</td>
<td>Fri 13/07/07</td>
<td>Fri 20/07/07</td>
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<td>Prepare arrangements for use of equipment</td>
<td>1 day</td>
<td>Fri 13/07/07</td>
<td>Fri 13/07/07</td>
<td>17S</td>
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<td>Budget</td>
<td>10 days</td>
<td>Fri 13/07/07</td>
<td>Thu 26/07/07</td>
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<tr>
<td>20</td>
<td>Prepare estimates for Hospitality Costs (food and drink, venue, etc)</td>
<td>2 days</td>
<td>Fri 13/07/07</td>
<td>Mon 16/07/07</td>
<td>9</td>
</tr>
<tr>
<td>21</td>
<td>Prepare estimates for Training/Orientation</td>
<td>2 days</td>
<td>Fri 13/07/07</td>
<td>Mon 16/07/07</td>
<td>20S</td>
</tr>
<tr>
<td>22</td>
<td>Prepare estimates for transportation costs</td>
<td>1 day</td>
<td>Fri 13/07/07</td>
<td>Fri 13/07/07</td>
<td>21S</td>
</tr>
<tr>
<td>23</td>
<td>Prepare estimate for stipend for players (victims)</td>
<td>1 day</td>
<td>Fri 13/07/07</td>
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<td>Prepare venue</td>
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<td>Mon 16/07/07</td>
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<td>8,24,6</td>
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<td>Acquire approval for budget</td>
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<td>Wed 18/07/07</td>
<td>Mon 23/07/07</td>
<td>18,25</td>
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<td>Thu 26/07/07</td>
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<td>Procurement</td>
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<td>Mon 06/08/07</td>
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<td>Purchase equipment and materials from approved list</td>
<td>6 days</td>
<td>Fri 27/07/07</td>
<td>Fri 03/08/07</td>
<td>27,6</td>
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<td>29</td>
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<td>31</td>
<td>Training</td>
<td>2 days</td>
<td>Mon 06/08/07</td>
<td>Tue 07/08/07</td>
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<td>Finish</td>
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<td>31</td>
<td>Training</td>
<td>2 days</td>
<td>Mon 06/08/07</td>
<td>Tue 07/08/07</td>
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<td>Tue 07/08/07</td>
<td>Tue 07/08/07</td>
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<td>Mon 06/08/07</td>
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<td>Mon 06/08/07</td>
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<td>1 day</td>
<td>Mon 06/08/07</td>
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<td>1 day</td>
<td>Mon 06/08/07</td>
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<td>Thu 12/07/07</td>
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<td>Prepare Awareness Programme</td>
<td>1 day</td>
<td>Thu 12/07/07</td>
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<td>7</td>
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<td>Obtain Approval for Awareness Programme</td>
<td>1 day</td>
<td>Fri 13/07/07</td>
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<td>Mon 16/07/07</td>
<td>Mon 16/07/07</td>
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<td>Arrange Video Taping of Exercise</td>
<td>1 day</td>
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<td>42</td>
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<td>Conduct Full Scale Exercise</td>
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<td>43,36,35,33,32</td>
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<td>21 days</td>
<td>Thu 12/07/07</td>
<td>Thu 09/08/07</td>
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<td>identify evaluation team</td>
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<td>identify actions to critique (design form)</td>
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<td>Tue 17/07/07</td>
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<td>Evaluate exercises</td>
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<td>1 day</td>
<td>Thu 09/08/07</td>
<td>Thu 09/08/07</td>
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<td>51</td>
<td>Report</td>
<td>3 days</td>
<td>Fri 10/08/07</td>
<td>Tue 14/08/07</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>Review Reports and Players Comments</td>
<td>1 day</td>
<td>Fri 10/08/07</td>
<td>Fri 10/08/07</td>
<td>50</td>
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<tr>
<td>53</td>
<td>Develop Outline Report and recommendations</td>
<td>1 day</td>
<td>Mon 13/08/07</td>
<td>Mon 13/08/07</td>
<td>52</td>
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<td>54</td>
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<tr>
<td>55</td>
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<td>1 day?</td>
<td>Wed 15/08/07</td>
<td>Wed 15/08/07</td>
<td>54</td>
</tr>
</tbody>
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