

## **CHRONOLOGY OF EVENTS – TOKAIMURA – 30 SEPTEMBER 1999**

- 10:35 – Accident occurs in uranium processing plant. 3 workers exposed. Dosimeter badges to monitor radiation levels were not issued or worn by workers.
- 10:40 – Emergency services called to the plant but told only that employees had collapsed. Crew not told a nuclear accident had occurred and did not bring protective suits. Crew was exposed to high levels of radiation.
- 10:55 – JCO Co., owner of the plant, sets up task force to deal with emergency
- 11:15 – Science and Technology Agency receives first report of the accident from JCO.
- 11:33 - Accident reported to Ibaraki Prefecture. Prefectural government officials sent to plant
- 12:00 – Officials arrive and told that workers saw a “blue flash”  
- calls went out to schools in Tokaimura village to close windows and keep children indoors
- 12:00-17:00 – Local officials request help from Japan Atomic Energy Research Institute in Tokaimura
- Local officials told to measure levels of neutron radiation.
  - Prefectural government has 2 sets of portable monitoring equipment but no trained operators to use them.
  - 21 monitoring stations around the plant only equipped to detect gamma radiation. Tokaimura plant was excluded from national system of monitoring because of budgetary cuts.
  - JCO did not have equipment to monitor neutron radiation.
  - Prefectural government asks Japan Atomic Energy Research Institute and Japan Nuclear Cycle Development Institute to measure neutron radiation around the plant
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- 12:00 – Japanese Government informed. When asked why it took so long to be informed, Chief Cabinet Minister, Nonaka admits it was because JCO Co is a private facility.
- 12:15 – Tokai Village sets up task force
- 12:30 – Prime Minister is advised of accident by Science and Technology Agency. Breakdown of communication is admitted between all agencies concerned.
- 12:30 – Tokaimura villagers advised by ham radio to stay indoors.
- 12:41 – Police seal off nearby roads and ban entry within a 200m radius around the plant  
150 people live within that area. Radiation levels were rising to 4000 times background levels.  
Traffic was banned in a 3km radius.
- 13:20 – Decision to move 3 workers seriously exposed in the accident from the local hospital to the Institute of Radiological Sciences in Chiba.
- 13:56 - JCO Co. asks Tokai village to release evacuation information to residents within the 350m radius
- 14:05 - 3 workers moved by helicopter to Chiba. It is announced that 2 of the three workers received 8,000 times the acceptable level stipulated for non-workers within one year. They remain in critical condition following umbilical and stem cell

- 15:00 – Officials inform residents there is nothing to worry about but they should remain indoors.
- 15:00 – STA sets up their Task Force
- 15:18 - Tokai village authorities issue an evacuation advisory to 50 families living within a 350m radius  
No information is given to villagers as to the seriousness of the situation. Confusion ensues as some residents are unaware of the evacuation because they were indoors as instructed. Other residents working in adjacent fields or at work were not informed of accident or dangers.
- 15:30 – First evacuees arrive at Funaishikawa Community Centre.  
- Atomic Safety Committee organises an advisory service for emergency and technical advice
- 16:00 – Ibaraki Prefectural government reports radiation levels in the adjacent town of Naka are rising rapidly, indicating a nuclear chain reaction is in progress.
- 17:00 - Neutron monitoring finally begin 6 1/2 HOURS after the accident.
- 17:00 - Japan Atomic Energy Research Institute announces radiation levels on the Tokai nuclear plant grounds rising between 10,000 and 20,000 times background levels
- 20:00 - STA announces high levels of neutron radiation indicating the danger of a possible re-criticality
- 21:00 – Central government sets up crisis management task force headed by Prime Minister
- 22:00 – Highways into Tokai area blocked
- 22:28 – Japan Railway stops trains from Mito to Hitachi.
- 22:30 – Ibaraki Governor Hashimoto issues an advisory to 310,000 residents living within a 10km radius to stay indoors
- 23:00 – Some residents who were evacuated to the community centre return home.

#### OCTOBER 1

- 00:00 – JCO Co President Katani goes to evacuation centre to apologise to residents
- 00:40 – Senior JCO Co. official admits company by-passed required procedures
- 01:00 - Route 6 and Joban Rd around the site is blocked to the public
- 02:35 – 16 JCO Co. workers arrive at the plant to attempt to stop criticality
- 02:58 – Workers attempt to open safety valves to release coolant water, but valves malfunction.
- 04:15 – Workers destroy coolant water pipes and release the water.
- 06:15 – Criticality ends – 20 HOURS after the accident began
- 06:30 – Announced that the 6 workers exposed while suppressing criticality received more than 50 milliseiverts of radiation . One received more than 91 milliseiverts.
- 07:45 – Highway blockade lifted

- 09:20– Nuclear Safety Commission announces chain reaction has ended
- 09:30 – JCO Co General Affairs Chief, Morita admits company violated procedures
- 10:00 – 3 JCO Co staff members questioned by Ibaraki police on suspicion of negligence
- 12:00 – Education Ministry announces 22 schools were closed included kindergarden, elementary ,junior and high schools in 10 villages , towns and cities
- 12:30 – The Science and Technology Agency announces the accident is worst ever in Japan.  
Rating level 4 on IAEA scale of 0-7 ( Three Mile Island = 5, Chernobyl=7)
- 15:00 – Advisory to stay indoors within a 10km radius is lifted. However, the evacuation area within the 350m around the plant is still in force and will be reviewed on 2 October.
- 15:00 – Transport Ministry lifts the voluntary restriction order around the 10 km radius
- 16:00 – Japan Railway commences rail travel around the area

## OCTOBER 2

- 08:00 – Schools open outside the 350m zone.
- 11:30 – Radiation levels checked in areas adjacent to the plant and from windows of 60 buildings within the 350m radius. Soil was also checked.
- 16:00 – Prefectural Government announces plans to conduct physical examinations on the 170 residents evacuated. Confusion and communication breakdowns between the different agencies involved led to a cancellation of this plan. Village officials strongly oppose the plan on the grounds that to conduct examinations would seem as if the residents found to be contaminated could be quarantined, which would offend residents.
- 18:00 – Government Emergency Headquarters decide to lift evacuation advisory within 350m zone