



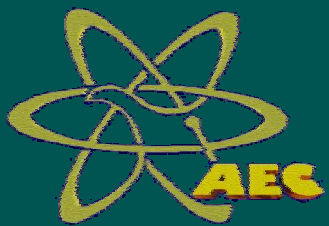
Current Status of Nuclear Regulatory Program in Taiwan

By Chao-Yie Yang, Ph.D.

Deputy Minister,
Atomic Energy Council

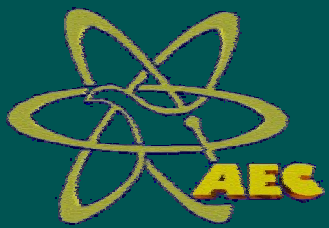
At the 20th Sino-Japanese Seminar on
Nuclear Safety

15 November 2005, Hiroshima, Japan

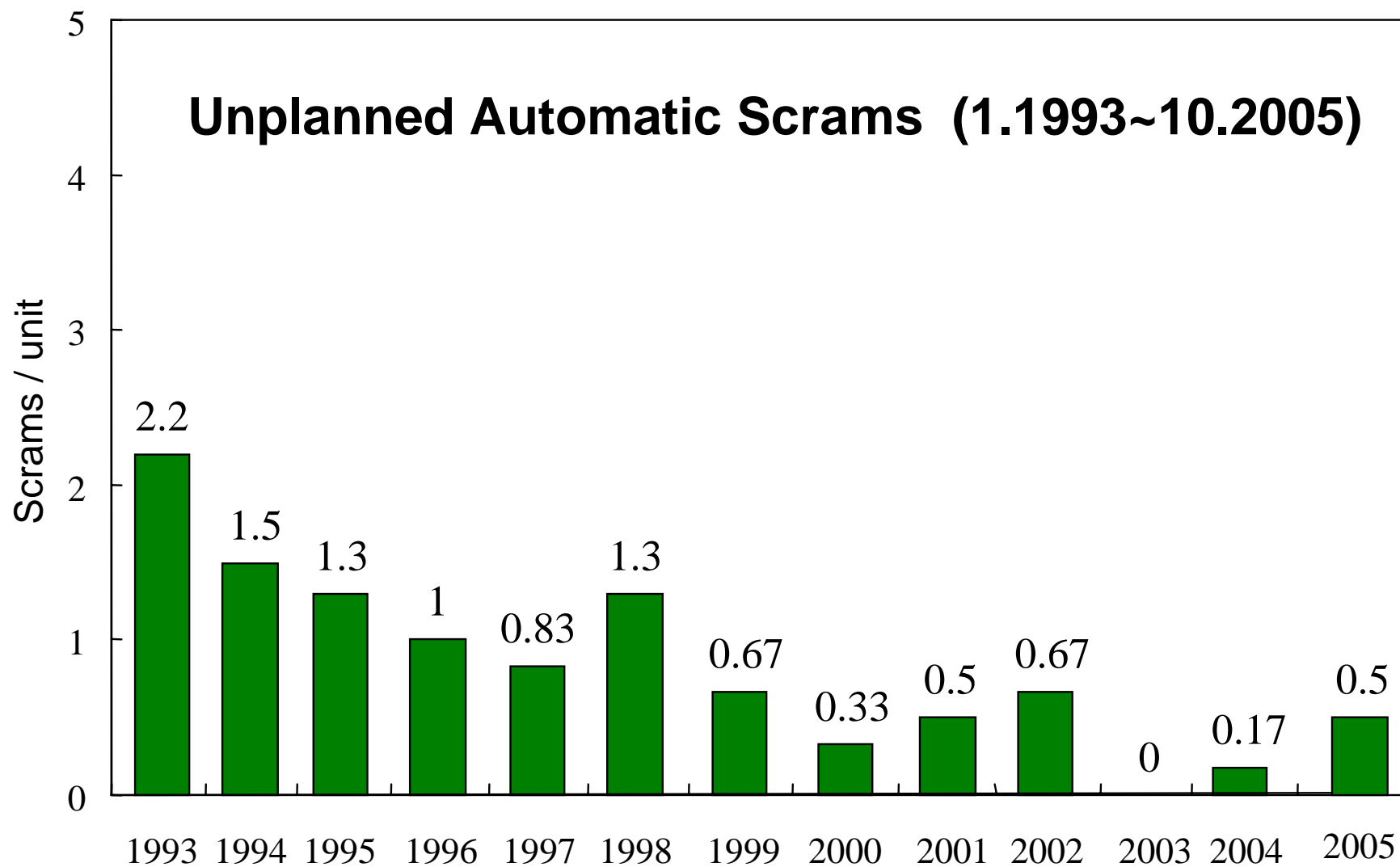


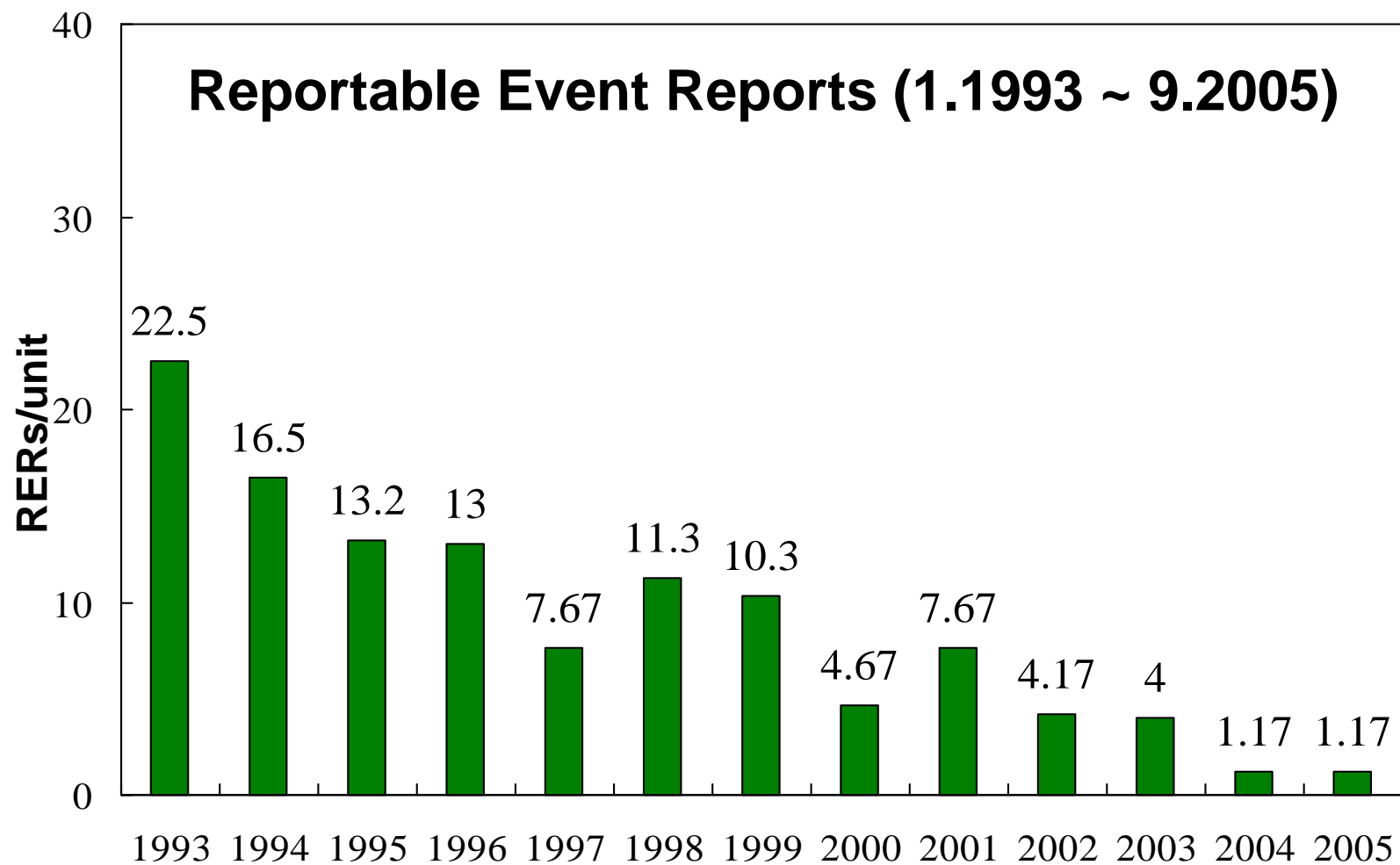
Outline

- 1) Performance of NPPs
- 2) Nuclear Safety and Radiation Protection
- 3) Emergency Preparedness and Nuclear Security
- 4) Regulation of Waste Management
- 5) **Closing Remarks**



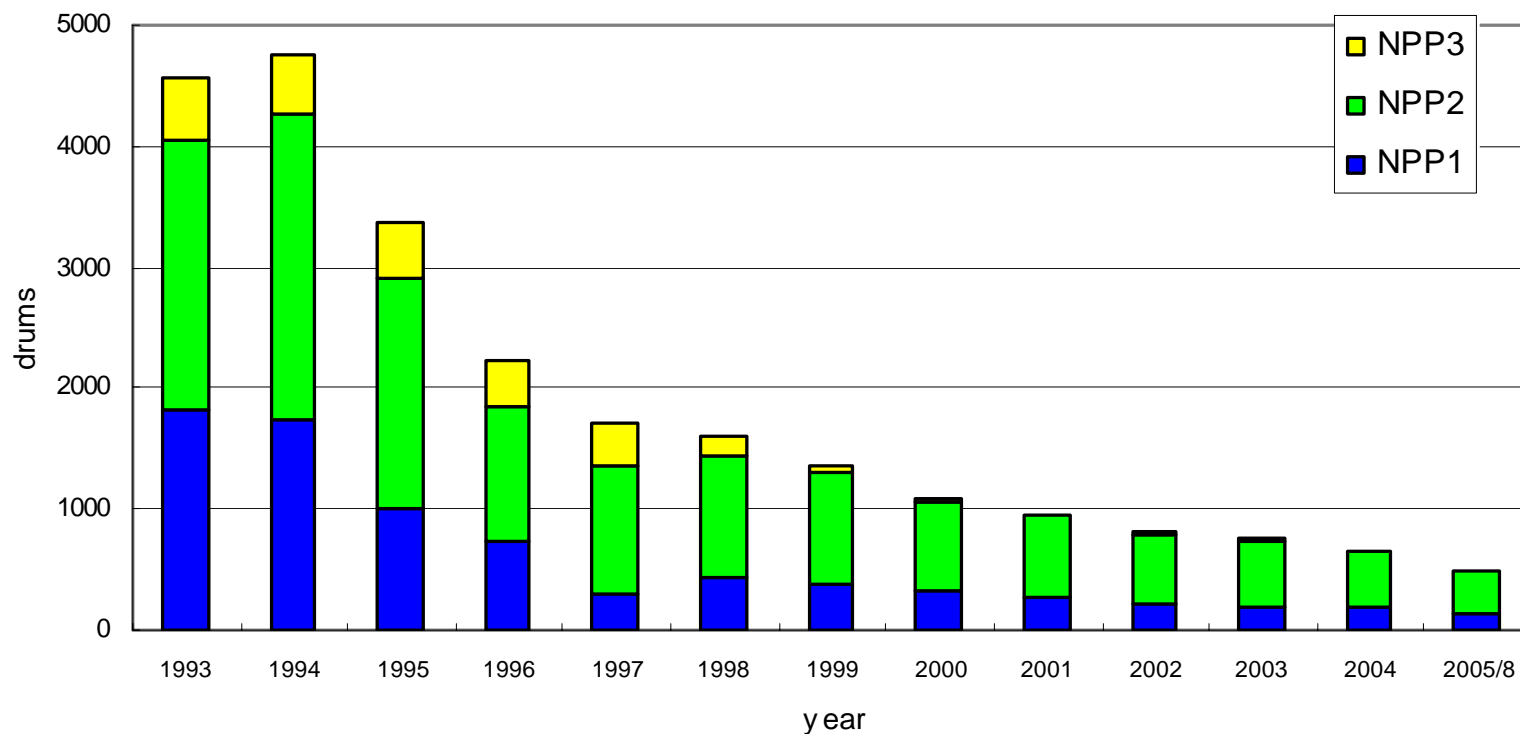
1) Performance of NPPs

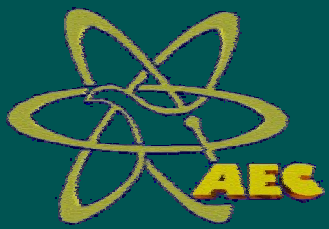




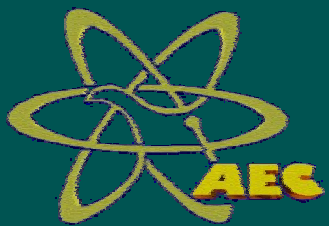


Solidified Waste Generation from NPPs in Taiwan





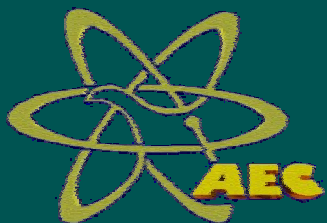
2) Nuclear Safety and Radiation Protection



Nuclear Safety

Nuclear Reactor Oversight

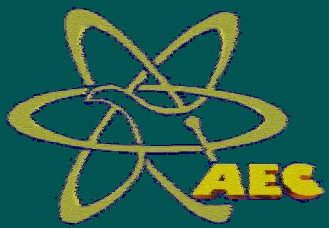
- **NPP Performance evaluated by analyzing**
 - **Performance indicators (PI's) by TPC**
 - **Inspection findings by AEC**
- **Colors designated based on safety significance.**
- **Three Cornerstones of Safety evaluated quarterly:**
 - **Initiating events (3 PI's)**
 - **Mitigating systems (5 PI's)**
 - **Barrier integrity (2 PI's)**
- **Waste PI's & Inspection Findings evaluated with INER's PRiSE to be posted next year.**



Nuclear Safety (cont'd)

Nuclear Reactor Oversight

指 標		機 組		核一廠		核二廠		核三廠	
				1	2	1	2	1	2
肇 始 事 件	臨界7000小時非計劃性反應爐急停（自動或手動）								
	非計劃性反應爐急停且喪失正常熱移除								
	臨界7000小時非計劃性功率變動 > 20% 額定功率								
救 援 系 統	高壓冷卻水系統（HPCI / HPCS）不可用率								
	反應爐爐心隔離冷卻水系統（RCIC）不可用率或輔助飼水系統（AFW）不可用率（核三廠）								
	餘熱移除系統（RHR）不可用率								
	緊要柴油機（EDG）不可用率								
	安全系統功能失效								
屏 障 完 整	反應爐冷卻水系統比活度								
	反應爐冷卻水系統洩漏率								
註：									
：無安全顧慮 ：低微安全顧慮 ：中度安全顧慮 ：顯著安全顧慮									

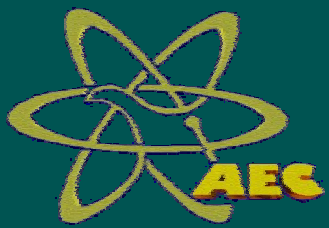


Nuclear Safety (cont'd)

Transparency and Surveillance Enhancement of Nuclear Safety Information at NSDC



Nuclear Safety Duty Center



Nuclear Safety (cont'd)

Transparency Enhancement of Nuclear Safety Information at NSDC

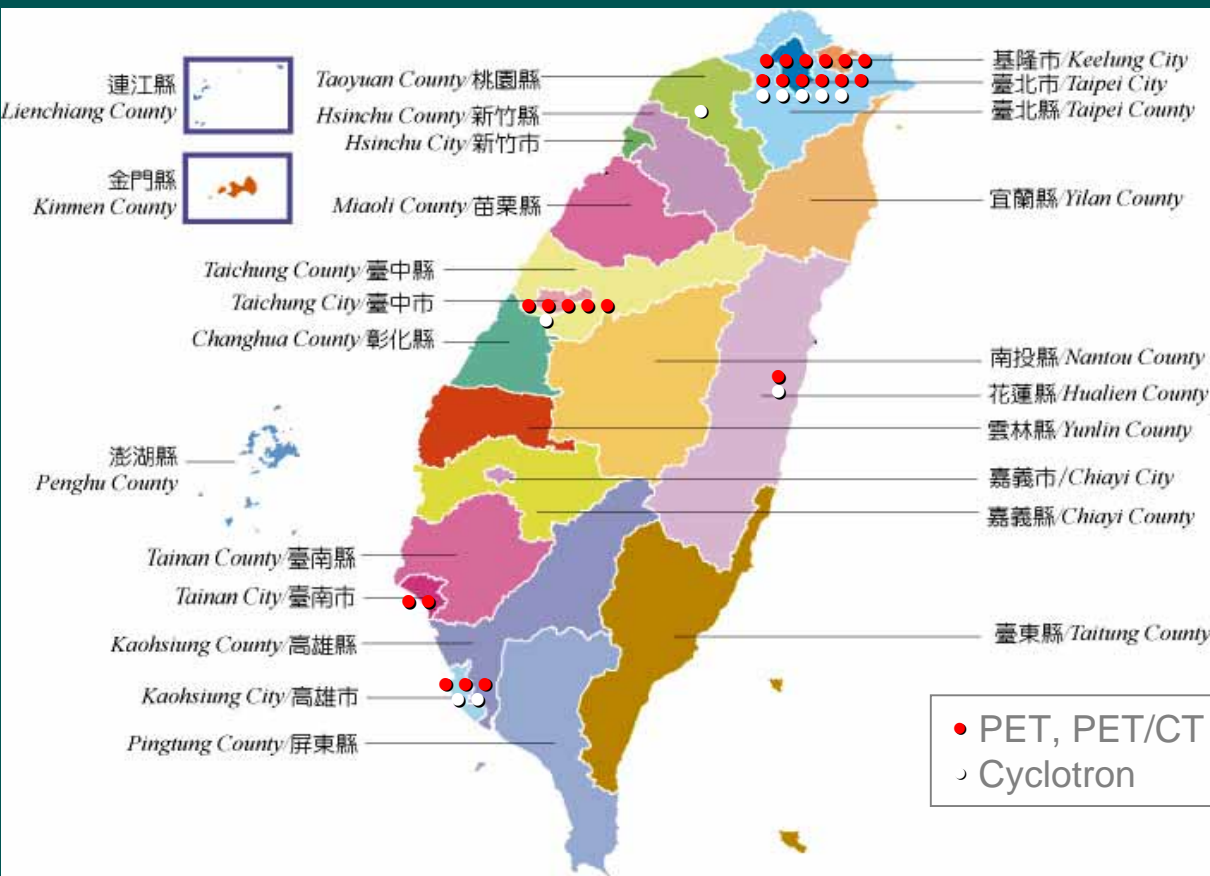


Monitoring 12 cable TV news stations all at once



Radiation Protection

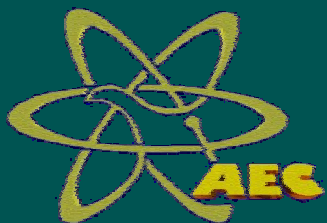
Safe Use of PETs and Medical Cyclotrons



- 3-step licensing
- Training seminars



Sumitomo HM-12S



Radiation Protection (cont'd)

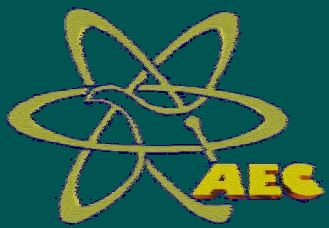
Patients' Right to Know about Radiation



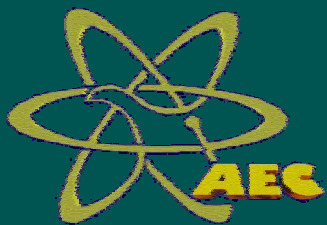
Facility with radioactivity
marked on floor plan



Licensed
Radiation Workers



3) Emergency Preparedness and Nuclear Security



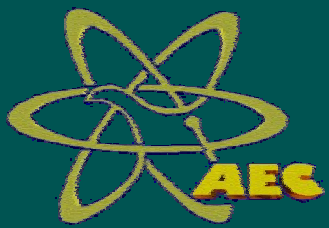
2005 Annual Emergency Response Drill

Nuclear Safety Month



- 2nd year
- To accumulate momentum

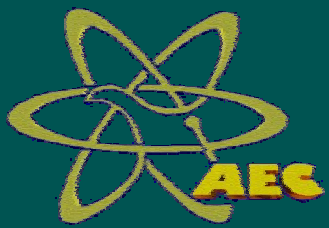
EPZ at the Chinshan NPS



2005 Nuclear safety Month (cont'd)

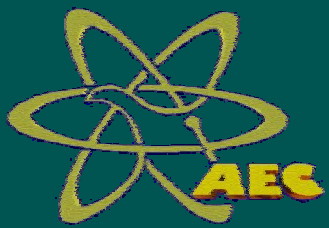
New concepts for emergency preparedness:

- **Distribution of KI tablets (2-day dose) to all residents within the EPZ (5 km radius).**
- **Incident command post set within the boundary of the NPP.**
 - **To be in the front line protecting the public**
 - **To deal with the accident with first-hand information**
 - **Backup facility**



2005 Nuclear Safety Month (cont'd)

- **Special Features:**
 - **Table-top exercise for incident command post operation**
 - **Press release exercise**
 - **Drilled led by local government agencies**
 - **On-site severe accident procedure exercise**

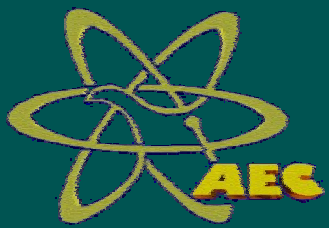


2005 Nuclear safety Month

Week I – Nuclear Safety Education

- Meetings with community representatives
- Seminars with teachers
- Broadcast





2005 Nuclear safety Month

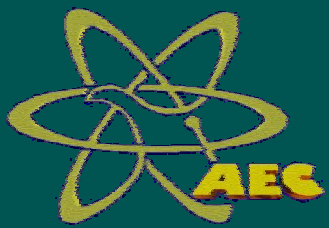
Week II – Chinshan on-site drills

- Nuclear emergency response
- Security drill and fire fighting



- On-site severe accident procedure exercise

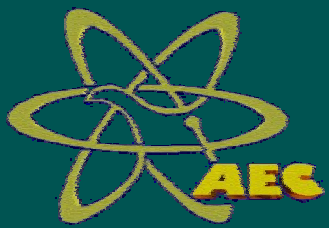




2005 Nuclear safety Month

Week III – Preparedness inspection and reporting/mobilization drills



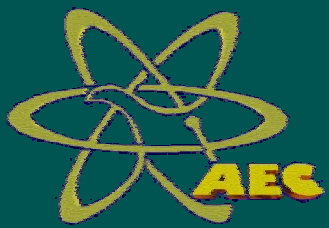


2005 Nuclear safety Month

Week IV – Individual and table-top drills

- Radiation measurement
- Dose assessment
- First aid operation
- Press releasing





2005 Nuclear safety Month

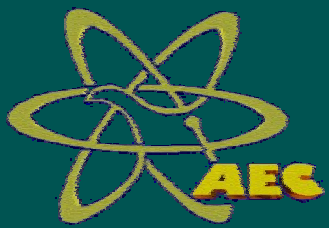
Week IV – Individual and table-top drills (cont)



**Environmental
Sampling**

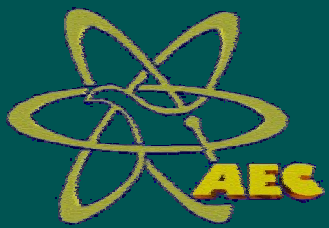
**Table top for
emergency
support center**





Nuclear Security

- **Participate in “mega ports” initiative**
- **Invite experts from SNL to conduct workshops**
 - **Design Basis Threat (DBT), Mar 2005**
 - **Vital Area Identification, Nov 2005**
- **Conduct PP inspection of nuclear facilities and materials**
- **Conduct dirty bomb drills**

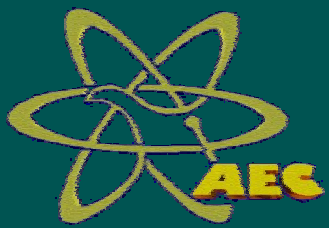


Nuclear Security (cont'd)

Dirty Bomb Drill :

Ready for Dealing with Dirty Bombs

- Establish 24-hour reporting / activating mechanism and coordinating / communication channels with relevant agencies
- Enhance fast detection, analysis and dose assessment capability
- Provide needed instrument and equipment
- Conduct drills regularly



Nuclear Security

Dirty Bomb Drill (cont'd)

Conducted by RMC at CSC, Kaohsiung

On 18 Aug 2005



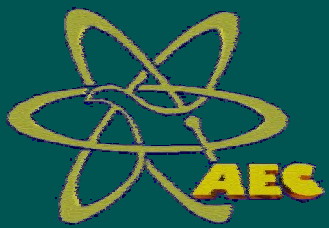
area control by cordon



radiation monitoring



personnel detection



Nuclear Security

Dirty Bomb Drill (cont'd)

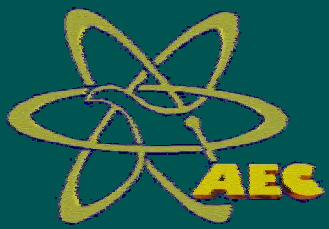
table-top exercise



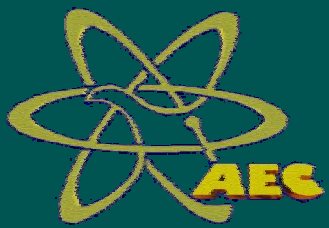
decontamination



medical treatment



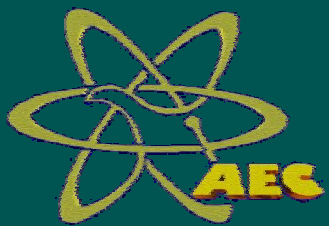
4) Regulation of Waste Management



Low Level RadWaste Disposal

According to “the Nuclear Materials and Radioactive Waste Management Act ” :

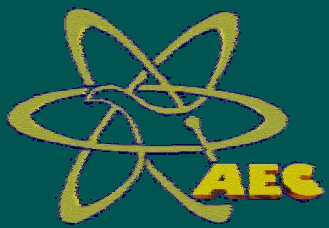
- LLRW Disposal Plan submitted by TPC in December 2003 and approved by AEC/FCMA in January 2005**
- Site Selection Committee formed by MOEA**
- Site investigation now under way**
- Depository installation planned to be built by 2013**



Spent Fuel Dry Storage

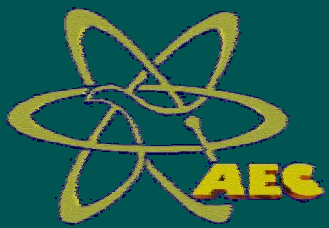
Our Policy

- To enhance safety
- To establish domestic capability



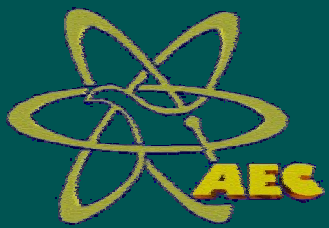
Spent Fuel Dry Storage

- **Milestones (as set by TPC):**
 - **July 2006: submit the Safety Analysis Report to AEC for the construction license application**
 - **2007: obtain the construction license**
 - **2008: test-run the cask**
 - **February 2009: fuel loading of the 1st and 2nd casks**



Spent Fuel Dry Storage (cont'd)

- **AEC licensing positions:**
 - The domestic regulation frames to authorize the dry storage facility have been set up (with US regulations to be served as an useful reference)
 - SAR Review Team will include independent experts on related various disciplines



5) Closing Remarks



謝謝

Thank You

攝影 綠精室