



13 - 18 May 2012 ■ SECC ■ Glasgow ■ Scotland

F6.1 Worker Education and Training (IAEA/ILO/NEA)

11:00 - 12:30 , Tuesday, May 15, 2012

Room: Forth

Why is RP training and education so important?

Dr. Shengli Niu

International Labour Organization

Geneva, Switzerland



Major incidents



Deepwater
Horizon

Gulf of Mexico

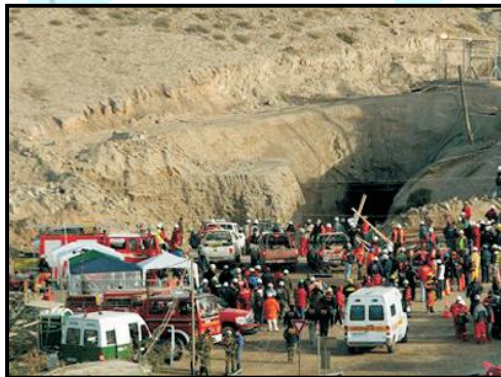
April 2010



Nuclear power plant

Fukushima

March 2011



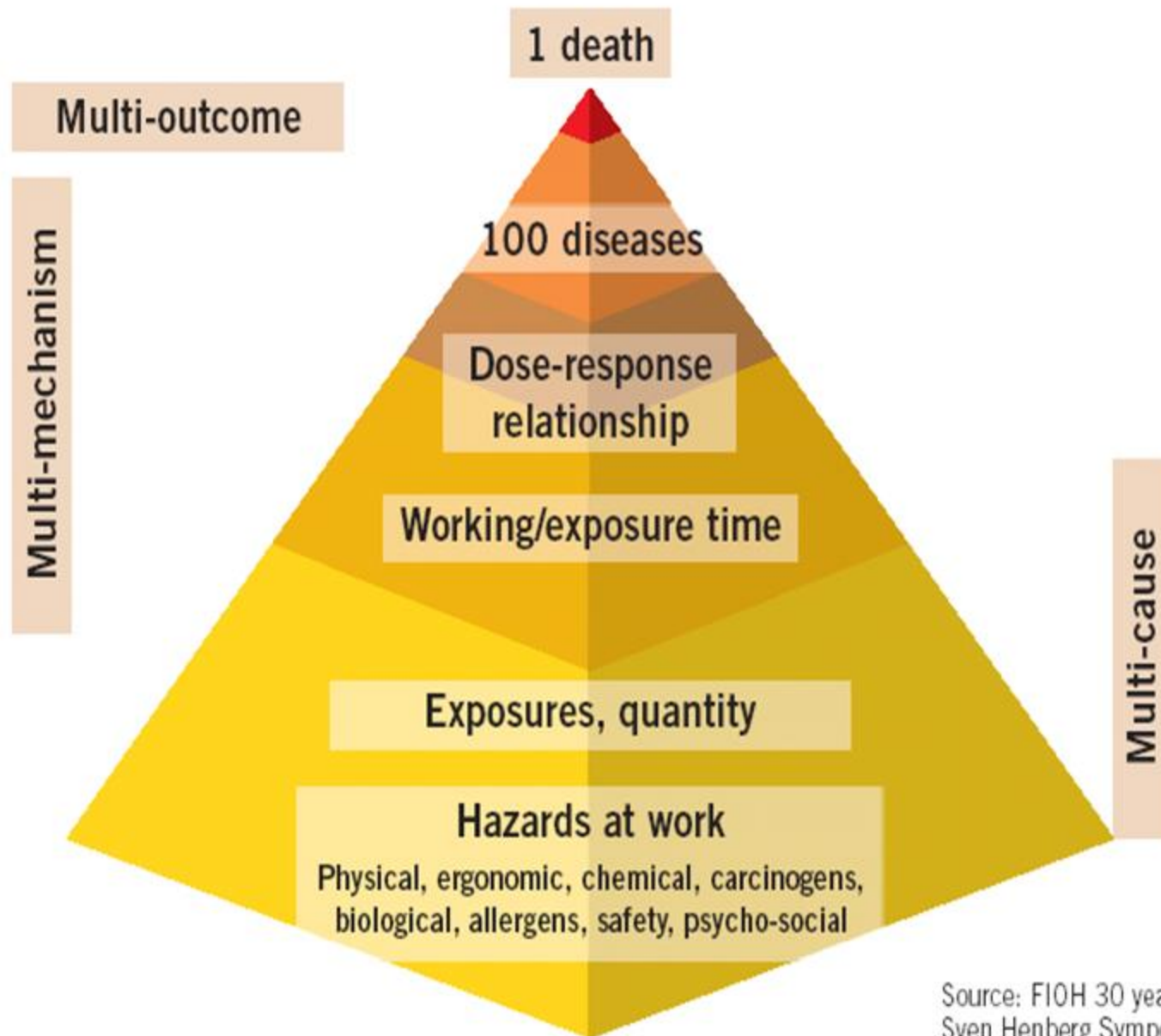
Rescue of 33 miners

Chile

October 2010



Links between hazards, exposures and work-related negative outcomes/diseases



Source: FIOH 30 years of Epidemiology
Sven Henberg Symposium, ILO/SafeWork

Global estimates of work-related accidents and diseases for 2008

Fatal accidents:

321, 0000

Work-related diseases fatalities:

2.02 million

Accidents causing absence of 4 or more days:

317 million



XIX World Congress on
Safety and Health at Work:

Istanbul Turkey, 11-15 September 2011

ILO Introductory Report:
Global Trends and Challenges on
Occupational Safety and Health

World Employment

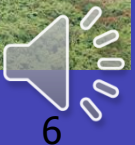
Region	Economically active population	Total employment
High income countries (global)	494 365 003	465 270 658
LMIC Africa Region	251 588 449	98 984 676
LMIC Americas Region	315 509 490	225 696 648
LMIC Eastern Mediterranean Region	152 610 995	123 065 822
LMIC European Region	213 740 690	188 216 100
LMIC South-East Asia and Western Pacific Regions	642 390 831	205 151 369
High income countries (global)	921 078 060	886 578 687
Total	2 991 283 518	2 192 963 900

LMIC – Low and Middle Income Countries

Causes of Industrial Accidents



- **Human failures or errors.** Human error and unsafe behaviour accounts for almost 90% of all accidents.
- **Technical faults** (Manufacture defects in equipment or material, improper maintenance procedures, lack of preventive maintenance programs, etc)
- **External forces**





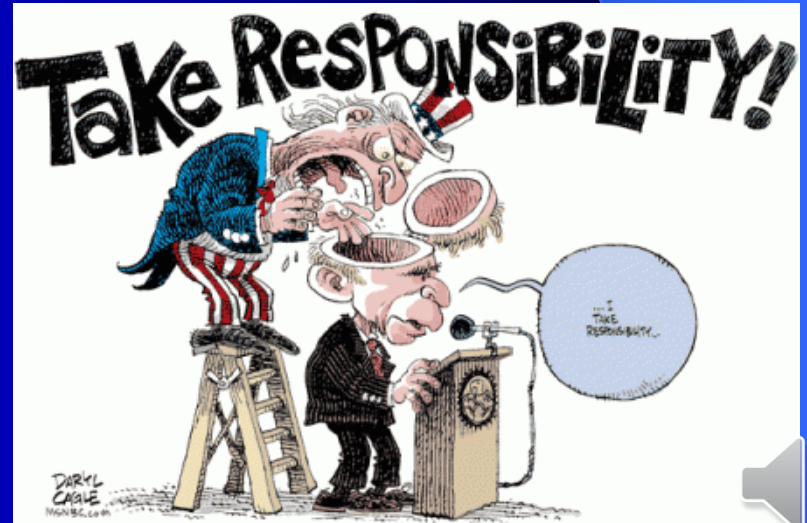
Responsibilities of Employers

- Employers have an obligation to ensure that, so far as is reasonably practicable, workplaces, equipment and substances are safe and without risks to health
- All workplace risks, whether physical, chemical or biological in origin, should be properly managed



Basic Principles in Occupational Safety and Health

- Responsibilities of the employer towards the health and safety of the workers in his/her employment



Basic Principles in Occupational Safety and Health

- **Role of the competent authority:** national policy, regulation, inspection, enforcement



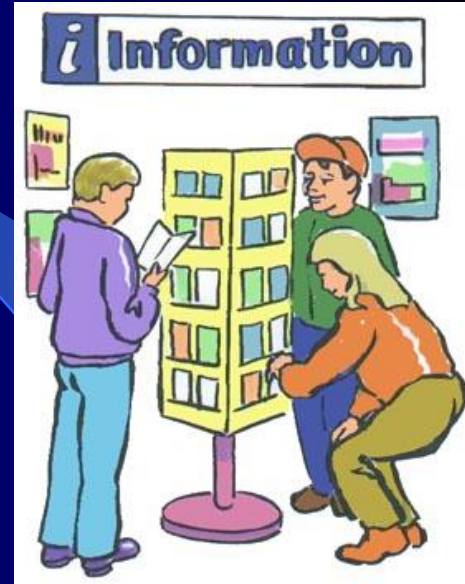
Duties of Workers

- Cooperate with their employers in fulfilling the obligations placed upon them
- Comply with instructions given for their own and others' safety and health
- Report situations that present imminent danger



Rights of Workers

- Information about general hazards at their workplaces and the specific dangers at their jobs
- Training about protective measures they need
- Protective clothing and equipment at no cost to the workers



Basic Principles in Occupational Safety and Health

- **Basic workers' rights:** right to know, to participate, to stop work in case of imminent danger, etc



Table 2. Global occupational exposures associated with artificial and natural sources of radiation

Industry	Number of workers monitored (2000–2002)	Average level of exposure (mSv/year)
Nuclear fuel cycle	660 000	1
Natural radiation	13 050 000	2.9
Coal mining	6 900 000	2.4
Other mining	4 600 000	3.0
Workplaces other than mines	1 250 000	4.8
Aircraft	300 000	3.0
Medical uses	7 440 000	0.5
Industrial activities	869 000	0.3
Military activities	331 000	0.1
Miscellaneous	565 000	0.1
Total	22 915 000	0.8



New Employment Patterns & Labour Flexibility

- Labor-subcontracting
- Contractual labor
- Part-time and shift working
- Casual/temporary, short time and probationary employment, self employed
- Teleworking, home working
- Migrants
- Itinerary
- Young, women, aged



Radiation Protection of Workers



In June 1960, the International Labour Conference adopted Convention (No. 115) and Recommendation (No. 114) concerning the protection of workers against ionizing radiations.





The C. 115 and R.114 lay down **basic principles** and establish a **fundamental framework** for radiation protection of workers. They also contain provisions which concern the **protective measures** to be taken, the **monitoring** of radiation and the **medical supervision** of workers.



C115 Radiation Protection Convention 1960



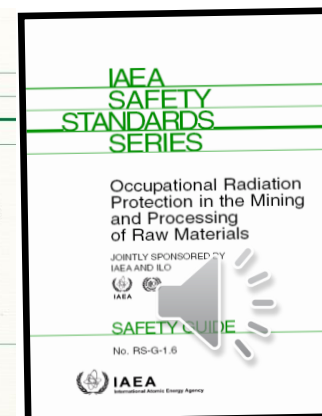
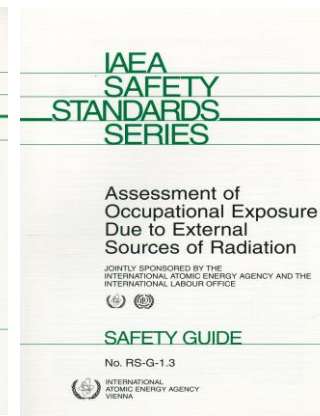
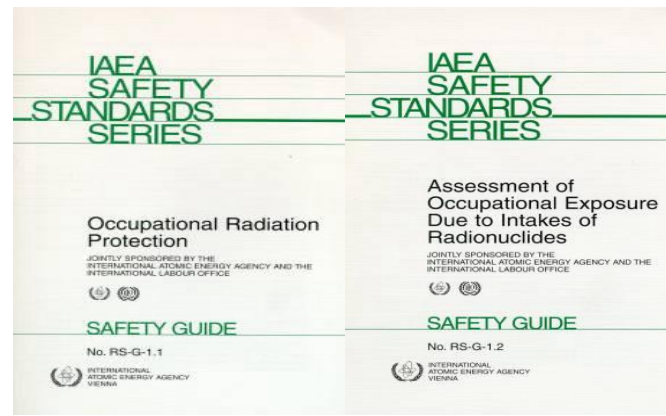
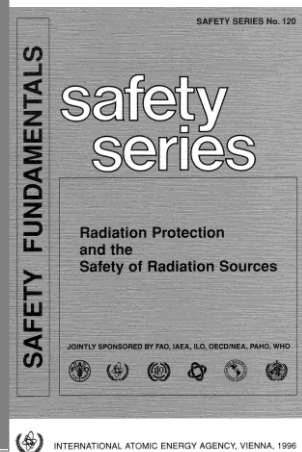
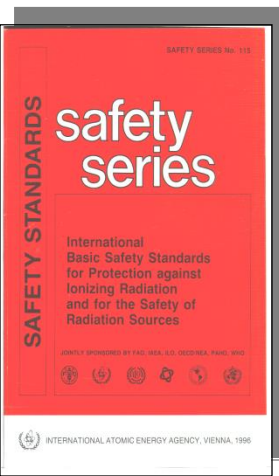
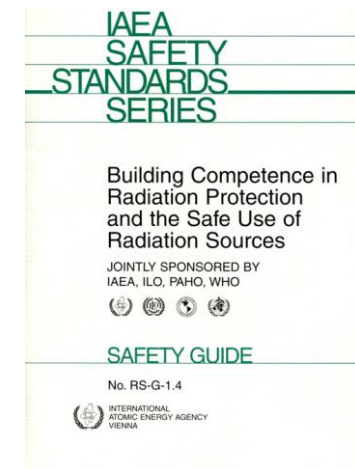
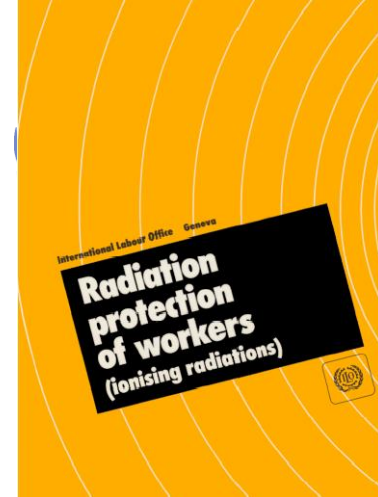
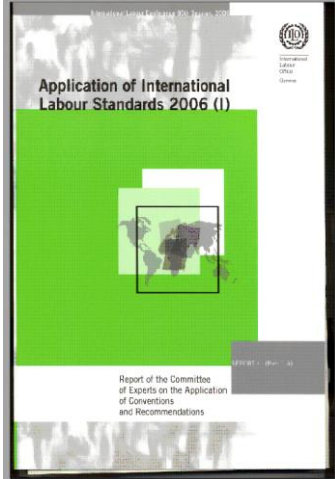
Article 9

1. Appropriate warnings shall be used to indicate the presence of hazards from ionising radiations. Any information necessary in this connection shall be supplied to the workers.
2. All workers directly engaged in radiation work shall be adequately instructed, before and during such employment, in the precautions to be taken for their protection, as regards their health and safety, and the reasons therefor.



ILO & Radiation Safety and Protection

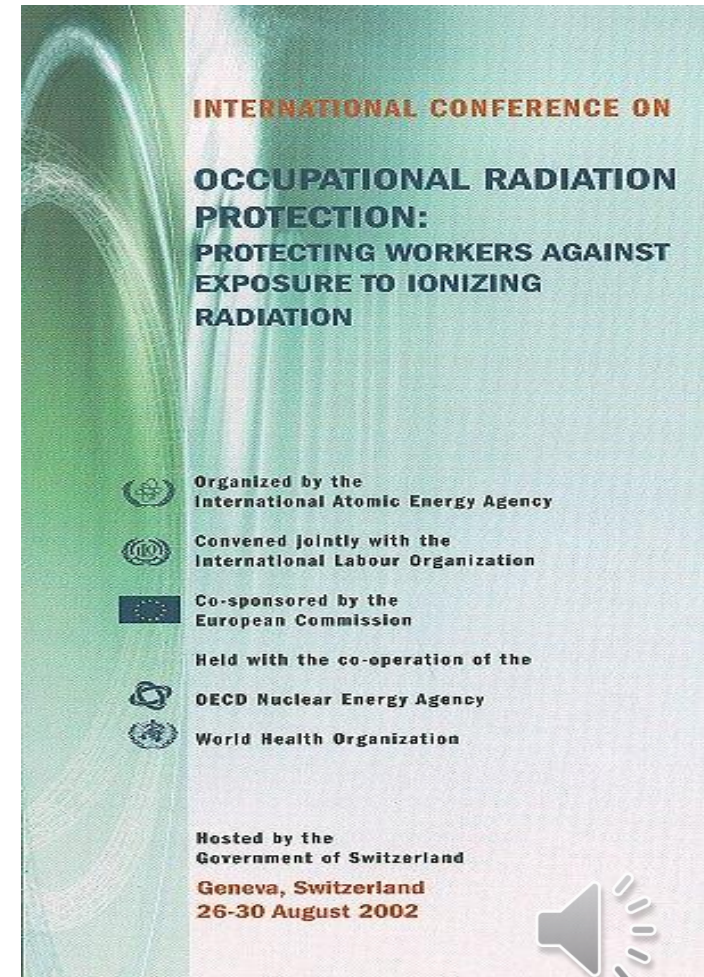
- Convention (No. 115) and Recommendation (No. 114)
- BSS & Safety Guides on ORP
- Code of Practice on Radiation Protection of Workers (Ionizing Radiation) & practical guides
- Inter-Agency Cooperation



International Action Plan for Occupational Radiation Protection



- Developed by IAEA in co-operation with ILO.
- Approved by the IAEA Board of Governors on 8 September 2003.
- Fourteen actions grouped in areas, such as:
 - ILO Convention 115
 - Information exchange
 - Education and awareness
 - Promotion of a holistic approach to workplace safety
 - Protection of pregnant workers
 - Probability of causation





IAEA Safety Standards

for protecting people and the environment

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards

INTERIM EDITION

General Safety Requirements Part 3
No. GSR Part 3 (Interim)

On 21 March 2012
the Governing
Body of the ILO at
its 313th Session
authorized the
revised BSS to be
published as a joint
publication.



Requirements in the New BSS



On RP training and Education for Workers

2.21. The **government** shall ensure that **requirements are established** for:

(a) education, training, qualification and competence in protection and safety of all persons....

2.32. The **regulatory body** shall ensure **the application of the requirements** for education, training, qualification and competence in protection and safety of all persons

....





New BSS



3.42. The **registrant or licensee...** shall **make suitable arrangements:**

(c) to provide workers with the information, instruction, training and equipment....

3.76. **Employers, registrants and licensees** shall ensure, for all workers...subject to occupational exposure, that:

(h) ... appropriate **training** in protection and safety **are provided**, as well as periodic **retraining** as required to ensure the necessary level of competence;





New BSS

Requirement 26: Information, instruction and training

Employers, registrants and licensees shall **provide** workers with adequate information, instruction and training for protection and safety.



New BSS



3.110. **Employers, in cooperation with registrants and licensees:**

- (a) Shall provide all workers with adequate information on health risks due to their occupational exposure in normal operation, anticipated operational occurrences and accident conditions, adequate instruction and training and periodic retraining in protection and safety, and adequate information on the significance of their actions for protection and safety;





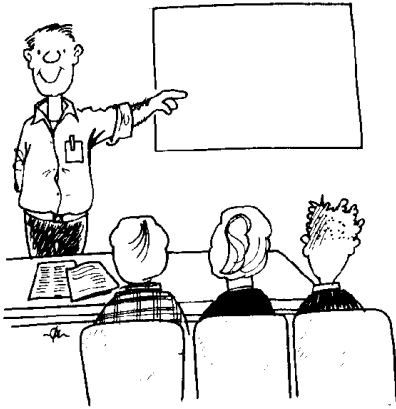
New BSS



3.110. **Employers, in cooperation with registrants and licensees:**

- (a) Shall provide those workers who could be involved in or affected by the response to an **emergency** with appropriate information, and adequate instruction and training and periodic retraining, for protection and safety;
- (c) Shall maintain **records** of the training provided to individual workers.





New BSS



Requirement 22: Compliance by workers

Workers shall fulfill their obligations and carry out their duties for protection and safety.

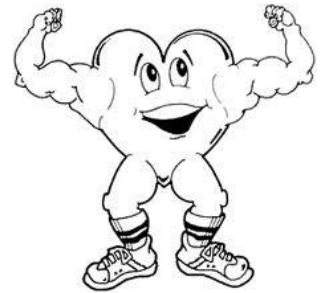
3.83. Workers:

- f) Shall **accept** such information, instruction and training in protection and safety as will enable them to conduct their work in accordance with the requirements of these standards.





*Good RP training and education for workers is important
not only for
workers' safety and health,
but also for
enterprise's safety and productivity
and for
the environment.*





Thank you!

