

UK nuclear emergency planning review and NFLA questionnaire



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Nuclear Free Local Authorities**



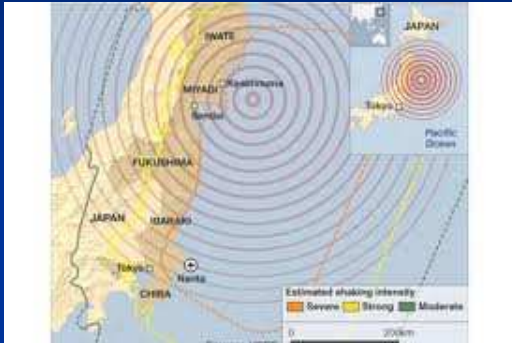
What I'm going to look at:

- The context – the Fukushima disaster
- Weightman report and nuclear EP
- UK Government nuclear EP review
- NFLA survey of local authorities
- Nuclear EP issues -
 - Size of the DEPZ / extendability
 - Flooding and nuclear sites
 - Transportation of nuclear materials
 - Nuclear terrorism
 - Recovery planning
- Conclusions and future work



Japan and Fukushima

KEY EVENTS:



9.0 earthquake



16 metre tsunami



**4/6 reactors damaged /
meltdown**

KEY EFFECTS:



**20 kms evacuation
>90,000 people**



RADIATION DISCHARGES:

- 4 – 110 times safe level on site
- 1250 times safe level in ocean
- Food / water contamination



Fukushima – emergency issues

- A 20 km exclusion zone was established
- 90,000 evacuated to rest centres
- 20 – 30km residents told to stay indoors: 140k
- Widespread infrastructure damage
- Emergency cooling did not begin soon enough
- Beneficial weather prevented major contamination
- Radiation dose limits for workers should have been raised sooner
- There was no need for rapid evacuation, and requiring residents to leave may have harmed their health
- Extensive radiation leakage to air, land, sea and food chain



Fukushima – Japanese report

- Operator and regulator failed to anticipate tsunamis and its impact
- Nuclear regulator did not ask Tepco to develop specific measures to nuclear reactors following 2008 and early 2011 simulations on tsunamis
- Delay in relaying information to the public
- Managers had a lack of knowledge of emergency plans
- Poor communications – workers & govt, among workers and between government bodies
- Staff not trained for what to do when back-up generators failed
- Japanese Government unprepared for an incident of this magnitude
- Regulator moved from the Trade Ministry to Environment Ministry



Fukushima – one year on

- “Japan was woefully unprepared to deal with the effects of the Fukushima disaster”
- Information was slowly communicated and often erroneous
- Accident was due to human error – badly situated, too low location, tsunami not considered
- Bigger vulnerabilities existed – inadequate safety guidelines, crisis management and risk awareness
- Japan needs to move away from nuclear dependency, as of Feb 28th just 2 reactors running and 52 currently closed
- Worst case scenario was considered – all 6 reactors melted down and radioactive fall-out that would have required potential evacuation of millions of people
- “We were lucky to manage to get the crisis under control before things worsened”



Weightman ONR review

- Came to the conclusion that the UK nuclear industry was 'safe' and the Fukushima incident unlikely to occur in the UK
- Many EP recommendations in report:
 - UK Govt nuclear EP review needed
 - NEPLG consider prolonged incident
 - Industry / ONR review public communication
 - Long-term severe accident exercise scenarios needed for nuclear industry
 - A review of flooding at nuclear sites needed
 - Review with National Grid offsite electricity
 - Review contingency plans for onsite cooling ponds
 - Review contingency plans for care of on-site staff during a prolonged incident



UK nuclear EP review

- UK Government instituted full review of nuclear EP
- NEPLG initial review focus on 4 areas -
 - Radiation monitoring capacity, capability and co-ordination
 - central government response
 - extendibility of emergency response
 - capacity and capability of emergency services, including emergency exposures
- In final Weightman report NEPLG “found current arrangements to be fit for purpose”
- However, a number of ‘strengthening arrangements’ have been identified (though not publicised)
- Timeline for this work and publication of UK EP for response to overseas nuclear incident Dec 11 - not met



NFLA Councils EP survey

- Nuclear EP knowledge good at fixed sites, more limited elsewhere
- Fixed site LA EPOs fed into UK review, others not
- Good knowledge of REPPIR, LAESI, less of NAIR & RIMNET
- CBRN planning has deepened nuclear EP in UK
- Patchy knowledge of the NEPLG
- Extendability of DEPZ was possible
- ONR report would be reviewed for risk register
- Generic recovery plans in place and tested
- National nuclear EP training is beneficial
- Publish as much nuclear EP info as possible
- No consensus on public info CBRN campaign
- STAC would provide sufficient expertise for nuclear incidents



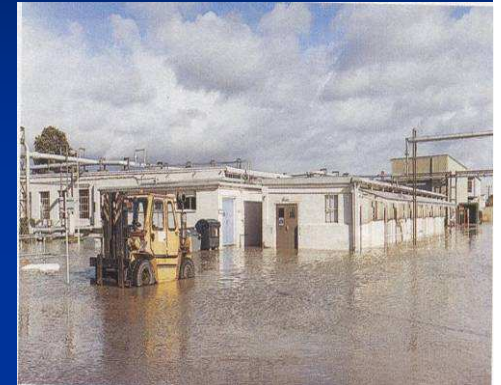
Nuclear EP issues - DEPZ

- Weightman review suggested review of extending DEPZ in the event of more serious accident
- NEPLG recommend planning assumption for “beyond design basis accidents”
- UK nuclear DEPZs are smaller than US, French and Japanese nuclear sites (Hartlepool is just 1 km)
- Nuclear concerned groups suggest increasing the size to realistic area of 20 – 30 kms
- Sizewell SSG are considering this request at next meeting
- Likely to be opposed by Government / industry as increases numbers of evacuees, more public EP info and iodine tablets (new build issue?)
- Next DECC NGO Forum will be considering this matter with NEPLG, OCNS and other nuclear EP reps



Nuclear EP issues - Flooding

- ONR – “potential for flooding to occur in the near vicinity of nuclear sites” but “actual flooding risk is unknown”
- Still okay though to build new nuclear reactors!
- DEFRA report Jan 2012 survey of all UK nuclear sites
- 6 sites have high risk of flooding
- 4 sites have high risk of coastal erosion
- 5 of the 8 new build sites are high flooding risks
- 5 of the 12 waste sites in high flood risk areas
- Sites are currently well protect, but sea level rise and coastal erosion will reduce this protection without substantial mitigation
- NGOs bringing to DECC following concerns – what is being done combat flooding threats; how much will defence costs and who pays; how will they impact local communities & amenities, are certain sites under threat of being ruled out?
- What about military sites – Aldermaston / Burghfield?
- Will be major issue in Hinkley Point C planning inquiry



Nuclear EP issues - Transport

- Fukushima – transportation network damaged
- Wylfa / Bradwell – just one evacuation route
- All new sites in remote rural areas
- NDA keen to develop fewer waste storage sites
- Increase in radwaste transport likely
- More waste transports to smaller sites (e.g. Kingscliffe, Knostrop)
- NFLA opposes Dounreay movement of plutonium across Scottish rail network to Sellafield (armed cards / terrorism?)
- Concerns remain over nuclear weapon convoy accidents / terrorist attack (NFLA briefing)



Nuclear EP issues - Terrorism

- Remains one of greatest threats to UK national security
- March 26 Nuclear security summit in S Korea – 40,000 troops / police to protect delegates!
- Summit is important in global challenge to prevent nuclear terrorism, but proliferation issues exist in many areas
- 1,600 tons of HEU / 500 tons of plutonium
- IAEA / Interpol – 200 – 250 cases of theft and loss of nuclear materials annually
- Terrorist attacks on Iranian & Israeli officials and fears over a Middle East nuclear arms race
- Expanded CBRN emergency planning / training taking place across the UK



Nuclear EP issues – Exercises

- Weightman report notes it is not typical to exercise severe, long timescale, multiple hazard events affecting multiple units / large populations
- Some emergency exercises need to extend to include severe accident scenarios
- Improvements to consider include -
 - real-time handover arrangements
 - sustainability of resourcing
 - provision of technical advice in short timescales
 - role of communications and need for reliable data
- ONR reviewing existing nuclear EP exercise programme
- Review due by end of 2011 – again not yet available



Nuclear EP issues – Recovery plans

- **Weightman report notes there is no detailed consideration given to recovery phase of major nuclear accident**
- **Protection of workers and training for contractors on-site essential**
- **NEPLG Recovery sub-group considering this**
- **Exercise OSCAR 10 at Sellafield will test prolonged recovery**
- **NFLA notes recovery plans are generic in nature**
- **Wide area flooding shows recovery plans to be a difficult, complex and expensive EP process**
- **NFLA encourages Government / NEPLG to consider prolonged recovery planning and advise LA's asap**



Conclusions and future issues

- Fukushima should be a game-changer for nuclear EP
- Weightman report emphasises need for nuclear EP improvement
- NEPLG & UK Govt working on it but deadline has already passed
- Though a sensitive area, NGOs have useful things to say here
- Still knowledge issues between nuclear site LAs / other LA EPOs
- Numerous issues of concern for NFLA and NGO community
- The UK review hopefully will improve all aspects of nuclear EP
- All EPOs should read and act on NEPLG / Government report
- Recovery plans and County Risk Registers should be reviewed for prolonged nuclear incidents
- NFLA meeting DECC, NEPLG, NDA and regulators in May to discuss nuclear EP issues in detail
- NFLA hope to hold a further nuclear EP seminar in late June / early July in Manchester



Thank you for listening.

