

# **MEMO OF IMPRESSION AND ADVICE FOR NDF**

**29 OCTOBER 2014**

**By Dr M W Weightman, UK**  
**With Mr C Béhar, France**  
**Mr P T Dickman, USA**  
**Dr R L Yang, USA**

## **NDF INTERNATIONAL SPECIAL ADVISERS**

### **Background**

The Nuclear Damage Compensation and Decommissioning Facilitation Corporation (NDF) was set up by Japanese Government decision with the prime role of developing a strategic plan for the safe decommissioning of the TEPCO Fukushima Daiichi nuclear site and of providing advice to the Japanese Government related to this plan including its achievement.

As part of the arrangements for ensuring that such a plan and advice was as robust as possible it was determined that international special advisers be appointed to assist NDF in their tasks. The advisers appointed are:

- Mr C Béhar, France
- Mr P T Dickman, USA
- Dr M W Weightman, UK
- Dr R L Yang, USA

On 27<sup>th</sup> and 28<sup>th</sup> October 2014 the advisers attended meetings in Tokyo with NDF staff and others, including representatives of TEPCO, METI, and ANRE. They also attended the third meeting of the NDF Board as participation observers. On 29<sup>th</sup> October 2014 they visited the TEPCO Fukushima Daiichi site.

This note provides a summary of views expressed at the meetings and on the progress of decommissioning of the TEPCO Fukushima Daiichi site.

### **Statement**

1. The advisers received considerable briefing and up to date information about the work of the NDF, the developing strategic plan, and the progress and conditions at the site. They also received full co-operation from all involved and all requests for clarification and questions were fully addressed.

2. We have been very impressed by the considerable progress that has been achieved in stabilising and decommissioning the site. However, we recognise the considerable work that remains with significant unknowns about the state of the facilities, disposition and state of fuel debris and some fuel in the reactors. The water management on the site has been comprehensive and effective. Now all opportunities for controlled release of treated water meeting regulatory requirements should be used forthwith so as to release resources and management attention to the primary risks on the site.
3. Similarly, we have been very impressed by the excellent work that NDF has completed or begun in its short time of existence. This drive and dedication at the beginning of its existence bodes well for its work in the future.
4. We found our meeting and interaction with the Decommissioning Strategy Committee (DSC) to be highly informative and of value. We appreciated participating in the DSC review of the “Contaminated Water Treatment Plan for FY 2014” and “Study of ‘Strategic Plan’ for Fuel Debris Retrieval”, and agree that these proposed plans provide for a balanced approach.
5. We provided advice on the developing strategic plan noting that:

- a. The plan has to be flexible.

By its nature decommissioning nuclear facilities will come across unexpected conditions and problems. This is especially true for the TEPCO Fukushima Daiichi site with three reactors with melted fuel and three heavily damaged by hydrogen explosions.

- b. The plan has to be risk reduction prioritised, driven and based.

This is to ensure that maximum safety is achieved as early as is practicable. There may be other factors that are taken into consideration but it must be safety first. At times though, this may involve a transient increase in risk as part of the decommissioning activities to enable a more significant and prolonged reduction in risk through earlier hazard reduction.

- c. It has to have clear waste management principles and criteria for the treatment, packaging, storage, and disposal of radioactive wastes.
- d. It should include a two-stage approach for the waste, fuel debris and fuel. First, place the waste as soon as practical into a passively safe form which will permit it to be transported for further treatment or disposal to suitable facilities once they are available.
- e. To be successful all involved have to be aligned around a common goal and work towards its achievement. This will require flexibility by other organisations and a determination by all to do all they can to facilitate its achievement. This includes:

- Proper use of risk informed flexible proportionate timely regulation;
  - Facilitating the discharge of adequately treated water;
  - Opening up effective waste management routes based on appropriate waste criteria;
  - Looking to the effective optimisation of the use of dose limits and criteria which if inappropriately used may drive the inappropriate diversion of resources and management attention delaying risk reduction.
  - As an example, the establishment of a dose limit at the site boundary for radiation from the site of 1mSv when there are no members of the public at this location and the ambient dose rate is far above this is causing unnecessary use of resources.
6. We consider that as a matter of urgency the NDF should create a draft waste management decommissioning strategy that focuses on minimizing the amount of materials to be disposed of as radioactive waste. This draft plan should be shared with interested parties to be refined and improved.
7. Finally, we advise that the NDF should establish and promote effective communication amongst all relevant parties on matters related to its role especially with the regulator and between the regulator and operator.