Radiation Protection Managers meeting - 20/06/2022

Summary and Conclusions

ISOE International Symposium

Tours (France)

21-23 June 2022

P. Weickert (EDF)

Agenda - Morning

Time	Subject	Speaker
09:30	Welcome opening	
09:45	RP Management in EDF's plants, events, feedback	P. Weickert, EDF, France
10:30	Coffee Break	
11:00	Organization of the collection and processing of feedback at Kozloduy NPP, Bulgaria	V. Stancheva, Kozloduy NPP, Bulgaria (web)
11:45	LaSalle County 1,2: US BWR high-efficiency Ultrasonic Cleaning of major components experience	D. Miller, University of Illinois, NATC, USA (web)
12:30	Lunch Break	

Agenda - Morning

Time	Subject	Speaker
14:00	Bruce Refueling Machine Head 8A Recovery: Recovery of an Extremely High Dose Rate Object	I. Rowe, Bruce NPP, Canada (web)
14:45	Lowest Refueling Outage Dose Achievement of the Palo Verde Units 1,2,3: Achievement of 16 Person Rem Refueling Outage Doses	D. Miller, University of Illinois, NATC, USA (web)
15:30	Coffee Break	
16:00	First US PWR Pixelated, 3D CZT Characterization of Ag-110m in Charging Pump Room and Removal with Speciality Resin, Palisades	D. Miller, University of Illinois, NATC, USA (web)
16:45	First US BWR to use drones to examine drywall for steam leaks at 100% power. Browns Ferry 1,2,3 Tennessee Valley Authority	D. Miller, University of Illinois, NATC, USA (web)

RPM meeting summary

- 7 participants in person + 3 remote participants

- **RP Management in EDF's plants, events, feedback - presented by P. Weickert**
  - Presentation of RP Organization, RP Education and Training and specific RP Managers training. RP results are in line with objective but loss of RP basic knowledge and fundamentals that have impact on number of incidents. A recovery plan of RP management have been launch end of 2020 at EDF. A feedback of significant events have been presented with evolution on last 3 years and distribution between contractors and EDF.
  - => some questions and discussions about communication linked mainly to Covid and criteria used for classification of significant events.

RPM meeting summary

- **Organization of the collection and processing of feedback at Kozloduy NPP - presented by V. Stancheva**
  - Presentation of collection of feedback experience in RP at Kozloduy : who collects feedback, which RP professionals are involved, how feedback is collected and some feedback results. Feedback is collected through different ways : performance indicators, ALARA Committee, reports, working meetings, walkdowns and observations or radiation monitoring and doses databases.
- **LaSalle County 1,2: US BWR high-efficiency Ultrasonic Cleaning of major components experience (web) - presented by D. Miller**
  - Presentation of ultrasonic decontamination performed at La Salle NPP due to important Co-60 contamination. Contact dose rates on bottom head drain up to 290 rem/h. Ultrasonic cleanin performed on reactor recirculation flow control valves that are primary sources of activated debris. A special tool to clean interior of pipes and valves by ultrasonic cleaning has been used in combination with gamma scan with CZT. Dose reduction between 20 and 70 % have been observed depending on location.
  - => Main question dealing with potential increase of dose rate of filters : not observed.

RPM meeting summary

- **Bruce Refueling Machine Head 8A Recovery: Recovery of an Extremely High Dose Rate Object (web) by I. Rowe**
  - A very high dose rate object has been discovered in Fueling Machine Head at Bruce in 2018. Object extracted is 0,3 g Co-60 of 50 Ci. The object was lodged inside the magazine of fueling in an inaccessible area. A specific tool has been developed to recover the object without damages to fueling machine. Object finally removed in 2021.Dose integrated and Key successes of the operation have been presented.
  - => Not same incidents in other plants. Question about use of mock-up training where the entire sequence was tested.
- **Lowest Refueling Outage Dose Achievement of the Palo Verde Units 1,2,3: Achievement of 16 Person Rem Refueling Outage Doses (web) - presented by D. Miller**
  - PaloVerde unit 3 outage with only 13.631 rem integrated by workers. Presentation of main works of the outage and main reasons of this good results : space in RB, large amount of temporary shielding, good transition phase. In the past, PaloVerde has higher outage doses, lot of work to perform this good results.

RPM meeting summary

- **First US PWR Pixelated, 3D CZT Characterization of Ag-110m in Charging Pump Room and Removal with Speciality Resin, Palisades (web) - presented by D. Miller**
  - CZT gamma detectors are used in several US sites and some tests have been performed in Palisades. Comparison performed between HPGe and CZRT measurements on sampling of primary coolant. In particular, follow of radionuclides during crud burst (pre-burst, in-burst and post-burst). Definition of radionuclides repartition at each phase : 60% of Ag-110m at post-burst.
- **First US BWR to use drones to examine drywall for steam leaks at 100% power. Browns Ferry 1,2,3 Tennessee Valley Authority (web) - presented by D. Miller**
  - Browns Ferry is the first US plant to use drone to examine drywall for steam leaks at 100% power. The drone was used to replace a broken camera. The highest dose rate in the area was 933 Rad/h. Dose saving with use of drone : 400 to 500 mrem. Advantages : elimination of radiation exposure and reduction of risk of injury and heat stress in the room.

Thank you for your attention!