

6/7/99

Meeting w/ NEI on Spent Fuel Pool

Meister:

Please describe internal fire scenario.

Kelly:

Initiations 10^{-1} to $10^{-2}/yr$ from NEDD data.
Rest of this is human error rates, just like for

operating reactors.

Long-time available to recover.

Low probability of not recovering.

$$\frac{1}{1000} \approx \frac{1}{10,000}$$

Systems are simple, but do not have redundancy or diversity.

Meister:

Let's go through the internal fire

Check:

EPRI came by. for pumps & elec cabinets 8E-3

Cutting to remove equipment.

Manual suppressants

.05

10% of time fire would be large enough to take staff out.

Now, need to recover.

Direct powered fire pumps.

Have a long time to recover.

Accident occurs as 1 yr.

120 hours to boil down to fuel uncovering.

Used 5% probability of not recovering

(\approx 1 week)

C/8/8/99

Meisner: What do you assume for recovery in Op Rx.
If have greater than 24 hours to recover,
we assume that you recover.

Kelly: In op Rx., other accidents are dominant.

Meisner: Could identify need for procedural controls and
then go on.

Check: 10^{-4} is the lowest number I would use for
recovery.

$$[10^{-1} \times 10^{-4} = 10^{-5}]$$

- Check:
- LOCA: 10^{-3} is initiating event freq.
 - Check: again 120 hrs to recover
 - LOCA could be a valve or gase failure or
a siphoning event.

Kelly: what will PRA tell us about potential problems?
That was the purpose of our work.

Meisner: You can come up with a different set of numbers
if procedures are in place.

Kelly: Yes

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Meisner: If you always assume the worst case, you can come out with a higher number.

Kelly: We did not do this.

Our full report will be out in Aug 99.
PRA for decom reactor is not the same as for an op reactor. We'll have different types of concerns. We got expert opinions on human factors error rates.
[What experts did you use?]

Kelly: Foreign reactor for level drops ^{by} 18 feet.

Meisner: We don't want to wait until Aug.
Industry: Why not give us your report now?
What is the harm?

NEI: Why spend time finalizing something that may be changed a lot.

Industry: We'll can give you better info re writing some conservation out of this report.
(Mrs Rowe)
(Oyster Creek)

Sen Richards: Tried to do a bounding PRA
We don't have results yet. We have a work in progress.

NEI: Bounding analysis is not how PRA's work best.

Kelly: Was a realistic analysis as much as possible.
Most of our analysis is not bounding.

NEI: Should assume procedures and then do the PRA.

7 days to put water in the port.
Foreign reader with no oversight.

Check: Use do have sensitivities.
This is a work in progress.

NEI: Don't spend so much time studying this.
We can do this much quicker.

Industry: Frequency is larger the rat. freq. for an op Rx.
Can't have a real dialog until you give us some details.
Otherwise, this will be a hollow discussion.

Meisner: Seismic?
Check: 2×10^{-5} existing even frequency

Meisner: 1953 said seismic was 2×10^{-6}
After applying Livermore curves got 1×10^{-6} ?
You came out in the same place as 1953, even
consider Livermore curves.

Sam Richards: Could not have done a risk study in 60 days.
It just cannot be done.

Meisner: Need to assume fire cannot happen.
That way we will be forced to actually evaluate risk.

Barrett: Looked at 3 things: Frequency, consequences,
deterministic evaluation
of fire.

None of 3 allowed us to dismiss the problem.

{ Can use similar criteria to op Rx.
We have not finished thinking about this.

NEI: If cannot get water back in pool in 7 days,
then any addl. requirements will not
impact risk.

[Your assumption of 10^{-4} recovery is
unreasonable.]

Roy Shaddis: Don't approach decommission piecemeal.
Need to evaluate risk of each plant individually.

Peter Atherton: No seismic requirements for seismic design of
spent fuel pool that I could find.
One spent fuel pool is leaking.

Oyster Creek: I cannot wait 3 years for a rule.
What is the guidance? I need it now.

Sen. Richard: we will continue to issue exceptions
as we have in the past.

Meisner: Eric first preclusion only used for last
couple of decommissioning.

NEI: Interim guidance is what we need

Meisner: We need ^{NREG} staff to take a position and keep
with it. Let's get on with it.

Lunch

Meisner: Mar 99 Coma May =>

- a lot of work already done
should
- Package it together + send it to Commission in June.
- Don't think who you are doing is who com is looking for.
- shows lack of discipline on staff to take

NREG/ee's and use them.

- staff position changes each time a decommissioning
comes in - no consistent staff position

• NUREG-1353 is a good basis

Meisner: Don't make it up as you go; industry needs stability.

Negative things from site visits went into model, none of positive things did.

NEC's PRA is conservative; it is supposed to be best-estimate.

Design & operation of Maine spent fuel pool is in the FSAR; just read it.

Seabrook did a PRA on spent fuel pool; you did not mention it.

You are resisting taking input from industry.

Did poor job on plant visits w/ HEP; HEP this is driving your results.

To have to consider an event that is a week long, that is to lose touch w/ reality.

No way frag. of core damage is the same as an operating reactor.

We request:

- 1) need to have current work considered w/ part
- 2) do not need to reinvent the wheel
- 3) show us assumptions ^{now} that are critical to the problem.
- 4) assume licensee will put water into the pool within a week, as a best estimate
- 5) assuming can't get water into pool in less than a week is unrealistic.

Meisner: Overall, disagree w/ Scott's position.
We are desiring to provide any info.

Industry: Don't use such conservative numbers for HEP.
(Art)

5% chance that can't get water into spent fuel pool (after 1 week)

Regulatory uncertainty is a big problem.

NEI: We are trying to clarify the requirements.

Stu Richards: End goal is predictability.

" " " to risk inform it

You are disappointed we can't get there faster.

When we started out, I was hopeful to finish in 60 days also.

Meisner: I am frustrated

- Not building on past, using earlier NRC studies.
- Reinventing the wheel.
- Adding on extremely conservative assumptions that made it invalidated.

Stu Richards: You think our approach is half-baked.

Meisner: We should be included in the process.

We need to have a technical team working with your technical team.

NEI (Lyons): We would like interim guidance (SRP, for example)

Sta Richards: Decommissioning has a higher priority than it used to.

Barrett: • Need better info. of what you have at the plants
• Need better info on what you plan to have at the plants

Kelly: • { 1353 was for op. plants
Op plants have more equipment + capabilities.
• We modeled what was there
• We modeled the procedures
• If no credit, then high probability of operation error

Meisner: Why are your seismic number so different.

Kelly: We were not satisfied with seismic analyses in 1353.

Meisner: That was relied up to make a decision

Kelly: But 1353 was dealing w/ back fits.
Not dealing w/ back fits here.

Kelly: An exception is not a backfire.

Kelly: Little credit for operator action.

* 9,999 out of 10,000 the operator is mitigating the accident. *

↓ Got this number from some good experts.

Bogehi: We did not deviate from 1353.

We used 3X SSE.

We used Lawrence Livermore (2×10^{-5})

Multiplied by .05 \Rightarrow

$$.05 \times 2 \times 10^{-5} = 1 \times 10^{-6}$$

Meisner: You are continually changing methodology.

B. Bogehi, do your own calc. w/ STARP code.

Now, STARP code is no good.

We cannot pin the NRC down.

Whitlins: Security, insurance, EP is a poor choice of where to spend money.

Small deviations or fire is credible.

We used 3X fire code for gross leak. Got

3.5 months for release.

Now, staff tells us that STARP code is not good.

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Ray Shaddis: Even if 10^{-6} or 10^{-7} , if you have off-site consequences the public is concerned.

We have reservations in how closely NEZ engages NRC in this project, esp. w/o the public being in the mtg.

Had 12 feet of water in the containment at IP in the 1980's.

Sabotage not addressed today.

Agree with industry, "consistently changing regulatory positions."

Peter Atherton: Where are the results?

Vonna: Done in Aug; we only gave results today.

Atherton: Some areas not addressed, such as, criticality.

Son Richards: Addressed in our report to be issued.

Atherton: Why no redundancy & EQ?

Why relying on operator action.

NRC: Draft report will address.

Zwolinski: Millstone I has recently shut down.

Barrett: 25 years experience in calculating BWR/PWR risk for op rx. Limited experience for spent fuel pool.