MORE QUESTIONS THAN ANSWERS
OOZING OUT OF BRAIDWOOD AND DRESDEN

By David Kraft, Executive Director of NEIS
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The noted philosopher and writer Samuel Johnson once wrote, "He that voluntarily continues in ignorance is guilty of all crimes that ignorance produces." Or, as someone else once said, "Stupidity and evil are the same thing, judging by the results."

Welcome to the nuclear industry’s “nuclear renaissance.”

Nuclear Energy Information Service (NEIS) has been following the tritium plume issues oozing out of Exelon’s Braidwood and Dresden nuclear power stations for two years. During that period it has become evident that the actual radioactive plumes coming from this self-proclaimed “non-polluting” energy source (if you believe nuclear industry ads) represent only the tip of the iceberg in terms of threats to the public health, safety and environment.

Reading some of the naïve press accounts about the tritium leaks, a more critical reader can only be struck by 1.) the casual and uncritical acceptance of every “official” utterance on the issue, even down to obvious “cut and pastes” of Exelon press releases, regardless of how contradictory, incomplete, evasive, or inaccurate they might be; 2.) how breathtakingly dumb and totally unacceptable statements coming out of both Exelon public mouthpieces, and the federal regulators charged with protecting the public from radiation hazards are, and 3.) what is not being said or reported.

1.) “…casual and uncritical acceptance of every “official” utterance…”

Many of the early local press accounts seem lifted nearly verbatim from Exelon press releases on the issue. Going back and re-examining some of these reveals a pattern of obfuscation, contradiction, hidden agenda and down right inaccuracy in many of the statements, with no subsequent challenge by either the press, or local officials, who at least have the legitimate cover of not being experts on nuclear leak issues. Still, such a pattern should at least call for a healthy dose of skepticism to greet all future Exelon and NRC pronouncements.

For example, in report after report readers have been lulled into the false sense of security that these tritium levels are nothing to worry about, falling as most of the reported readings do below federal EPA drinking water permissible limits of 20,000 pico-curies/litre. Has anyone bothered to check whether a “permissible limit” is the same thing as “safe”? Some radiation standards adopted in the US are twice as high as those adopted internationally. They are also set with the standard reference person being the legendary “healthy, 165 pound caucasian male,” not the more radiation-sensitive populations of pregnant women, children, seniors and immune deficient individuals. For this reason such “allowable emission standards” are held in high suspicion by many in the health community.

This past summer the National Academy of Sciences concluded its 5-year analysis of the effects of exposure to low doses of ionizing radiation. The Committee chair, Dr. Richard Monson, associate dean for professional education and professor of epidemiology, Harvard School of Public Health wrote,

"The scientific research base shows that there is no threshold of exposure below which low levels of ionizing radiation can be demonstrated to be harmless or beneficial.... The health risks – particularly the development of solid cancers in organs – rise proportionally with exposure. At low doses of radiation, the risk of inducing solid cancers is very small. As the overall lifetime exposure increases, so does the risk.”

Clearly, their experts and Exelon’s/NRC’s/EPA’s disagree on the effects even low doses of radiation can have. Later news accounts of the more recent finding of contamination above the EPA drinking water limits mention that the amount of tritium found naturally is about “200 pico-curies/litre.” Other literature maintain the natural level to be around 20-30 pico-curies/litre. So, simply because an EPA standard sets a limit, we’re to accept that as unquestionable evidence that we’re all safe – even when the limit is set 100 to 1,000 times higher than what is found naturally?

Exelon and regulatory officials who continually spew the mantra that, because no federally recognized limits have been exceeded, therefore, no harm to the public exists are being incredibly disingenuous. Harmful biological effects of tritium have been documented in the lab in peer reviewed reports. Not all tritium leaves the body as easily as described in fact sheets; and if one is a local resident who can’t move away, the exposure is chronic and constant.

Finally, the fact that Exelon is offering “free well tests” to local residents should be little comfort. We do not allow DUI offenders to conduct their own breathalyzer tests; why should we allow Exelon to be the entity in charge of conducting the water monitoring program around their leaking reactors?

2.) “…breathtakingly dumb and totally unacceptable statements coming out of both Exelon public mouthpieces, and the federal regulators....”

While reporters have been keen to cut and paste from Exelon press releases the details of Exelon’s customer base, earnings, etc., they left out one very pertinent fact: as a nuclear utility Exelon (both the old Illinois ComEd/Unicom plus the merged Philadelphia Electric Company and Amergen plants operated) has over 600 reactor-years worth of experience operating nuclear power plants. This is more experience than any other US company, and indeed, more than most nations have in operating nuclear plants.
Given such vast experience one might expect a more thorough, professional and precautionary approach and response to leaks at a nuclear plant than the “...1998 pipeline leak wasn’t thought at the time to contain significant amounts of radioactive material...” stated by an Exelon spokesperson in a January 25th report in the Chicago Tribune. In the January 26th Tribune, Exelon’s Thomas O’Neill states that in the 1998 leak, “there was nothing done...to remediate the leak.” And in the same press account, the very prescient Exelon spokesperson Crain Nesbit assures us, “We don’t expect to find anything,” from the subsequent monitoring wells Exelon is drilling at great expense on and offsite.

Just what does one expect to leak out of nuclear power reactor – Gatorade? No remediation done – and a second 3-million gallon leak occurs? Just how reassuring is it to not “expect” to find anything in subsequent testing, when they also didn’t “expect” tritium to be in the first leak? It was this kind of complacency and assumption that contributed to the permanent closure of the two Exelon Zion reactors in the late 1990’s. Perhaps Braidwood 1&2 should join their ranks if they are being managed with the same attitude.

Early reports and correspondence with Exelon officials find them minimizing such plumes. They describe a 230,000 gallon leak at the Dresden NPP in one of their “fact sheets” as “very small – roughly in size to a trickle from a kitchen faucet.” Such a “trickle” could fill more than an eight-lane, 25-yard high school swimming pool. The two, 3-million gallon Braidwood leaks would fill over 30 such pools.

The federal Nuclear Regulatory Commission sounds equally as competent and intelligent.

The NRC – which is quick to reassure us with the boast that it has “resident inspectors” with watchful eyes stationed at all operating US reactors – admits that Exelon “informally told” NRC officials about the leaks at the time they occurred. But, NRC required no “formal” [i.e. “written”] notification, “...because it was assumed no radioactive substances were released into the environment...” according to NRC Region-III Public Affairs director Jan Strasma.

“Assumed” by whom, and why? And again, if not radioactive substances, then what? Apparently, in its usual fit of cooperativeness, NRC also did not feel such leaks important enough to notify local or state officials, either, “informally” or otherwise. This would account for the degree of shock and surprise now coming from county and State officials who are only now learning of these events – eight years after the fact.

On May 29, 1996 the former Chairwoman of the NRC, Dr. Shirley Jackson – definitely the most powerful of NRC officials -- was so exasperated that the Exelon (then ComEd) Dresden reactors had resided on the NRC’s “close watch list” for poorly performing reactors for what was to become a record-setting 15 consecutive reporting cycles (7-1/2 years), that she summoned up all the strength and regulatory force the NRC could muster at ComEd by asking the now-legendary question: “Don’t you think that you [ComEd] should perhaps shut yourselves down [at Dresden] if you [ComEd] can’t solve Dresden’s problems once and for all?”

It is clear to this day who is “tail,” and who is “dog” in the relationship between NRC and the nuclear utilities like Exelon, which led NEIS long-ago to conclude that “NRC” stands for “not really concerned.” For this reason and its historical record, it is totally irrational to expect that the NRC will regulate assertively in the current Braidwood and Dresden tritium leak issues. Further, no NRC public pronouncements about safety should be taken at face value, without the benefit of a second totally independent confirmation and evaluation.

3.) As bad as the “obvious” has been so far in the reporting and handling of the Braidwood and Dresden tritium leak incidents, what is being missed or not publicly discussed is far more disturbing, and perhaps far more threatening to the public health and safety and the environment. Consider:

- While the presence of tritium in any amount is a potential public and worker health threat, it should be recognized that tritium does not always appear alone. Its presence often signals the presence of other radionuclides – usually, but not always “entrained” or “dissolved” noble gases, like xenon and krypton. While these are not very bio-reactive because of their very chemical nature (you’d actually have to get these gases on or in you for them to produce much of a toxic radiation threat), the fact is that they would NOT be able to behave like gases, stuck underground in these radioactive plumes. They would NOT “dilute” themselves away into the atmosphere. Instead, they would remain in place, and start decaying into radioisotopes that ARE biologically reactive and radiologically hazardous, such as cobalt-60, cesium-137, and strontium-90.

Both Exelon and NRC have stated that they have NOT been testing for the presence of other radionuclides in their testing programs. Don’t look – don’t find.

- Does it make sense for Exelon to maintain the position that “there is no health threat” from the tritium plume, yet offer to “make whole” property value loss to the 15 neighboring landowners? If there’s no hazard, there’s no loss. Further, if there is no problem, why is Exelon interested in purchasing additional public land adjacent to the plant? Could it be that once these properties become Exelon owned, they would be exempt from further calls for public examination and testing?

- At a public meeting on the Braidwood NPDES Permit in April, 2005, when residents from Godley made very sound suggestions for Exelon to develop a system to keep and treat all further water discharges onsite (pp. 77-81), the idea was met with advice that the public should make suggestions about how this might be accomplished. Now, NRC and Exelon announce that all discharges from Braidwood have remained onsite since November, 2005. (Source: Morris Daily Herald, 2/3/06). This seems to prove the old adage that, what has already occurred, must in fact be possible. Perhaps this condition should be made permanent to avoid future spills and contamination.
In the April, 2005 transcript of public testimony taken by Illinois EPA pertaining to the Braidwood NPDES permit, quotes and documents were presented indicating that the Illinois Dept. of Nuclear Safety (IDNS) apparently knew about the Braidwood “blowdown line failure” previously, yet tacitly agreed to keep “quite” about it. (Testimony of Mr. Corey Conn, pp. 13-18). Why? Why is no one bothering to find out? Is this an example of the kind of vigilant and assertive regulation we can expect from federal and state officials in the future on this issue? If so, how does this protect the public health and safety?

The numbers and types of erroneous assumptions made by both Exelon and NRC, as well as their penchant for “unofficial” communications and erring on the side of optimism is a perfect example of what is wrong and missing from today’s regulatory climate – regulation, the verb. It further shows why neither party can have future remarks, pledges and announcements taken at face value, without the benefit of an independent “second opinion.” Similarly, IDNS’ decision to remain mute, and IEPA’s penchant to stick strictly within regulatory limits illustrates the impotence of state agencies to rectify the situation. It would seem in all cases that the situation can only be corrected legislatively, through executive order of the Governor’s office, and/or from action from the Illinois Attorney General’s office. There is simply no trustworthy mechanism in place for self-healing or self-regulation of this situation on the part of Exelon or the federal NRC.

What we recommend….

As we did with the NPDES permit, NEIS would like to recommend the following constructive actions to address the current situation:

1.) TAKE NOTHING AT FACE VALUE: residents, local officials, and the local media have every reason to doubt virtually everything they are being told regarding the tritium issue. They must make the effort to secure independent analysis and second opinions wherever possible to prevent being taken advantage of economically or bureaucratically.

2.) INDEPENDENT MONITORING WELL/PLUME TESTING: As pointed out above, DUI’s do not administer their own breathalyzer tests. It makes no sense for Exelon to be permitted conduct the definitive testing regarding this issue. Exelon should instead make available the money they would have used for use by local/state officials and residents to contract with independent testers and labs.

3.) BRAIDWOOD NPDES PERMIT: As new contaminations are being discovered, it becomes obvious that the nation’s most experienced nuclear utility has lacked the wherewithal to analyze and deal with the situation effectively. This, and the changes in understanding concerning the health effects of persistent, chronic exposure to low-dose ionizing radiation discredits the very notion that has been the cornerstone of their wastewater disposal procedures: “the solution to pollution is dilution,” and in this case, into the Kankakee River and the groundwaters surrounding Braidwood. Therefore, a.) the NPDES permit should be permanently revoked, and b.) the onsite storage of wastewater currently in place should be made a permanent process and condition for continued operation of the Braidwood reactors by the State of Illinois.

4.) TRITIUM – THE CAMEL’S NOSE IS UNDER THE TENT FLAP: The health effects of chronic tritium exposure in people and animals should be taken more seriously, not minimized. Permissible release standards should never be confused with safety standards. Testing for the possible presence of other radionuclides (entrained noble gases and their daughter products) as mentioned above should commence immediately.

5.) “OOPS” AND “SORRY” – NOT A PROFESSIONAL APPROACH TO REACTOR OPERATION: Again, we are dealing here with the utility in the nation with the most experience operating reactors. For them to not contemplate that discharges might be radioactive; then not do remediation and permit a second recurrence of a problem – all of this smacks of the old ComEd days, when 7 of their 11 operating reactors were on the “close-watch list” for poor performance requiring improvement. Greater accountability of the company must be insisted upon.

6.) CHANGE IN NOTIFICATION POLICY: The eight-year delay in bringing these issues to light beg for a major change in the notification process. Both NRC and Exelon – and any future entities running nuclear facilities of any kind in Illinois – should be required to give 24-hour written notice of any leaks or spills on or offsite to all neighboring local, municipal and county governing officials. This will require a change in federal regulations (for the NRC notice); and state legislation, as a condition for an electric service provider to conduct business in the State of Illinois.

7.) INVESTIGATION: The public deserves to know why it took both Exelon and NRC eight years to notify local public officials about this issue; why IDNS chose to keep silent on the issue; and at the federal Congressional level, why the NRC’s “standards and assumptions” about all things nuclear always cater to the nuclear industry’s needs and requests, at the expense of public concerns and health.

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