

September 9, 2010 (1:24p.m.)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARDOFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFFIn the Matter of
Entergy Corporation
Pilgrim Nuclear Power Station
License Renewal Application

Docket # 50-293

September 9, 2010

PILGRIM WATCH MOTION FOR CLARIFICATION ASLB ORDER (SEPT. 2, 2010)

Pilgrim Watch respectfully requests that the Board clarify the following aspects of the Board's Order (*Scheduling Telephone Conference*) issued September 2, 2010 (the "September 2 Order"):

- Will the Board consider issues relating to Pilgrim's SAMA cost-benefit analysis if the Board finds meteorological modeling deficiencies that could call the conclusions of that analysis into question?
- What issues will be open for adjudication if the board finds meteorological modeling deficiencies?
- Will the Board consider evidence relating to the NRC practice of averaging consequences?
- If the Board finds that there are meteorological modeling deficiencies, will the hearing on the effect of those deficiencies be bifurcated?

Both parties need to know the rules before the game begins.

A. Actions Board Committed To Take If Meteorological Modeling Deficiencies Questioned

Page 2 of the September Order says,

If...in considering and ruling on the adequacy of the meteorological modeling in the Pilgrim SAMA analysis, the Board finds any meteorological modeling deficiencies that could call into question the Pilgrim SAMA cost-benefit analysis conclusions, at that point the Board would consider whether and the extent to which certain issues the Commission indicated (in CLI-10-11) might be open for adjudication should be adjudicated. Order, pg.2 [Emphasis added]

The words “would consider” and “might” do not provide any assurance that the Board will consider the impact on both evacuation times and economic costs. Not to do so would be contrary to both the admitted contention and CLI-10-11.

To the extent...that the Board’s merits conclusions on the meteorological modeling may have a material impact on or otherwise may materially call into question the evacuation timing inputs used in the analysis, the Board on remand should revisit the evacuation matters raised in Contention 3 (CLI-10-11, FN 136, pg., 35);

and

... given that the SAMA economic cost calculations ultimately depend upon the results of the meteorological modeling...we include as part of the our remand the economic costs issue, but only to the extent the Board’s merits findings on the adequacy of the meteorological modeling may have a material impact on the economic cost matters raised and admitted as part of Contention 3. [CLI-10-11, pgs., 36-7]

It is important to remember, as the Board’s September Order apparently does,¹ that it is Entergy, not Pilgrim Watch that bears the ultimate burden. Accepted Contention 3, even as narrowed by the Board, requires Pilgrim Watch to show that the “input data regarding meteorological patterns are incorrect ... such that further analysis is required.” But once Pilgrim Watch shows, as it

¹ The September 30 order said that one question was whether meteorological modeling deficiencies “could [not “would”] call into question the Pilgrim SAMA cost-benefits analysis conclusions,” and that another was whether Pilgrim Watch’s “concerns” about the NRC practice “could,” again not “would,” bring into question the reasonableness of this NRC practice.

expects to show, that the “answer” given by the straight-line Gaussian plume inputs and model used by Entergy is inadequate, e.g., that a proper variable plume model with proper inputs could result in affected areas having different size, different locations, and different contaminant dispositions, then it is Entergy, not Pilgrim Watch, that must perform the necessary “further analysis” to discover what the affected areas could be.

Similarly, once Pilgrim Watch shows, as it expects to show, that Entergy’s “input data regarding (1) evacuation times [and] (2) economic consequences are incorrect, resulting in incorrect conclusions about the costs versus benefits of possible mitigation alternatives, such that further analysis is required,” it is Entergy’s burden, not Pilgrim Watch’s, to conduct such a further analysis taking into account the different areas and contamination dispositions as to both evacuation times (which obviously depend on the size and locations of the areas to be evacuated) or, the amount of “loss of economic infrastructure and tourism” (see CLI-10-11, Com. Ord., 29)

Unless the Board is committed to look at these issues, and to require Entergy to make a proper “further analysis,” the result will be to allow Entergy’s incorrect underestimation of costs to stand, make mitigation measures that would reduce risk during license renewal appear not cost-effective, and thereby negatively impact public health and safety.

B. Clarification Regarding Issues Open For Adjudication If the Board Finds Meteorological Modeling Deficiencies

1. Evacuation Matters [CLI-10-11, 34-35]:

If the Board finds meteorological modeling deficiencies based on the straight-line Gaussian plume that call into question the Pilgrim SAMA analysis, what evidence will the Board admit and consider in revisiting the evacuation matters, as directed by CLI-10-11 and the admitted contention?

Entergy's sensitivity studies are based on, and limited to, the area and deposition predicated by the straight-line Gaussian plume model embedded in the MACCS2 code's ATMOS module. The sensitivity cases Entergy ran regarding emergency planning have no application to evacuation that would be predicted by a site specific variable plume model inputs and are simply irrelevant.² The KLD Evacuation Time Estimates that assume a straight-line Gaussian plume would lack relevance, too. In addition, dose estimates are tied to the plume in ATMOS and also would have to be discarded.

Entergy's analysis supposedly indicated that evacuation and sheltering during the initial 7-day emergency phase would have relatively little impacts on population dose. (WSMS Report at 8-10) If permitted to do so, Pilgrim Watch expects to show that this would not be true because different and site specific/appropriate meteorological modeling would result necessarily in very different conclusions regarding population dose.

For the remand to start with the premise that Entergy's expert's (O'Kula) sensitivity cases are given truths would be disingenuous. Both parties need to know at the outset what the Board's position is on this matter, and exactly what evidence the Board will accept and consider.

2. Economic Cost Matters [CLI-10-11, 36-37]:

SAMA economic costs calculations ultimately depend upon the results of meteorological modeling. Therefore if the Board merits findings that Entergy's meteorological model was inadequate then economic cost issues must be re-examined. See CLI-10-11, pgs 36-37

The critical question is precisely what "economic consequences", i.e., economic costs, will be within scope; more precisely will key cost issues such as clean-up costs be on the table, or

² For example, Entergy's Sensitivity Case 6 would be discarded. It assumed no evacuation or sheltering at all, thereby assuming "that everyone within the EPZ carried on with their normal activities." This sensitivity case supposedly bounded the effects of possible uncertainties in evacuation speed and other potential evacuation delays. (O'Kula Declaration at 14, 16; WSMS Report at 26) The statement of Mr. O'Kula that most of the population dose (about 83%) in this SAMA analysis (based on the straight-line Gaussian plume model) is received during the long-term phase after the accident would also become irrelevant.

will Pilgrim Watch be limited to evidence about crumbs such as the number of tourists expected in downtown Plymouth? If the later is the case, the remand hearing will be a meaningless exercise.

The economic costs included by the Commission “economic infrastructure” “business activity” and “tourism” (CLI-10-11 at 31) “Loss of economic infrastructure” include the loss of, and costs to remediate the land and facilities that make business, tourism and other economic activity possible. The economics of “tourism” and “business value” not only depend on the size and locations of the contaminated areas, and on the indisputable fact that an affected area must be decontaminated and returned to its pre-accident status if tourism and business activity are to resume. Tourists will not visit, and business will not be conducted, in areas that have not been cleaned up or that they believe are cleaned up. “Business value” is dependent upon a functioning infrastructure, the ability and willingness of employees to enter and work in the area where the businesses are located; the availability of customers and customers willing to buy their products; and those factors, in turn, require decontamination of the impacted areas to the state and local governments’ and public’s satisfaction. Precisely what of this will PW be permitted to prove?

The results of the ATMOS model are stored for use by EARLY (that calculates consequences due to radiation exposure in the first seven days) and CHRONC (that simulates longer term exposure and decontamination costs and economic inputs. “[A]ny modifications to the ATMOS model or other meteorological model inputs will necessarily result in changes to the EARLY and CHRONC outputs and will be reflected in the overall outcome of the MAACS2 analysis.” (Entergy, Entergy’s Submission on Scope and Schedule for Remanded Hearing, May 12, 2010, Pg. 3-4) The inputs into, and assumptions embedded in, EARLY and CHRONC plainly are within scope, and the “changes to the EARLY and CHRONC outputs” will reflect not only the “overall outcome of the MACCS2 analysis, but also the real costs of “business and tourism.”

Geographic area: Will the Board consider evidence showing evacuation and costs in areas shown likely impacted by the use of site specific meteorological modeling; or will Pilgrim Watch be limited evacuation and costs in the area that Entergy’s straight-line Gaussian plume model incorrectly assumed would be the only area impacted?

C. NRC's Practice of Averaging Consequences

The September Order says that, "...the Board will consider...whether Pilgrim Watch's concerns about the NRC's practice regarding SAMA analyses using mean consequence values, resulting in an averaging of potential consequences, were timely raised, and if so, whether such concerns could bring into question the reasonableness of this NRC practice." (Order, Pp., 1-2)

CLI-10-11 went on to say that "different models require different amounts and kinds of data, with more detailed trajectory models requiring significantly more data [and that] there easily may be an *overlap* between arguments challenging the sufficiency of 'input data' used and challenging the model used." (Pp. 14-15) (Emphasis added)

The CLI 10-11 also properly criticized the majority's statement that "Pilgrim Watch's plume model arguments impermissibly challenge an 'approach' mandated by [NRC] regulations," since it "did not cite any regulation requiring the use of a particular atmospheric model or code for use in SAMA analysis." (CLI-10-11, p.17) What is at issue under the admitted contention is not whether to use a probabilistic or deterministic model; rather, it is the adequacy of the inputs and code used by the Applicant to form the basis of their SAMAs. Inputs are simply numbers; obviously also very relevant, and implicit in the Contention, from the start is how the code statistically treated those numbers.

The stage at which "NRC practice" uses mean consequence values and averages potential consequences is irrelevant to whether the NRC practice is reasonable. It would be difficult to imagine an area in which the "sufficiency of 'input data' used and challenging the model used" (CLI-10-11) more clearly overlaps. Entergy certainly thought that "NRC practice" was within scope when it presented Dr. O'Kula's report that seeks to justify, among other things, Entergy's decision to use "mean consequences" rather than "decisions made on a 95th quartile" because, according to Dr. O'Kula, the latter would "potentially lead to high cost, time intensive plant modifications." (O'Kula, Radiological Dispersion/Consequence Analysis for Pilgrim NPS SAMA Analysis, WSMS-TR-07-0005, Revision 1, pg., 14)

If permitted to do so, PW expects to present evidence that Entergy's analysis, and NRC "practice,"³ not mandated by any regulation, of using mean consequence values and averaging potential consequences waters down and minimizes offsite consequences to such an extent that no matter how great the potential real costs, any mitigation would appear not cost-effective. Statistical manipulations of data result in incorrect conclusions and fit within the scope of "incorrect, incomplete, or inadequate input data." (Request for Hearing and Petition to Intervene by Pilgrim Watch, May 26, 2006, 3.3.3 Entergy used incorrect input data to analyze severe accident consequences). A proper "further analysis" should be far more realistic and provide real protection to the public.

D. Bifurcation- Preparatory Time Allowed Between Hearing Sessions

The Board has said that it first will hear evidence on meteorological modeling, before deciding if it then will hear evidence on evacuation matters and economic costs. It makes sense to conduct this two-stage procedure in two hearings, and to provide sufficient time between the first and second hearings for Entergy to perform the necessary new meteorological analyses and for experts to prepare testimony for the second taking into account what the Board decided in the first; to do otherwise would place a heavy and unnecessary burden on Pilgrim Watch, an unfunded group, requiring it to expend resources preparing for a hearing that many never come to pass, and meaningful evidence that the Board will not permit.

E. Conclusion

Unless the Board is prepared to consider evidence of the real costs of off-site consequence in the areas likely to be impacted if Entergy were required to use a site appropriate

³ Under NRC practice, for a particular weather sequence, SAMA analysis calculates the total population dose, the sum of the estimated dose commitment to populations located in all the sectors on a spatial grid-map out to a defined distance (usually 50 miles from the plant). The mean value of the predicted total population dose is obtained by statistical averaging over many hundreds of randomly selected hourly weather sequences (based on hourly meteorological data points obtained from the site). CLI 10-11, pg 22, FN 88

meteorological plume model, and to require Entergy to use realistic consequence values in their SAMA analysis, it is difficult to see what this further hearing might accomplish. Pilgrim Watch may well be better advised to plan for appeal rather than to expend time and resources on a fool's errand.

Respectfully submitted,

A handwritten signature in cursive script that reads "Mary Lampert". The signature is written in black ink and is positioned above the typed name.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of

Docket # 50-293-LR

Entergy Corporation

Pilgrim Nuclear Power Station

License Renewal Application

September 9, 2010

CERTIFICATE OF SERVICE

I hereby certify that Pilgrim Watch Motion for Clarification ASLB Order (Sept. 2, 2010) was served September 9, 2010 in the above captioned proceeding to the following persons by electronic mail this date, followed by deposit of paper copies in the U.S. mail, first class.

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