UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD

Before Administrative Judge:
Dr. Paul B. Abramson

In the Matter of: ENTERGY NUCLEAR GENERATION COMPANY AND ENTERGY NUCLEAR OPERATIONS, INC. (Pilgrim Nuclear Power Station)	Docket No. 50-293-LR ASLBP No. 06-848-02-LR June 10, 2010

DECISION
(Denying Motion on Behalf of Pilgrim Watch for My Self-Disqualification from the Remand Proceedings and Referring Motion to the Commission)

This Decision arises from the Motion filed by Pilgrim Watch (PW) on May 14, 2010 (the "Recusal Motion"), requesting that I recuse (disqualify) myself from further participation in this proceeding.[1] Because 10 C.F.R. § 2.313(b)(2) requires that my denial of PW's Motion be referred to the Commission for determination of the sufficiency of the grounds alleged, this Decision illuminates a broad spectrum of relevant information.

[1] Motion on Behalf of Pilgrim Watch for Disqualification of Judge Paul B. Abramson in the Pilgrim Nuclear Power Station Relicensing Proceeding (May 14, 2010) [hereinafter "Recusal Motion"]. Entergy filed its Answer on May 21, 2010. Entergy's Opposition to Pilgrim Watch Motion to Disqualify Judge Abramson (May 21, 2010) [hereinafter "Entergy Answer"]. Staff filed its Answer on May 24, 2010. NRC Staff's Response to Pilgrim Watch's Motion to Disqualify Judge Paul B. Abramson (May 24, 2010) [hereinafter "Staff Answer"]. Pilgrim Watch filed, on May 24, 2010, a motion before Judge Young requesting permission to reply to the Entergy Answer, containing the reply. Pilgrim Watch Request for Permission, and Reply to Entergy's Opposition to Pilgrim Watch Motion to Disqualify Judge Abramson (May 24, 2010) [hereinafter "PW Reply to Entergy"]. On May 26, 2010, PW filed a motion before me requesting permission to reply to Staff's Answer as part of PW's proffered reply. Pilgrim Watch Request for Permission, and Reply to NRC Staff's Response To Pilgrim Watch Motion To Disqualify Judge Abramson (May 26, 2010) [hereinafter "PW Reply to Staff," and together with PW Reply to Entergy, referred to hereinafter as "PW Replies"]. I have considered fully the content of the Recusal Motion, PW Replies, the Entergy Answer, and the Staff Answer in reaching the decision set out herein.

PW's Recusal Motion arose out of conversations occurring among the Board and the parties during a telephone conference held on May 4, 2010 to discuss scheduling matters and to attempt to define a statement of the issue remanded for hearing (the "May 4 Teleconference"). As a result of those conversations, the parties were directed to file with the Board "proposed concise statements of the issues for the hearing on Contention 3 . . . accompanied by brief argument in support of such proposed statements of the issues" no later than May 12, 2010.[2]

The conversations indicated, and the May 12 filings made clear, a fundamental difference of opinion between PW's interpretation of the substance of the Commission's Remand Order and the views (which are substantially aligned) of the Staff and the Applicant. This disagreement regards defining the disputed facts at issue, and thereby affects my decision on the Recusal Motion.

In its May 4, 2010 Order (Regarding Agenda for Telephone Conference Call) (the "May 4 Order"), the Board proposed the following statement of the specific issue on remand:

> Whether the Pilgrim SAMA analysis's meteorological modeling using the straight-line Gaussian plume dispersion model is adequate, see [CLI-10-11] at 14, 18, 21-28, when adequacy is defined by whether alternative modeling as argued by Pilgrim Watch would cause any additional SAMAs to become cost-beneficial when examined using median results from probabilistic analyses performed using such alternative modeling in comparison to the current results using the Gaussian plume dispersion model, see id. at 38-39, by virtue of having a material impact on the economic cost issues originally raised by Intervenor Pilgrim Watch, as defined and limited by the Commission in CLI-10-11, see id. at 36-37.[3]

The differences between PW's view and those of Staff and Applicant differ greatly. PW described the issue statement in their May 12 filing as follows:

> Both the Commission (Commission Order, pg. 37) and the Board (May 4 Order, p. 1) recognize that "the issue here is whether the Pilgrim SAMA analysis

[2] Licensing Board Order (Regarding Deadlines for Submissions of Parties (May 5, 2010) (unpublished).

[3] All parties (and the Board) agree that the "mean" result should be used rather than the "median" as stated in the Board's proposed issue statement.

> resulted in erroneous conclusions on the SAMAs found to be cost-beneficial to implement." This fundamental issue is far less limited than the Board's May 4 Order implies, and encompasses far more than the "just see what new meteorological inputs will do" procedure described by Judge Abramson, Entergy and NRC Staff during the May 4 Teleconference Call. The Commission Order may have placed some limits on what must be considered at the future hearing. However, and as discussed in more detail below, it made clear that the economic consequences of a wide range of potential changes to both MACCS2 code and inputs are central and must be considered.[4]

By contrast, Staff stated the issue to be considered on remand as:

> Whether the use of additional meteorological data and/or alternative meteorological models would identify any additional SAMAs as being cost-beneficial in addition to the SAMAs identified using the straight-line Gaussian Plume Model contained in the ATMOS module of the MACCS2 code.[5]

And Applicant described the issue as:

> The only portions of the majority's decision with which the Commission disagreed were the rulings on meteorological patterns. While the Commission also remanded the economic cost and evacuation time portions of Contention 3 to the Board, it did so only for the very limited purposes of enabling the Board to consider how any demonstrated deficiencies in meteorological modeling might affect the overall Pilgrim SAMA cost-benefit analysis conclusions.[6]

Applicant further described the differences of view regarding the Board's proposed issue statement as follows:

> the extensive discussion during the May 4, 2010 conference call suggests that there is not a common understanding of the phrase "by virtue of having a material impact on the economic cost issues originally raised by Intervenor Pilgrim Watch," with Pilgrim Watch apparently arguing that it may relitigate its prior claims concerning economic inputs. Indeed, Pilgrim Watch appears to be arguing that not only is it free to relitigate all of its claims within the scope of the contention as originally admitted, but that it is also free to litigate new claims (such as health effects, clean up costs, and spent fuel pool fire consequences) that the Commission has held are beyond the scope of the Contention.[7]

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[4] Pilgrim Watch Response to ASLB's May 5, 2010 Order (May 12, 2010) at 3 [hereinafter PW May 12, 2010 Filing].

[5] NRC Staff's Initial Brief in Response to the Board's Order (Regarding Deadlines for Submission of Parties) (May 12, 2010) at 2-3 (footnote omitted).

[6] Entergy's Submission on Scope and Schedule for Remanded Hearing (May 12, 2010) at 2.

[7] Id.

PW described the latitude it expects to have as follows:

> Pilgrim Watch thus is permitted, and expects, to show that, for example, other factors, inputs and assumptions, and a model that examined a variable plume rather than a straight-line Gaussian plume could significantly change the size of the affected area, deposition, damage to economic infrastructure and business activity, and that ameliorating this damage could significantly change the cost-benefit analysis.
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> The Board cannot make a determination whether it "look(s) genuinely plausible that these additional factors, assumption or models may change the cost-benefit conclusions" until they have heard all our evidence on what these multiple factors, assumptions and models are, and their potential effect on such things as evacuation time estimates and economic consequences. Therefore, it is clear that Entergy's and the NRC Staff's May 4 endorsement of Judge Abramson's suggestion that the scope of inquiry be limited to one variable - simply changing some meteorological inputs into the same model used by Entergy - is contrary to the Commission's remand.[8]

If, as PW proposes, the entire MACCS2 code is at issue, then the disputed evidentiary facts may well regard the entire spectrum of models and methods incorporated into that code, whereas if the perspective of Staff and Entergy regarding CLI-10-11 is accurate, the disputed evidentiary facts regard only meteorological modeling.

II. The Instant Request

A. The Fundamental Assertions

Pilgrim Watch filed its request that I recuse (disqualify) myself two days after filing its responses to the Board order that the Parties define more precisely their view of the issue to be litigated upon remand, stating:

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[8] PW May 12, 2010 Filing at 4- 5 (emphasis added). PW goes on to observe that:

> For example, in the May 4 telephone conference, Entergy and the Staff recognized (as apparently did Judge Abramson) that evaluation of the effect of a change on whether a particular SAMA would be justified, and whether any particular change is "material," depends not on the change itself, but on how the change could affect costs and benefits. Absent evidence showing how a change (whether to an input, or to the code used by Entergy) might affect economic and other consequences, it simply is not possible to determine whether Entergy's code was "adequate" or whether any deficiency in that code was "material."

Id. at 7 (emphasis added). While this could be read to agree with the Staff and Entergy view, it also could lend support to the perspective expressed by Entergy that PW believes it is free to re-litigate all input and modeling regarding "economic and other consequences."

> Judge Abramson should disqualify himself because of (i) his previous work on and personal knowledge of the MACCS2 code (the code was used by Entergy to perform their required Severe Accident Mitigation Analysis (SAMA)[)], and (ii) his apparent bias relative to Pilgrim Watch's expert witness, David Chanin. The MACCS2, the computational code with respect to which Mr. Chanin is an expert, is central to this entire adjudication proceeding brought forward by Pilgrim Watch in Contention 3 and to the issues remanded by the Commission to the Board (CLI-10-11).[9]

In support of this request, PW refers to conversations during the May 4 conference call, noting:

> During the Teleconference call, May 4, 2010, Judge Abramson said, ADMIN. JUDGE ABRAMSON: Let me ask you to submit Shannon's [corrected spelling, Chanin's] resume because I don't believe he wrote the code. I was involved with a lot of that personally.[10]

And goes on to conclude: "Judge Abramson [s]hould [d]isqualify [h]imself [b]ecause [h]is [a]ctions [w]ould [c]ause a [r]easonable [p]erson to [q]uestion his [i]mpartiality and that he has a personal bias or prejudice concerning a party."[11] Explaining that proposition, PW asserts:

> Judge Abramson's statement makes clear that he has personal knowledge of the code that [he] helped develop, and that he has (or at the very least reasonably appears likely to have) his personal views of its adequacy. Thus, Judge Abramson should disqualify himself because, "he . . . has personal knowledge of disputed evidentiary facts concerning the proceeding."
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> . . . .
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> Judge Abramson's statement . . . clearly would cause a reasonable person to question Judge Abramson's impartiality and whether he has a personal bias or prejudice concerning Mr. Chanin, Pilgrim Watch's expert witness. . . . Judge Abramson's statement creates the appearance that, without any evidence other than his personal knowledge, Judge Abramson doubts the credibility of David Chanin and would discredit any evidence that he provides for Pilgrim Watch in this proceeding.[12]

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[9] Recusal Motion at 1-2.

[10] Id. at 3 (citing Tr. at 665).

[11] Id. at 4.

[12] Id. at 4.

Two fundamental issues are raised by these statements:

i. An assertion that I have stated that I have personal knowledge of the modeling and workings of MACCS2 arising out of involvement with the development of that code, and that knowledge should require me to recuse myself from the instant proceeding; and
ii. An assertion that I have prejudged any testimony which might be offered up by David Chanin.

As I explain in depth below, I had no involvement with the development of the MACCS2 code or its predecessor versions, and I have not prejudged the expertise of PW witness David Chanin, nor do I have any bias against him or PW. Before addressing these assertions, I turn briefly to the legal standards for disqualification of a licensing board judge.

B. The Legal Standards for Disqualification of a Licensing Board Judge

The law on this topic is thoroughly addressed in the Entergy Answer and the Staff Answer. Rather than address each and every aspect as Entergy and Staff have done, I will focus upon those elements raised by PW. Nonetheless, I find the characterization of the law contained in the Staff and Entergy Answers to be accurate, and refer the Commission to those filings in their entirety as it considers my denial of PW's Motion upon the Motion's mandatory referral to the Commission.

As Entergy notes, "the Commission applies a 'very high threshold for disqualification' when evaluating recusal motions."[13] Entergy refers us to a four-pronged test established by the Atomic Licensing Appeal Board (ALAB),[14] going on to note that those standards derive from 28 U.S.C. § 455(a) and (b), which, as PW points out, require a judge to disqualify himself in "any proceeding in which his impartiality might reasonably be questioned" or "[w]here he has a

[13] Entergy Answer at 2 (referencing Hydro Res., Inc. (2929 Coors Road, Suite 201, Albuquerque, NM 87120), CLI-98-09, 47 NRC 326, 331 (1998); Joseph J. Macktal, CLI-89-14, 30 NRC 85, 92 n.5 (1989)).

[14] Entergy Answer at 2-3 (referencing Consumers Power Co. (Midland Plant, Units 1 and 2), ALAB-101, 6 AEC 60, 65 (1973)); Recusal Motion at 3-4 (citing 28 U.S.C. § 455(a) and (b)).

personal bias or prejudice concerning a party, or personal knowledge of disputed evidentiary facts concerning the proceeding."[15]

III. The Issue of My Expertise with the Code at Issue Here

A. The Particular Situation

Given my statement that "I was involved with a lot of that personally" made immediately following my request for Mr Chanin's resume and my expression of reservations regarding his authorship of MACCS2,[16] I can understand how PW reached the conclusion that I was personally involved in creating the MACCS2 code. However, that is not the case, and had I been aware at the time how my comment was perceived by PW, I certainly would have taken steps to correct the misunderstanding immediately. I had no personal involvement in the creation of the MACCS2 code and I have no personal knowledge of disputed evidentiary facts concerning it.

My explicit words, "a lot of that," were simply a statement that I had personal involvement, as a scientist, with both development of computer codes for accident analysis and with modeling of a variety of phenomena, and with incorporating such models into nuclear reactor safety analysis codes. In addition, I also spent several years, while employed at Argonne National Laboratory (ANL), assisting with co-coordination of the research programs of the NRC's Research (RES) Division at national laboratories and certain universities.

The community of scientists who developed the computer codes and models for analysis of severe accidents in nuclear reactors, and for attempting to discern the consequences of such accidents was then, and remains today, quite small. Many of us collaborated, and some collaborated relatively frequently, regarding how such models should be created, how phenomena should be modeled, how those models should be verified and validated, and how

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[15] Entergy Answer at 3 (citing Pub. Serv. Elec. & Gas Co. (Hope Creek Generating Station, Unit 1), ALAB-759, 19 NRC 13, 20 (1984)).

[16] Tr. at 665.

the computer codes that deployed those models should be written and function (including, for example, such matters as the numerical solution schemes). I indeed had material involvement with both the development of computer models for phenomena that occur in severe accidents and with the development, writing, and using of computer codes to make computations of the evolution of such accidents.[17] It is that personal involvement to which I referred during the teleconference.

In this regard, let me make the facts clear — I had absolutely nothing to do with the modeling or development of the MACCS2 code or any of its predecessor versions, and the subject statement was not intended to be a statement to the effect that I wrote or prepared the MACCS2 code or any of its modeling, or participated in any of that effort. In fact, the very first version of MACCS was released well after I had left ANL and ceased my work for NRC's RES Division, and MACCS2 was released nearly fifteen years after I had left ANL.[18]

Thus, the conclusion reached by PW that I had particular involvement with development of the MACCS2 code or one or more of its models is erroneous and cannot serve as a foundation for my recusal (disqualification). I possess no particular knowledge of the modeling or methods of MACCS2 beyond that which would be expected of any scientist reasonably

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[17] And, in this regard, it would not surprise me to learn that scientists from Sandia National Laboratory (SNL) with whom I was acquainted were working on the MELCOR code (which appears to have some relationship with MACCS) during my tenure at ANL.

[18] I left ANL in 1984, and the Users' Manual for MACCS2 was published in 1998. Entergy properly concluded that I had no such involvement based on a de minimus diligence effort. See Entergy Answer at 4-5 (citations omitted). Additionally, Entergy states that the first version of MACCS was released in 1987 – three years after I left ANL. Entergy Answer at 5 n.3 (citations omitted). Assuming that to be the case, since development of such codes takes a period of years, I expect that MACCS was being developed while I was at ANL (and it is likely that MELCOR, which seems, from the MACCS2 code description, to be somehow related to MACCS, was under development at SNL during my tenure at ANL – but I had no involvement even with that effort, which was outside the scope of programs that I was assisting to coordinate).

knowledgeable in this area of nuclear science, and that state of knowledge does not rise to the level required by the provisions of 28 U.S.C. § 455(a) and (b).[19].

Further, and central to this matter, I never had any involvement whatsoever with modeling of meteorology, which is the kernel of the facts at issue here. And, as I discuss below, the proper standard for disqualification is that the adjudicator have personal knowledge of evidentiary facts at issue; general knowledge regarding MACCS2 is insufficient to meet that test.

PW assumes that my statement that I "was involved in a lot of that personally" means that I was actually personally involved with the development of the MACCS2 code or that I have "personal views of its adequacy."[20] As I stated above, that assumption is incorrect. Their assertion that I have "personal views of its adequacy" is similarly erroneous. Staff deduced this error and supported this view from the record of the May 4 Teleconference.[21].

Further, assuming that it is accurate to state that MACCS2 "is central to this entire adjudication,"[22] PW's proposition that any prior knowledge of, or experience that I might have with MACCS2, would require recusal (disqualification) is a misinterpretation of the applicable standards. As Entergy properly put it, "[d]isqualification under 28 U.S.C. § 455 must be predicated on 'personal knowledge of <u>disputed evidentiary facts concerning the proceeding</u>.'"[23]

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[19] As Entergy accurately observed, PW "has failed to 'identif[y] any specific <u>factual</u> issue that a disinterested observer might conclude ha[s] been prejudged' by" me. Entergy Answer at 3-4 (citing <u>Long Island Lighting Co.</u> (Shoreham Nuclear Power Station, Unit 1), ALAB-777, 20 NRC 21, 35 (1984)) (emphasis in original).

[20] Recusal Motion at 4.

[21] Staff Answer at 2, 5 (citing Tr. at 598, 605, 653, 665).

[22] Recusal Motion at 2.

[23] Entergy Answer at 3 (citing 28 U.S.C. § 455(b)) (emphasis in original).

"Commission precedent calls for disqualification where factual issues have been prejudged."[24] But in this instance, the "disputed evidentiary facts" regard the very narrow issue of the meteorological modeling in the code, not its other models, its numerical techniques, or any input regarding other matters. Proper application of this standard would not require recusal of a technical judge unless he or she had personal knowledge of, and had been directly involved with, the particular modeling at issue.

Moreover, as the Staff and PW properly point out, the proper test is whether a "reasonable [person], were he [or she] to know all the circumstances, would harbor doubts about the judge's impartiality."[25] And, as to PW's assertion that I have a bias regarding the capabilities of MACCS2, PW has pointed to nothing, and there is simply nothing in the record or in my professional background, to lead an impartial observer, cognizant of all the circumstances, to reasonably believe that I have prejudged the capability (or, for that matter, any lack of such capability) of MACCS2 to predict the phenomena at issue in this proceeding.[26]

B. Is a Scientist-Judge Disqualified because of Personal Experience with a Computer Code Used in Litigation?

There is a more important principle underlying the Motion for my disqualification: the proposition that a scientist judge's involvement with development of a computer code used to derive evidence for an NRC proceeding, in and of itself, ought be cause for recusal of that scientist as an adjudicator on that matter.[27] In my view, not only would such a result fail to

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[24] Entergy Answer at 3-4 (citing Midland, ALAB-101, 6 AEC at 65; Shoreham, ALAB-777, 20 NRC at 34 ("in order to provide a basis for disqualification, the asserted prejudgment (or appearance of prejudgment) must relate to 'factual . . . issues'")).

[25] Shoreham Nuclear Power Station (Shoreham Nuclear Power Station, Unit 1), CLI-84-20, 20 NRC 1061, 1078 n.46 (1984); see also Staff Answer at 7 (citations omitted); PW Replies (citations omitted).

[26] See also Staff Answer at 4-5.

[27] For example, a logical extension of that principle would result in a situation wherein any party to an NRC proceeding could cause a technical judge to be recused or disqualified by merely

address the underlying reason for disqualification (that the adjudicator has prior knowledge of disputed evidentiary facts), but to permit such a result would vitiate Congressional intent to require ASLBs to have two members with the expertise necessary to adequately evaluate the scientific and technical matters before it.[28] Thus, even were I to have had explicit involvement with development of the MACCS2 code (which I did not), that general fact would not be a foundation for my disqualification or recusal from the instant proceeding. Computer codes of the nature generally used in nuclear safety or PRA (probabilistic risk assessment) analyses contain a large number of models, employ a variety of numerical solution techniques, and produce computational results dependent upon the interactions of all of those models and methods, all of which requires input from a broad spectrum of scientists and programmers with the relevant specialized expertise.[29] Thus, generally, absent a plain and direct link indicating that I had some personal involvement with a particular model or method at the heart of the litigation, a general involvement would not be a reasonable foundation for my recusal. Rather, a technical judge's general familiarity with such a computer code should be one of the predominant reasons for participation in the subject licensing board.[30] Such circumstances would not, in my view, rise to the level prohibited by the principle requiring disqualification of a judge with personal direct knowledge of facts at issue.

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having one of the party's expert witnesses make reference to a computer code that the technical judge had assisted in developing, even if that reference were quite remote to the particular litigation.

[28] See, e.g., Staff Answer at 5-7.

[29] Further, many additional scientists and engineers are indirectly involved with the development and verification as "users" of the code, reporting their experiences back to the developers and the community of scientists who are involved, aiding in model modification and debugging. Under PW's proposed interpretation, those "users" would likely be deemed involved with the code development.

[30] The law on this topic is summarized in Staff Answer at 6-7.

Explaining the 1962 amendments to the Atomic Energy Act that created the Atomic Safety and Licensing Board Panel, Congress's plainly expressed intent through the Senate's Report of the Joint Committee on Atomic Energy was that the majority of each licensing board be scientific judges who are "persons of recognized caliber and stature in the nuclear field."[31] Further, that Congressional committee stated "it is the committee's intent in authorizing the Atomic Safety and Licensing Board to facilitate bringing to bear technical expertise in the resolution of the difficult scientific and technical problems associated with atomic energy licensing."[32] Indeed, as so amended, the Act requires that two of the three members of each board "shall have such technical or other qualifications as the Commission deems appropriate to the issues to be decided,"[33] which in this instance has led to two members of this Board being scientists or engineers.[34]

In furtherance of that requirement, the NRC regulations governing Atomic Safety and Licensing Board (ASLB) Hearings explicitly require that each three-member ASLB shall be "comprised of three members . . . two of whom have such technical or other qualifications as the Commission or the Chief Judge determines to be appropriate to the issues to be decided."[35] Of equal import to this process are the recent revisions to our procedural rules, requiring the inquiry in an oral hearing to be made principally by the Board members rather than by the attorneys representing the parties.[36] This revision clearly evidences the Commission's reliance upon the scientific members of a Board to ferret out, on technical matters, both at hearing and via orders

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[31] S. Rep. No. 87-1677, at 5 (1962), reprinted in 1962 U.S.C.C.A.N. 2207, 2211.

[32] S. Rep. No. 87-1677, at 9, reprinted in 1962 U.S.C.C.A.N. at 2215.

[33] Atomic Energy Act of 1954, Pub. L. No. 87-615, § 191, 76 Stat. 409, 409 (1962) (codified as amended at 42 U.S.C. § 2241).

[34] See id.

[35] 10 C.F.R. § 2.321(a).

[36] 10 C.F.R. § 2.1207(b)(6).

requiring further information, the correct technical information to enable them to reach a well-founded technical result.[37] Thus, any expertise that I might personally have regarding modeling or computer code mechanics would greatly aid the process and is fully consistent with the Congressional mandate and the Commission's implementation thereof regarding hearings on matters within the jurisdiction of the NRC.

PW asserts that if I have general knowledge of the computer code at issue here that would be cause for my disqualification or recusal because of PW's perception that this situation falls within the provisions of 28 U.S.C. § 455 (b)(1). But PW paints with too broad a brush. With regard to the sole remaining contention in this case, in my view, the disputed evidentiary facts only regard meteorological modeling. The broader analogy is also inapposite — ASLB scientist members are expected to have expertise in the topics to be considered at hearing, and are expected to have the scientific wherewithal to comprehend the complex scientific issues to be litigated before them. Even had a scientist judge been directly involved with the development of the models or methods employed in a computer code such as is at issue here, no parallel would exist without a direct link between that adjudicator and the modeling of the particular phenomena at issue, i.e., without personal knowledge of the actual "disputed evidentiary facts."[38]

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[37] Indeed, it is plain that without more in his/her background, the third member of a licensing board, who is to be "qualified in the conduct of administrative proceedings," would have great difficulty carrying out this mandate. Cf. id. § 2.321(a).

[38] Entergy properly refers us to ALAB precedent which holds that

> "experience which comes from private involvement in the nuclear field has, with good reason, not been considered a disabling circumstance. To the contrary, since the inception of the use of atomic safety and licensing boards . . . , the Commission has turned for qualified board members" to persons "with nuclear experience" from both the academic community and private industry.

Entergy's Answer at 6 (citing Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit No. 1), ALAB-12, 4 AEC 413, 414 (1970)); referencing Northern Indiana Pub. Serv. Co. (Bailly Generating Station, Nuclear 1), ALAB-76, 5 AEC 312, 313 (1972)).

In the present remand proceeding, the issues concern the ability of the MACCS2 computer code to compute the effects of certain meteorological patterns asserted by PW to be important, which certainly will delve into purely technical matters regarding the modeling, code mechanics, and interpretation of the resultant economic impacts derived from the stochastic methodology employed to generate them. This is precisely the sort of adjudication that Congress and the Commission intend be handled by its technical judges who are expected to be "of recognized caliber and stature in the nuclear field."[39] PW's suggestion that the very expertise I possess should be reason for my disqualification is simply not proper application of the law or intent of 28 U.S.C. § 455(b)(1).

That said, my decision regarding disqualification necessarily takes into account the dispute over the breadth of the scope of the remanded matter. For example, if it were held that many more models and phenomena are at issue, and if it were also held that my prior expertise in any of those areas would be cause for disqualification even without involvement in development of MACCS2, then the result might not be as I have reached. Thus the import of how CLI-10-11 is viewed: if we take it to focus the remand upon the issue of whether or not there is error in the modeling of meteorology by Entergy in its use of the MACCS2 code, which has led to erroneous computation of economic impacts to such a degree that other SAMAs are cost-effective to implement, it leads inexorably to the conclusion that I have no knowledge of disputed evidentiary facts.[40] But in reacting to my view of the breadth of the remanded issue,[41]

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[39] I believe this is the reason that Congress intended that a majority of each licensing board posses such scientific expertise, as it is unreasonable to expect an adjudicator without that expertise to sort through conflicting expert testimony with sufficient comprehension to reach accurate conclusions. In fact, our processes and the constitution of our licensing boards create a situation whereby the scientist-judges can work with the non-scientist adjudicator to explain, probe, and enable the non-scientist adjudicator to obtain the necessary understanding.

[40] Such a view does not implicate, and CLI-10-11 appears to preclude, consideration of other methodologies for computing the economic impact and the methodology of computation of cost; it simply requires that the MACCS2 computations be redone by varying the meteorological modeling to assess the potential effects (on the resultant economic costs relating to the damage caused by radiological deposition) of meteorological patterns proposed by PW to be of import,

PW's representative patently disagreed, saying, "I just want it on the record that I do not agree in any manner to the interpretation by Judge Abramson, the Staff, or Entergy."[42] PW repeated that perspective in their filing describing, in response to the Board's May 4th Order, their view of the issue to be litigated.[43]

The remand hearing Board is presently faced with strongly divergent views regarding what is at issue here, and therefore what the factual matters are that I must have prior knowledge of in order to require disqualification or recusal. The fundamental difference of opinion among the Parties is that:

> (a) as Entergy and Staff interpret CLI-10-11, only the variables that regard the input and models relating to meteorology contained in (or input to, in the customary meaning of the term) ATMOS are at issue, and we are to determine whether, if those parameters are varied so that the results adequately represent the meteorological patterns raised by PW (or bound the effects thereof), the EARLY and CHRONC computations employing the ATMOS output based upon those variations indicate that there are other SAMAs that become cost-effective, or,
> (b) as PW suggests, the models and other parameters that control the output of EARLY and CHRONC (in addition to those output data/files transferred from the ATMOS computations) are also to be litigated.

In my view, CLI 10-11 quite plainly indicates the former is the scope of the remanded issue.[44] Thus, in reaching my decision, I am persuaded by three factors: (a) in my view, the

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and to determine the materiality of such effects by evaluating whether the proposed changes cause other SAMAs to become cost-effective (without change of economic cost determining factors other than meteorology). I expressed this view clearly in the May 4 Teleconference as we discussed with the Parties our proposed statement of the issue to be litigated in the remand proceeding. See, e.g., Tr. at 587-89, 591, 601-02, 605-06, 611, 616, 622-23, and 632-33.

[41] Tr. at 586-89.

[42] Id. at 637-38.

[43] See generally PW May 12, 2010 Filing.

[44] If that is the case, to the extent that Mr. Chanin possesses particular expertise in how ATMOS performs its computations and in how the models for the Gaussian Plume are incorporated and utilized therein, he may well be able to make a meaningful contribution to the hearing of this matter on its merits. Thus, it is paramount that the Board understand his expertise in this area. Achieving such an understanding will require substantial information

disputed evidentiary facts regard only meteorological modeling – an area where I have expressed no previous experience or knowledge; and (b) even if the disputed evidentiary facts extend to the entire MACCS2 code, I have no prior knowledge or experience with that code; and, finally, (c) the proposition that my previous knowledge and experience in modeling, creating, and working with computer codes intended to predict the courses of severe accidents is simply not the type of previous knowledge that runs afoul of the requirements for disqualification of an adjudicator.

III. The Issue of an Appearance that I am not Impartial Regarding One Pilgrim Watch Witness

Finally, I turn to the assertion, emphasized in the PW Replies that, because of my request for full credentials regarding Mr. David Chanin and my concern regarding statements that imply to me that PW asserts Mr. Chanin is the sole author of the MACCS2 code, my impartiality is in question and I appear to have a bias against PW. Two aspects of this part of the Recusal Motion warrant examination:

a. The reasoning PW gives for its position:
> Judge Abramson's statement . . . "let me ask you to submit [Chanin's] resume because I do not believe he wrote the code" clearly would cause a reasonable person to question Judge Abramson's impartiality and whether he has a personal bias or prejudice concerning Mr. Chanin, Pilgrim Watch's expert witness. . . . Judge Abramson's statement creates the appearance that, without any evidence other than his personal knowledge, Judge Abramson doubts the credibility of David Chanin and would discredit any evidence that he provides for Pilgrim Watch in this proceeding.[45]

and

b. The plain implication that an ASLBP Judge may not, without risking recusal/disqualification, pursue information that is required for fulfillment of his/her obligations as an NRC adjudicator to enable assessment of the likelihood that a witness for a party can provide information that will assist the Board in making its determination.

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beyond that reported to this Board from Mr. Chanin's website and via his Affidavit in the contention admissibility phase of this proceeding.

[45] Recusal Motion at 4 (footnotes omitted).

A. My Inquiries Regarding Mr. Chanin's Expertise

As Entergy notes, Commission precedent describes personal bias as "'the manifestation of animosity or partiality toward one or more of the parties or their counsel.'"[46] The test is one of "objective reasonableness."[47] Neither my request for Mr Chanin's resume (made in the context of asking all Parties to deliver detailed credentials for all their proposed expert witnesses), nor my statement concerning whether or not he actually authored (by himself) the MACCS2 code, provides support for the proposition that I lack impartiality or harbor prejudice toward Mr. Chanin or PW. Taken individually or collectively, these statements fall far short of the Commission's standard for demonstrating "personal bias," nor can the record taken in full be read by an impartial observer to do so. Rather, the transcript from the May 4 Teleconference plainly indicates, as Staff has observed,[48] that my request for full credentials of experts was made of all Parties, not just PW (or regarding Mr. Chanin) alone. Further, the record plainly reflects my personal efforts to cause the Parties' experts to discuss among themselves, and attempt to reach an agreement regarding, what meteorology must be modeled and how it should be modeled and incorporated into revised MACCS2 computations.[49] Such an effort certainly belies the proposition that I harbor some predisposition regarding how, or the extent to which, any Pilgrim Watch expert might aid the creation of a record in this proceeding.

To begin with, PW mischaracterizes my statements. The transcripts of the May 4 Teleconference demonstrate that, when the topic of which experts might be used by each Party arose, I began by stating "I'd like all the Parties to submit full credentials on their experts,

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[46] Entergy Answer at 7 (citing Midland, ALAB-101, 6 AEC at 65).

[47] See, e.g., Staff Answer at 3, 5.

[48] See Staff Answer at 2.

[49] See, e.g., Tr. at 634-35, 643-44.

please, because I want to look at them."[50] A review of the detailed biographical information on all of the experts to be used by the Parties is important to establishing their expertise and the weight to be eventually given to testimony they might submit in a hearing, should any matter within that individual's expertise become relevant for the proceeding.

Shortly thereafter, PW's representative said, when indicating which experts she would expect to use, "Well, no, [Chanin]. Remember he wrote the code."[51] This was the third time PW's representative made, in the present remand proceeding, an assertion implying sole authorship: previously she stated, "[m]ay I also add that we would want to include expert David [Chanin], who, after all, wrote the code,"[52] and repeated that statement again later.[53]

Thus, it was at that point that I responded, "Let me ask you to submit [Chanin]'s resume because I don't believe he wrote the code."[54]

When PW asserts that Mr. Chanin "wrote" MACCS2,[55] that implies to me that he personally and by himself developed and implemented the models, organized and supervised the programming and the computational methodology, and was involved with the verification and validation of the resultant computations (both at the microscopic and macroscopic level). Such knowledge could be of particular import to the Board's deliberations. However, at present

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[50] Id. at 653.

[51] Id. at 665.

[52] Id. at 644.

[53] Id. at 653.

[54] Id. at 665. I agree with Entergy's characterization of this activity to the effect that my request for Mr. Chanin's resume demonstrates that I have "'not foreclos[ed] further consideration of the factual issue[]'" of his expertise, and was, instead, "engaging in an appropriate 'effort to elicit additional information.'" Entergy Answer at 7-8 (citing Commonwealth Edison Co. (LaSalle County Nuclear Power Station, Units 1 and 2), CLI-73-08, 6 AEC 169, 170 (1973)).

[55] By contrast, Entergy refers to certain pages of the MACCS2 code manuals indicating the code had multiple authors. Entergy Answer at 5 (citations omitted).

there is no detailed model-specific information available to the Board in this regard. Perhaps PW meant only to assert that Mr. Chanin was involved with development of the code, or that he was one of its principal developers – but the bare implication of sole authorship was repeated many times by PW, both in the May 4 Teleconference and in the previous proceeding.[56] Moreover, it was not possible from the previously submitted information to assess the degree to which Mr. Chanin had been involved with the development and implementation of the meteorological modeling in the code at issue here – which, as I see the Commission's remand, is to at least initially be the singular focus of the remand hearing. As the hearing on the merits of the remanded issue evolves, I fully expect testimony from every expert witness for every Party to be proffered in areas within their respective expertise, and the other Parties as well as the Board must know what those areas are.

Finally, it continues to be fundamental to the function assigned to ASLB members that they ferret out the relevant facts, comprehend the scientific and legal arguments of the Parties, develop a sufficient record on scientific and legal matters at issue to enable a decision, and make that decision solely upon the basis of that record. Nothing suggested, reported, or even implied by PW in the Recusal Motion to which this Decision responds supports the proposition that I have any predisposition regarding the matters remanded to us or that I have made any predeterminations regarding the credibility of witnesses, their expertise, or the positions of any of the Parties, nor does the record of this proceeding indicate anything that might lead an impartial observer familiar with the record to so believe. Moreover, I have no such predisposition, nor have I made any such predetermination.

To be sure, I have formulated my view of the substantive meaning of the Commission's decision in CLI 10-11 and have formulated, after input from every Party and from my colleagues, my view of the issue remanded for litigation. And it seems apparent from the filings

[56] See, e.g., Pilgrim Watch's Answer Opposing Entergy's Motion for Summary Disposition of Pilgrim Watch Contention 3 (June 29, 2007) at 36, 40, 73.

that PW disagrees with the view I explored in the May 4 Teleconference. However, that disagreement cannot be a foundation for my recusal.

In sum, there is not a scintilla of support for the proposition put forth by PW that I have a "bias relative to Pilgrim Watch's expert witness, David Chanin," and nothing in the record could reasonably be interpreted to lead a reasonable person to conclude there was an appearance thereof.

IV. Decision and Referral to Commission

For the foregoing reasons, I decline to recuse (disqualify) myself from the remand proceeding. In accordance with Section 2.313(b)(2) of our regulations, I hereby refer the matter of my disqualification to the Commission for consideration.

Finally, I note that the Board has determined that it cannot proceed with this proceeding before the Commission has made its determination regarding the instant Recusal Motion, and respectfully request that it be dealt with forthwith.

It is so ORDERED.

/RA/

Paul B. Abramson
ADMINISTRATIVE JUDGE

Rockville, Maryland
June 10, 2010[57]

[57] Copies of this Order were provided to all parties and/or representatives for parties by e-mail transmission on this date.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
ENTERGY NUCLEAR GENERATION CO.	)	
AND	)	
ENTERGY NUCLEAR OPERATIONS, INC.	)	Docket No. 50-293-LR
	)	
(Pilgrim Nuclear Power Station)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing DECISION (DENYING MOTION ON BEHALF OF PILGRIM WATCH FOR MY SELF-DISQUALIFICATION FROM THE REMAND PROCEEDINGS AND REFERRING MOTION TO THE COMMISSION) have been served upon the following persons by U.S. mail, first class, or through NRC internal mail.

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Administrative Judge
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Administrative Judge
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Docket No. 50-293-LR
DECISION (DENYING MOTION ON BEHALF OF PILGRIM WATCH FOR MY SELF-DISQUALIFICATION FROM THE REMAND PROCEEDINGS AND REFERRING MOTION TO THE COMMISSION)

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[Original signed by Nancy Greathead]

Office of the Secretary of the Commission

Dated at Rockville, Maryland
this 10th day of June 2010.