UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

June 2, 1992

Ms. Fawn Shillinglaw
1952 Palisades Drive
Appleton, Wisconsin 54915

Dear Ms. Shillinglaw:

In response to your letter of May 1, 1992, I will attempt to answer the questions about the procedures which NRC is applying in reviewing the casks for storage of spent reactor fuel at the Point Beach Nuclear Plant site. I am not able to answer your questions about decisions made by the Wisconsin Electric Power Company (WEPCo).

Question 1: Is revision 3A the latest version of the VSC Topical? How can I get the most recent version?

Answer 1: The latest version to be docketed at NRC is Revision 3A. You will be able to review later versions, when docketed, on microfiche at the local public document room in Two Rivers. NRC has not received a revision 4 to the Topical Report. However, see Answer 3 regarding subsequent submittals.

Question 2: (1) What tests were Pacific Sierra referring to on page 4-1 and 4-7 of Revision 3A of the Topical Report? (2) Is WEPCo wrong in using this test for feasibility in its literature to the public?

Answer 2: (1) The tests referred to in the Pacific Sierra Topical Report on pages 4-1 and 4-7 were not performed using either the VSC-17 or the VSC-24 casks. The topical report references reports on the tests referred to.

The U.S. Department of Energy "Final Version Dry Cask Storage Study," (DOE/RW-0220, February 1989) does not include any information based on testing either the VSC-17 or the VSC-24 casks. There is no specific mention of WEPCo on page I-52 or page I-53.

DOE tested the VSC-17 casks after Pacific Sierra submitted the topical report on the VSC-24 casks to NRC. To the best of my knowledge, no report has been made publicly available on the VSC-17 test results. WEPCo did provide support for the DOE studies of the VSC-17 ventilated concrete storage casks. However, it is not evident that Pacific Sierra used VSC-17 tests as a basis for the VSC-24 design. NRC staff did not utilize DOE reports about the VSC-17 casks in its review of the topical report. The NRC review of the application for the VSC-24 cask is based on the documents identified in the Safety Evaluation Report.

(2) I suggest that you approach WEPCo to understand what they mean by feasibility and to understand how WEPCo utilized available information in establishing feasibility. The NRC review of the Pacific Sierra topical report and supplemental information focused on compliance with regulations and assurance of safety. Feasibility may involve additional considerations.

Question 3: (1) Explain the certification process. (2) Explain the various documents.

Answer 3: (1) The regulations applicable to the use of dry casks for storage of spent reactor fuel at the Point Beach Nuclear Plant are found in Title 10 Code of Federal Regulations Part 72, "Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High Level Radioactive Waste." Subpart K, "General License for Storage of Spent Fuel at Power Reactor Sites," authorizes storage of spent fuel in an independent spent fuel storage installation at power reactor sites by persons authorized to possess or operate nuclear power reactors under Part 50 of Title 10. Subpart K includes a list of approved spent fuel storage casks.

Subpart L, "Approval of Spent Fuel Storage Casks," includes the procedures for approval of a spent fuel storage cask design. A Certificate of Compliance for a cask model will be issued by the NRC on a finding that the requirements of Subpart L are met. The Pacific Sierra VSC-24 has not been approved. However, Pacific Sierra has submitted an application following the requirements of Subpart L. Since the regulation includes a list of cask models for which Certificates of Compliance have been issued, the regulation must be changed (by formal "rulemaking") to incorporate the new cask in the list as the new Certificate is issued. The Certificate is to be issued if and when the rulemaking to include the cask in Subpart K is completed.

(2) Subpart L of 10 CFR Part 72 requires that an applicant for approval of a cask design must submit a safety analysis report describing the proposed cask design and how the cask should be used to store spent fuel safely. The regulation goes on to identify more specific detail to be included.

Before the general license provisions were added to the regulations, each licensee had to provide a safety analysis report as part of an application to store spent fuel. Where a vendor document was likely to be used by more than one license applicant, NRC would review a topical report and publish a safety evaluation on that topical report. This topical report could then be referenced by subsequent applicants who would use the vendor's storage system. This was the basis upon which Pacific Sierra initially submitted a "Topical Report on the Ventilated Storage Cask System for Irradiated Fuel." This was reviewed by NRC as Project Number M-53. The NRC safety evaluation on this Topical Report was issued on March 29, 1991.

On November 4, 1991 Pacific Sierra formally applied for approval under Subpart L so that utilities could use the VSC-24 casks under the general license provisions. This application, docketed under Docket Number 72-1007, included the "Safety Analysis Report for the Ventilated Storage Cask Systems, Revision 0." This safety analysis report is essentially a later version of Revision 3A of the topical report with the changes which NRC requested in our letter of March 29, 1991. By letter to Dr. John V. Massey, Pacific Sierra Nuclear Associates, dated May 6, 1992, NRC issued a Safety Evaluation Report for the VSC-24 casks.

Upon publication of the safety evaluation providing technical agreement with the proposed cask, rulemaking was initiated. A proposed rule which would add the VSC-24 cask to 10 CFR 72.214 has not yet been issued for publication in the Federal Register. When it is published, there will be a period for public comment before the rule becomes effective.

Further understanding of the regulations for use of the general license provisions for spent fuel storage may be obtained by reading the proposed rulemaking publication in the Federal Register (Volume 54, page 19379, May 5, 1989) and the final rule publication in the Federal Register (Volume 55, page 29181, July 18, 1990).

Question 4: (1) What is the situation with the cask's use at Palisades in Michigan? (2) Is WEPCo correct in using Palisades as a reference for feasibility?

Answer 4: (1) Title 10 CFR Section 72.234(c) says that "Fabrication of casks under the Certificate of Compliance must not start prior to receipt of the Certificate of Compliance for the cask model." On April 18, 1991, Pacific Sierra applied for an exemption to this regulation to allow fabrication of casks for use at Palisades. The USNRC granted the exemption by letter dated August 26, 1991. This letter is available in the public document room (NRC Accession Number 9108300186). Fabrication of eight casks for use at Palisades was started upon receipt of the exemption. No Pacific Sierra VSC-24 cask is in use at Palisades at this time.

(2) Again I suggest that you approach WEPCo to develop an understanding of what they mean by, and how they established feasibility.

Question 5: Has the vendor been given permission to build casks for Palisades before all these necessary reports are finished? If so, why is this allowed? How could they be built before all the analysis is finished? Wouldn't even the assembly of the MSB at this point possibly be up for change when the final ruling is done?

Answer 5: As stated as part of my response to question 4, the vendor has been given an exemption to the regulations. The exemption allows a limited number of casks for use at Palisades to be built. Proceeding under the exemption would be done at some economic risk on the part of the vendor since, as you note, changes may still be necessary. As a practical matter, the NRC staff review of the VSC-24 casks was substantial and was essentially completed at the time the exemption was granted. The likelihood of the need for further major modifications is small.

The August 26, 1991, letter granting the exemption addresses the justification for the exemption.

Question 6: (1) Since Palisades and WEPCo are the ones interested in wanting the VSC-24, why wasn't the cask tested using fuel of the type these plants use? (2) Was there interest by these parties in consolidation at the time of the tests? (3) Why are we getting a cask based on computer models? (4) What was the reason for testing the VSC-17 in relation to WEPCo?

Answer 6: (1), (2), (3) and (4) Again, I suggest you approach WEPCo or Palisades to gain an understanding of their involvement in cask testing. The NRC safety evaluation found that the application provided an adequate basis for concluding that the VSC-24 design meets the requirements of 10 CFR Part 72.

(3) The NRC safety evaluation focused on cask design and concluded that the design meets the requirements of 10 CFR Part 72.

Question 7: (1) Have you more detailed plans for removal of the fuel from the VSC-24? (2) Is Topical Report reference 2.2 available? Is Figure 8.2-1 available?

Answer 7: (1) Decommissioning of the casks is addressed in Section 11 of the NRC safety evaluation.

(2) Reference 2.2 in Chapter 8 of the topical report was not identified. Pacific Sierra has advised that Reference 2.2 is "Handling of Multi-Assembly Sealed Baskets between Reactor Storage and the Remote Handling Facility," EPRI NP-6409, June 1989. A copy of the report may be available through EPRI. Figure 8.2-1 is in the non-proprietary version of the safety analysis report and is available in the public document room.

I encourage you to read the reports and correspondence in the public document room to obtain the level of understanding you are seeking.

Sincerely, original signed by

Robert B. Samworth, Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

DISTRIBUTION:

Docket Files (w/incoming)	NRC & Local PDRs(w/incoming)
PDIII-3 r/f	JPartlow
BClayton (w/incoming)	BBoger
JZwolinski (w/incoming)	TGibbons
JHannon	RSamworth (w/incoming)
PKreutzer	FSturz
JSauder	NRR Mailroom (YT 92-71)
EGreenman, RIII	

LA/PD33	PM/PD33	PD/PD33
PKreutzer	RSamworth/tg	JHannon
06/ /92	06/ /92	06/2/92

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FROM: ORIGINAL DUE DT: 06/03/92 TICKET NO: 0920109
DCC DT: 05/01/92
MS. SHILLING NRR RCVD DATE: 05/14/92

TO:

SAMNO:

FOR SIGNATURE OF: ** YEL **

MURLEY Sirmarath

DESC: ROUTING:

MS. SHILLING IS ASKING ABOUT SPENT FUEL STORAGE AT THE POINT BEACH NUCLEAR PLANT.

MURLEY
MIRAGLIA
RUSSELL
PARTLOW
GILLESPIE
CRUTCHFIELD
NRR MAILROOM

ASSIGNED TO: CONTACT:
DRPW BOGER

Please review the due date immediately:

If the due date does not allow adequate time to respond to this ticket, you may request a revised due date. The request must have prior approval from the appropriate Associate Director or NRR Deputy Director and must include a valid justification. Contact NRR mailroom with the new due date (Celeste Smyre,ext-21229).

Please do not carry concurrence packages to Directors office without first going through the NRR mailroom.

ACTION

DUE TO NRR DIRECTOR'S OFFICE

BY 6/01/92

May 1, 1992
1952 Valleydale Dr.
Appleton, WI
54915

Dear Ms. Semeonth, (Ms. Allen Hanson)

Thank you for your recent letter responding to my question However, I am still confused about some issues and hope you will have time to respond to these soon.

1. I have a Topical Safety analysis Report for the VSC system Revision 3A. Is this the last version? (I have seen references to a Rev 4). How can I get the most recent version? Would you send me one?

2. WEPCO has used the testing at INEL for "feasibility" The inference is that these test give the "OK" to the VSC-24. I am enclosing 2 pages from WEPCO's Environmental Screening report given out to interested citizens. On p 33 it says "the VSC-24 system is a feasible technology which has been tested in a 17 assembly version at the Idaho Nuclear Engineering Laboratory." This, I assumed was also what they were referring to in Table 31 (under feasibility analysis) again where it states "Proven Cask successfully tested by DOE". In a letter to me from Mr. Jeff Kauk at WEPCO he state" The VSC designed by Sierra Nuclear Corp. has been selected for implementation at the Point Beach Nuclear Plant. The cask was successfully tested in 1990 at the US DOE INEL outside Idaho Falls. The cask was loaded with spent fuel from the Turkey Pt and Surry reactors — etc." In the DOE Dry Cask Storage Study Feb 1989 pages E-52 and E-53 refers to these tests and Napac and WEPCO are organizations referenced. Therefore, from all this, I was under the impression that the testing of the VSC-17 was a basis for use of the VSC-24. When I saw that the TSAR RW3A on p 4-1 refers to recent cask tests at INEL and p 4-7 refers to them again as a basis for "models/calculations", I assumed this was the test of the VSC-17 they meant. Was it?

So you can understand that when, in your letter, you say your Safety Evaluation report

A20522012?

"does not reference a report on the VSC-17 testing and does not make use of the DOE work on that cask." — this really confuses me. Please explain — is WEPCO wrong in using this test for feasibility in its literature to the public?

3. I also need an explanation of the Certification or "Rulemaking" or whatever is the final "OK" to use the cask. What is the procedure for all these reports? Does the vendor present a "Topical Report", then the NRC present a "Safety Evaluation" and then the vendor revise the "Topical Report" to a "Topical Safety analysis" or what? (All these initials are really confusing as to what is reviewing what — please explain the procedure. I'd really appreciate it.)

4. What is the situation with the cask we at Palisades in Michigan? On the Table 3-1 of WE's Environmental Screening report (enclosed) it says "currently keeping impellimenters at Palisades", and on p 33 (enclosed) it says it will be in place there before at Pt. Beach. In our local paper recently Mr. Rank from WEPCO is quoted as saying, "It is a technology that has been in use in various places around the world including the US in Virginia and Michigan at the Palisades Plant." My understanding is that Palisades is waiting for a "ruling", just as WEPCO is, and should not be used as a reference for feasibility. Is WEPCO correct in using this that way?

5. Has the vendor been given the permission to build casks for Palisades before all these necessary reports are finished? If so, why is this allowed? How could they be built before all the analysis is finished? Wouldn't

even the assembly of the MSB at this point possibly ready for change when the final "ruling" is done?

6. I guess I'm still wondering why WEPCO was involved with testing the VSC-17 when it was only tested with consolidated fuel. Since Palisades and WEPCO are the ones interested in wanting the VSC-24, why weren't the cask tested using fuel of the type these plants use? Was there interest by these parties in consolidation at the time of the test? WEPCO says they don't plan to do this. It just seems to me that the array of the rods in spacing and the test for expansion of all the material in the cask, etc., would be so different with consolidated fuel. (I'm no expert for sure, yet I would feel much better if you people would be able to say — yes, the actual VSC-24 was built, and tested, with fuel of the type it is to hold at Palisades and Point Beach.) I wouldn't buy a car without trying it out — even if the dealer told me the model was tested. Why are we getting a cask based on computer models? It just seems this is all so "rush, rush" because of the fuel pools being filled and Yucca not opening, that things are going too fast. What was the reason for testing the VSC17 in relation to WEPCO?

7. The last concern I am thinking of right now is how these casks will be opened and the fuel transferred to a transport cask to be shipped out. In the Topical Safety Analysis Report p 8-5 there is one rather vague paragraph on unloading the cask. It sounds like just pushing this procedure for the future to figure out, as we have no integrated system with shipping casks or definite plans on whether the inner basket would have to be opened to test the

integrity of the rods before shipping or what. If these casks stay on the pad longer than planned— whatever that really is — I find little written about procedures for opening them or removing them eventually. Considering a plant can, and probably will, ship fuel from the pool before opening the casks (to make more room without having to purchase more casks) it would seem the casks are more permanent than temporary the way things look now. Have you more detailed plans for removal of the fuel from the VSC-24? The report referred to (Reference 2.2) as well as Fig 8.2-1 is not in the reports that I have.

I really appreciate the Safety Evaluation Report and will try to get through that and look for the documents under the headings you referred to. Thank you very much.

Sincerely,

Fawn Shilling Law

P.S. I also have a letter from Palisades Public Affairs Dr. (Mark Savage) saying, "It should be noted that although the VSC-24 system has not been placed into operation as of this time, a VSC-17 cask, which is the same design as the VSC-24 (only slightly smaller) has been built and is in operation for the DOE in Idaho." This, once again, was mentioned to me as feasibility for the use of the VSC-24 from him, so you can see why I'm wondering about this constant reference to a test of consolidated fuel in a different cask — sounds like it really isn't so?

Plant ISFSI – prepared by WEPCO Docket # 6630-CE-197

Additional discussion regarding the design of physical provisions for ISFSI protection (guard houses, fences, intrusion detection, etc.) are provided in Section 1.E.

H. DECOMMISSIONING

Decommissioning of the ISFSI will be performed in a manner similar to and in the same time frame as the decommissioning of Point Beach Nuclear Plant. This is predicated on the ability of the federal government to accept spent fuel as mandated by the Nuclear Waste Policy Act of 1982, as amended. It is anticipated that the MSBs will be transported in a compatible shipping cask to a federal repository when such a facility is operational. However, should the storage facility not accept the MSBs intact, the VSC-24 system allows the MSBs to be brought back into the pool and the fuel repositioned into the racks for loading into transport casks to be provided by the DOE.

The empty MSBs can be decontaminated of loose radioactive material by conventional water sprays and wipe downs. However, the small amount of neutron emissions from the stored fuel may slightly activate the MSB steel. Depending on this level of activation, the MSBs either will be processed, packaged, and shipped for shallow land burial or will be sold as salvageable scrap.

Decontamination of the empty concrete cask can be accomplished through the use of conventional high pressure water sprays to reduce contamination on the cask interior. The sources of contamination on the interior of the cask would be only crud from the outside of the MSB. The expected low levels of contamination from this source can be easily removed with a high pressure water spray and wipe-down. After decontamination, the VSC metal can be cut up for scrap or partially scrapped and any remaining contaminated portions shipped as radioactive waste to a disposal facility. Concrete cask material will be broken apart and shipped to a landfill.

Due to the leak tight design of the MSB, no residual contamination is expected to be left behind on the concrete base pad. The base pad, fence, and peripheral utility structures are de facto decommissioned when the last cask is removed and may be dismantled with the rest of the plant.

The spent fuel pool at Point Beach will remain functional until the ISFSI is decommissioned. This will allow the pool to be utilized to transfer fuel from the MSB to licensed shipping containers for shipment off-site.

I. ESTIMATES OF INDUCED DEVELOPMENT

No significant induced development is expected to be associated with the proposed ISFSI.

J. FEASIBILITY ANALYSIS

The VSC-24 system is a feasible technology which has been tested in a 17 assembly version at the Idaho Nuclear Engineering Laboratory. A Topical Safety Analysis Report has been submitted to the NRC and approved in the NRC's Safety Evaluation Report dated March 29, 1991. At least one commercial installation (at the Consumers Power Company Palisades Plant) will be in place and functional prior to the start-up of the Point Beach ISFSI.

WEPCO Screening Report — Nov 1991

TABLE 3-1 (continued) (Comparison of Dry Storage Systems)

	ACCIDENT IMPACTS	SAFEGUARDS FROM THEFT, DIVERSION OR SABOTAGE	DECOMMISSIONING	ESTIMATES OF INDUCED DEVELOPMENT	FEASIBILITY ANALYSIS
PROPOSED PROJECT (CONCRETE CASK)	See analysis of potential accident impacts, page	Spent fuel would be stored within the fenced plant boundary and security measures developed to safeguard the stored fuel.	Spent fuel in basket would be transferred to transport casks. Remainder of storage casks would be disposed as low-level waste. Pad and other structures would be handled as regular construction debris.	Little induced development in the Point Beach area. Most casks and ISFSI components are made in other states.	Feasible. NRC license already approved. Proposed casks successfully tested by DOE, currently being implemented at Palisades.
METAL CASKS	Same as for the proposed project.	Same as for the proposed project.	Spent fuel would have to be transferred to a transport cask. Otherwise, same as proposed project.	Same as for the proposed project.	Feasible. Some types of casks already licensed and in use.
MODULAR CONCRETE	Same as for the proposed project.	Security could be easier to provide since the spent fuel would be stored in fixed concrete structures.	Essentially the same as for the proposed project, except there would be more construction debris due to the larger amount of fixed structures.	More on-site construction would be required, but could be absorbed by local labor pool with little impact.	Feasible. NRC license already issued, in use at two sites now.
VAULT	Same as for the proposed project.	Security would be easier to provide since the spent fuel would be stored within a vault.	More difficult due to the fact that there would be a greater amount of both low-level waste and construction debris.	Essentially the same as for modular concrete. The larger facility to be built could result in some short term employment surge in the construction trades.	Feasible. Similar facility planned for Ft. St. Vrain reactor in Colorado. NRC approval granted.
STORAGE/ TRANSPORT CASKS.	Same as for the proposed project.	Same as for the proposed project.	Would be easier than the proposed project because the fuel could be shipped without repackaging. Casks would be disposed as low-level waste. ISFSI pad and other structures would be disposed as construction debris.	Same as for the proposed project.	Feasible. None in use, but are under consideration. No cask has dual certification (storage/transport) yet.