FRAMATOME COGEMA FUELS

June 7, 2000
GR00-58.doc

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: NRC/FCF Meeting on Burnup Limit Extension for Mark-BW Fuel

Gentlemen:

Enclosed is the information that was discussed with the NRC staff on June 1, 2000. FCF requests in accordance with 10 CFR 2.790 that this information be considered proprietary and withheld from public disclosure. An affidavit supporting this request is included as Attachment 1. Attachment 2 is the proprietary version of the material. Attachment 3 is the non-proprietary version.

Very truly yours,

T A Coleman

T. A. Coleman, Vice President
Government Relations

Enclosures

cc: R. Caruso, NRC
M. S. Chatterton, NRC
S. L. Wu, NRC
S. N. Bailey, NRC
M. A. Schoppman
20A13 File/Records Management

Package Re-ordered for scan/index

FRAMATOME TECHNOLOGIES

Framatome Cogema Fuels
3315 Old Forest Road, P.O. Box 10935, Lynchburg, VA 24506-0935
Telephone: 804-832-3000 Fax: 804-832-3663

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Attachment 1

AFFIDAVIT OF THOMAS A. COLEMAN

A. My name is Thomas A. Coleman. I am Vice President of Government Relations for Framatome Cogema Fuels (FCF). Therefore, I am authorized to execute this Affidavit.

B. I am familiar with the criteria applied by FCF to determine whether certain information of FCF is proprietary and I am familiar with the procedures established within FCF to ensure the proper application of these criteria.

C. In determining whether an FCF document is to be classified as proprietary information, an initial determination is made by the Unit Manager, who is responsible for originating the document, as to whether it falls within the criteria set forth in Paragraph D hereof. If the information falls within any one of these criteria, it is classified as proprietary by the originating Unit Manager. This initial determination is reviewed by the cognizant Section Manager. If the document is designated as proprietary, it is reviewed again by personnel and other management within FCF as designated by the Vice President of Government Relations to assure that the regulatory requirements of 10 CFR Section 2.790 are met.

D. The following information is provided to demonstrate that the provisions of 10 CFR Section 2.790 of the Commission's regulations have been considered:

(i) The information has been held in confidence by FCF. Copies of the document are clearly identified as proprietary. In addition, whenever FCF transmits the information to a customer, customer's agent, potential customer or regulatory agency, the transmittal requests the recipient to hold the information as proprietary. Also, in order to strictly limit any potential or actual customer's use of proprietary information, the substance of the following provision is included in all agreements entered into by FCF, and an equivalent version of the proprietary provision is included in all of FCF's proposals:

"Any proprietary information concerning Company's or its Supplier's products or manufacturing processes which is so designated by Company or its Suppliers and disclosed to Purchaser incident to the performance of such contract shall remain the property of Company or its Suppliers and is disclosed in confidence, and Purchaser shall not publish or otherwise disclose it to others without the written approval of Company, and no rights, implied or otherwise, are granted to produce or have produced any products or to practice or cause to be practiced any manufacturing processes covered thereby.

Notwithstanding the above, Purchaser may provide the NRC or any other regulatory agency with any such proprietary information as the NRC or such other agency may require; provided, however, that Purchaser shall first give Company written notice of such proposed disclosure and Company shall have the right to amend such proprietary information so as to make it non-proprietary. In the event that Company cannot amend such proprietary information, Purchaser shall, prior to disclosing such information, use its best efforts to obtain a commitment from NRC or such other agency to have such information withheld from public inspection.

Company shall be given the right to participate in pursuit of such confidential treatment."

(ii) The following criteria are customarily applied by FCF in a rational decision process to determine whether the information should be classified as proprietary. Information may be classified as proprietary if one or more of the following criteria are met:

a. Information reveals cost or price information, commercial strategies, production capabilities, or budget levels of FCF, its customers or suppliers.

b. The information reveals data or material concerning FCF research or development plans or programs of present or potential competitive advantage to FCF.

c. The use of the information by a competitor would decrease his expenditures, in time or resources, in designing, producing or marketing a similar product.

d. The information consists of test data or other similar data concerning a process, method or component, the application of which results in a competitive advantage to FCF.

e. The information reveals special aspects of a process, method, component or the like, the exclusive use of which results in a competitive advantage to FCF.

f. The information contains ideas for which patent protection may be sought.

The document(s) listed on Exhibit "A", which is attached hereto and made a part hereof, has been evaluated in accordance with normal FCF procedures with respect to classification and has been found to contain information which falls within one or more of the criteria enumerated above. Exhibit "B", which is attached hereto and made a part hereof, specifically identifies the criteria applicable to the document(s) listed in Exhibit "A".

(iii) The document(s) listed in Exhibit "A", which has been made available to the United States Nuclear Regulatory Commission was made available in confidence with a request that the document(s) and the information contained therein be withheld from public disclosure.

(iv) The information is not available in the open literature and to the best of our knowledge is not known by Combustion Engineering, Siemens, General Electric, Westinghouse or other current or potential domestic or foreign competitors of Framatome Cogema Fuels.

(v) Specific information with regard to whether public disclosure of the information is likely to cause harm to the competitive position of FCF, taking into account the value of the information to FCF; the amount of effort or money expended by FCF developing the information; and the ease or difficulty with which the information could be properly duplicated by others is given in Exhibit "B".

E. I have personally reviewed the document(s) listed on Exhibit "A" and have found that it is considered proprietary by FCF because it contains information which falls within one or more of the criteria enumerated in Paragraph D, and it is information which is customarily held in confidence and protected as proprietary information by FCF. This report comprises information utilized by FCF in its business which afford FCF an opportunity to obtain a

competitive advantage over those who may wish to know or use the information contained in the document(s).

T A Coleman

THOMAS A. COLEMAN

State of Virginia)
) SS. Lynchburg
City of Lynchburg)

Thomas A. Coleman, being duly sworn, on his oath deposes and says that he is the person who subscribed his name to the foregoing statement, and that the matters and facts set forth in the statement are true.

T A Coleman

THOMAS A. COLEMAN

Subscribed and sworn before me
this 6th day of June 2000.

Wanda L. Wade
Notary Public in and for the City
of Lynchburg, State of Virginia.

My Commission Expires 8/31/01

EXHIBITS A & B

EXHIBIT A

Materials handed out at NRC/Framatome Cogema Fuels Meeting on June 1, 2000

EXHIBIT B

The above listed materials contain information which is considered Proprietary in accordance with Criteria b, c, and d of the attached affidavit.

Attachment 3

NRC/FCF Meeting on Mark-BW Burnup Limit

Rockville, Maryland

C. F. McPhatter

June 1, 2000

Agenda

- Introduction and Background for Increasing Mark BW Burnup Limit
- Presentation of Data
- Discussion
- Conclusion

Objectives

- Agree that the proposed burnup limit for the Mark-BW fuel is justified
- Develop plan for providing documentation and obtaining NRC approval

Reference Documents

- BAW-10153P, Extended Burnup Evaluation, April 1986
- BAW-10172P, Mark-BW Mechanical Design Report, SER, December 1989
- BAW-10186P-A, Rev. 1 Extended Burnup Evaluation, April 2000
- BAW-10227P-A, Evaluation of Advanced Cladding and Structural Material (M5™) in PWR Reactor Fuel, February 2000

Background

- The SER for BAW-10153P-A allows burnups up to 45 GWd/mtU batch average for Mark-B fuel
- The SER for BAW-10172P allows burnups up to 60 GWd/mtU rod average for Mark-BW fuel
- The SER for BAW-10186P allows burnups of 60 GWd/mtU and 62 GWd/mtU rod average for Mark-BW and for Mark-B fuel respectively
- The SER for BAW-10227P allows burnups of 60 GWd/mtU and 62 GWd/mtU rod average for Mark-BW and for Mark-B fuel respectively

Demonstration Of The Ability For The Mk-BW Fuel Assembly To Achieve 62 GWd/mtU Pin Burnup

- Show sufficient data has been obtained to demonstrate accuracy of models to 62 GWd/mtU
- Show that the data is well behaved so that the models are reliable design tools to 62 GWd/mtU

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Justification For Burnup Limit Of 62 GWd/mtU For Mk-BW

- Data will be presented for both the MK-BW and the Mk-B for comparison
- Mk-B and Mk-BW are very similar designs that perform in a consistent manner
- Key data that justifies the new limit
  - Fuel rod oxide
  - Irradiation experience
  - Fuel assembly growth
  - Shoulder Gap
  - Guide tube oxide
  - Fuel Rod Reliability

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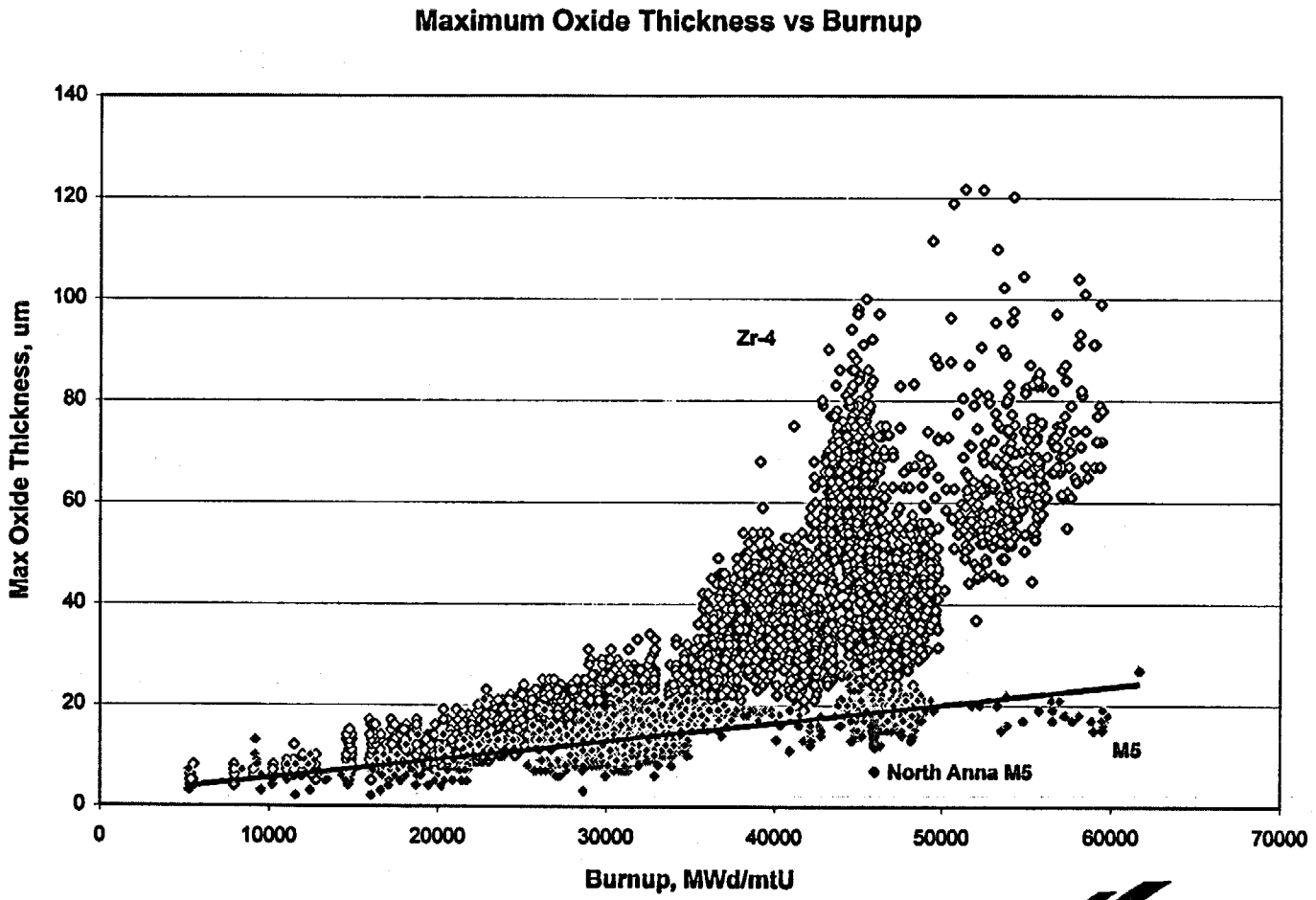
Fuel Rod Oxide No Longer Limits Burnup With M5 Cladding



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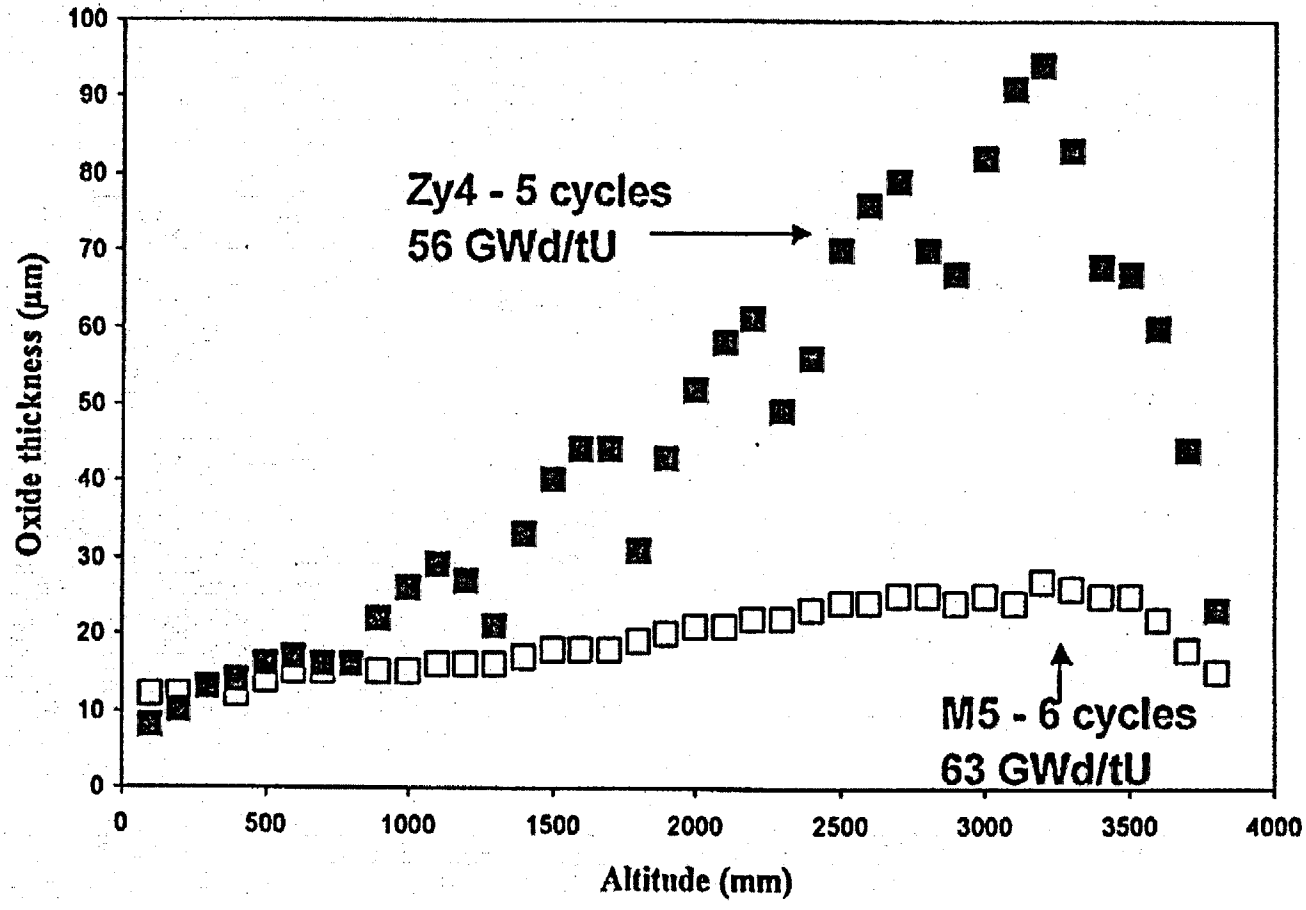
M5 Has Low Sensitivity To Duty



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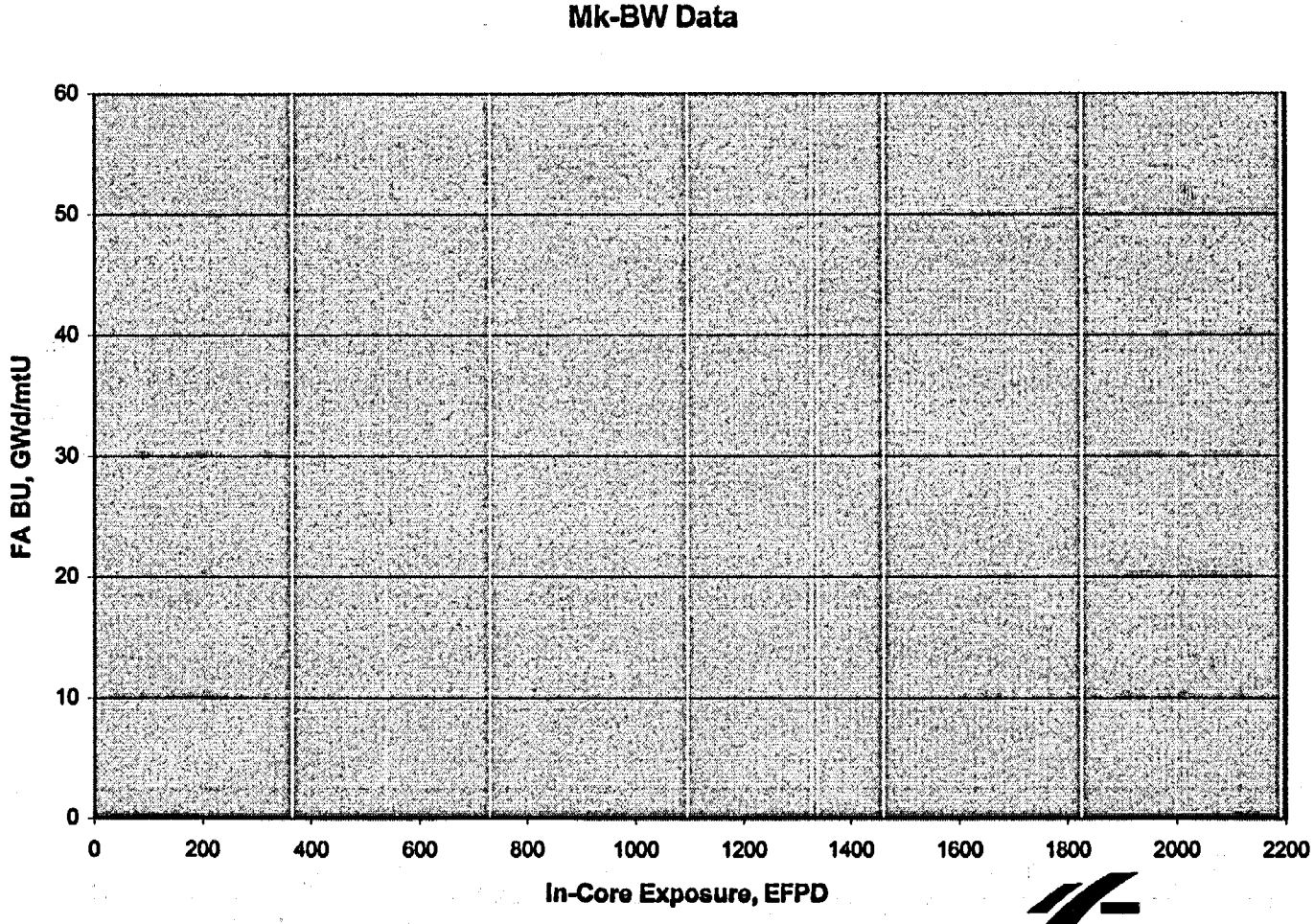
Additional Data Obtained Since Topical Representative Of High Burnup Cycles



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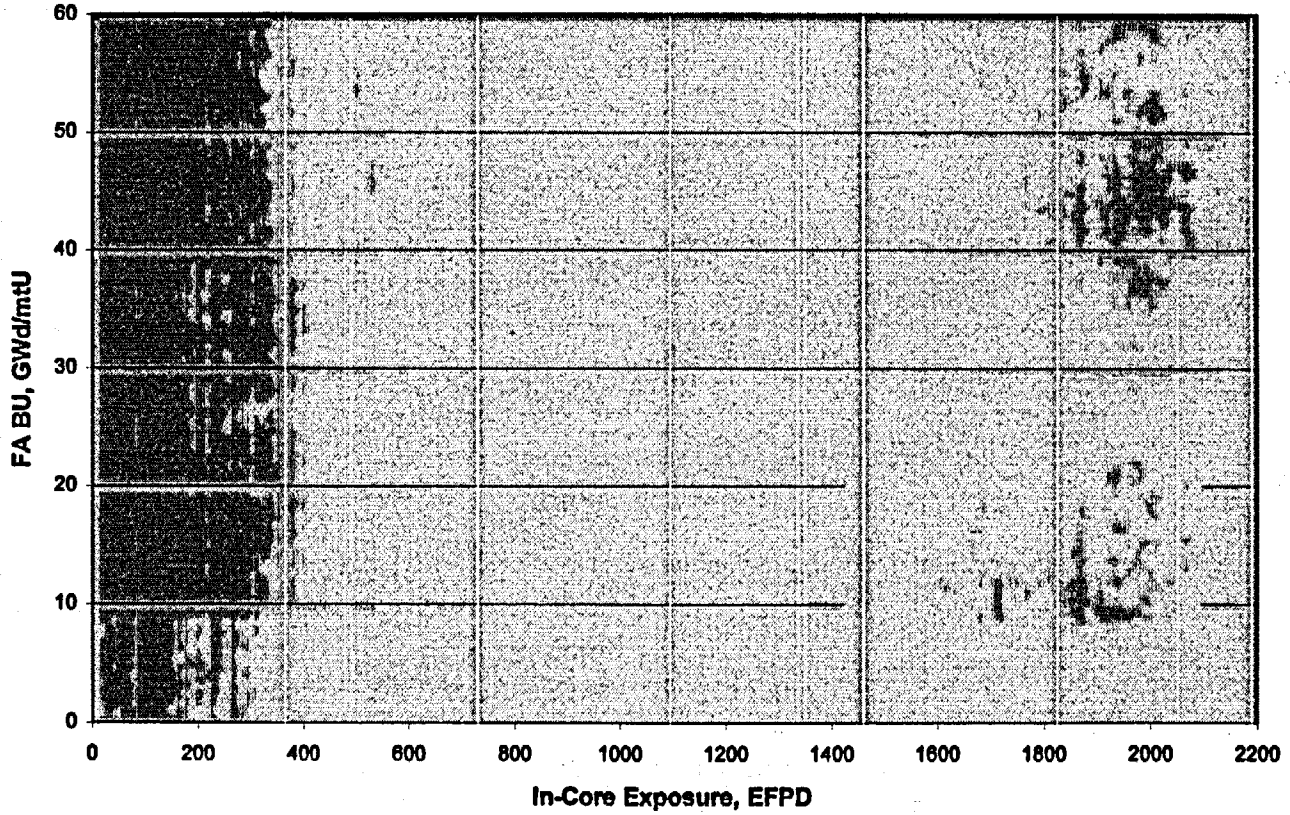
Additional Data Obtained Since Topical Representative Of High Burnup Cycles

Mk-B And Mk-BW Data



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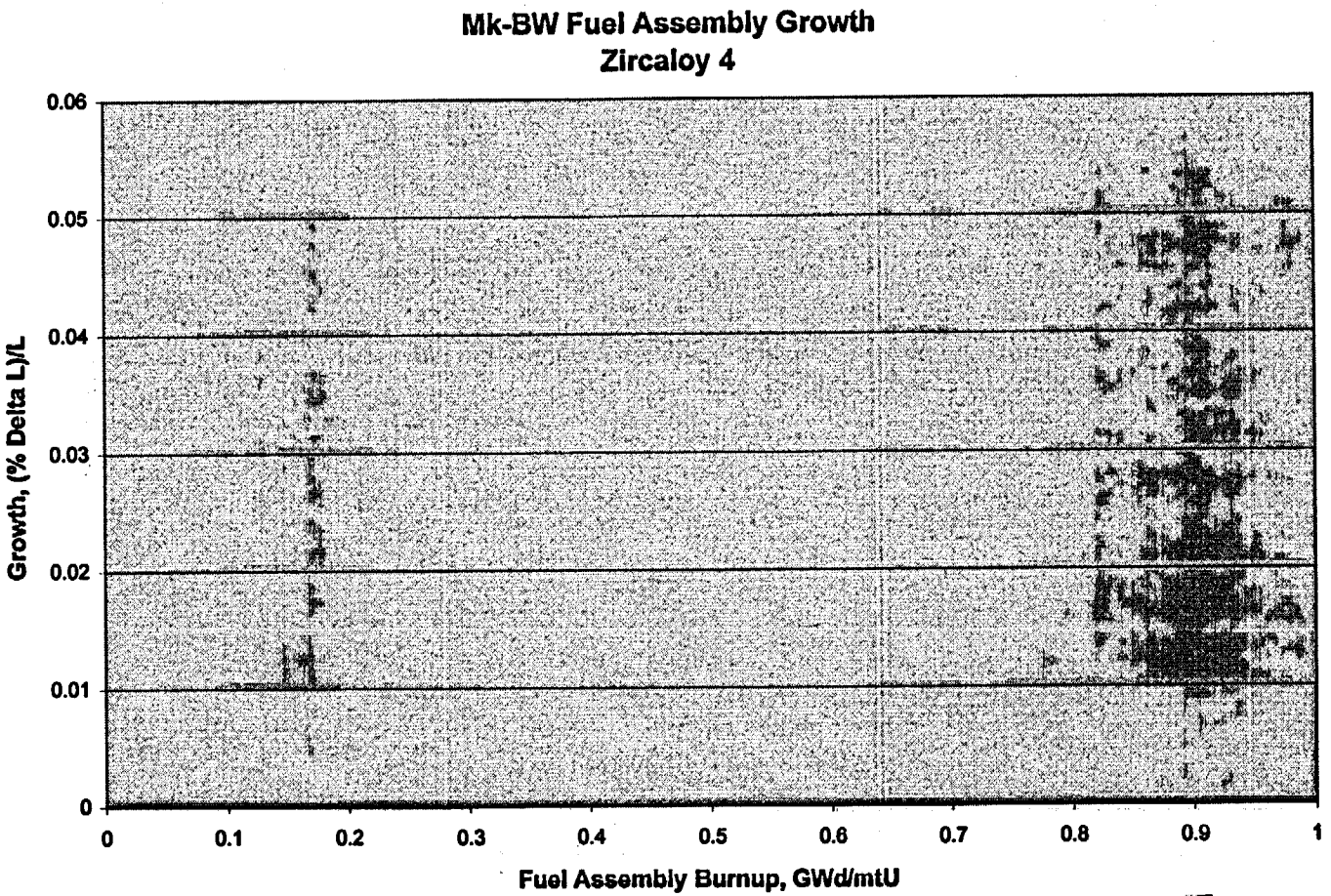
Fuel Assembly Growth Data Matches Model



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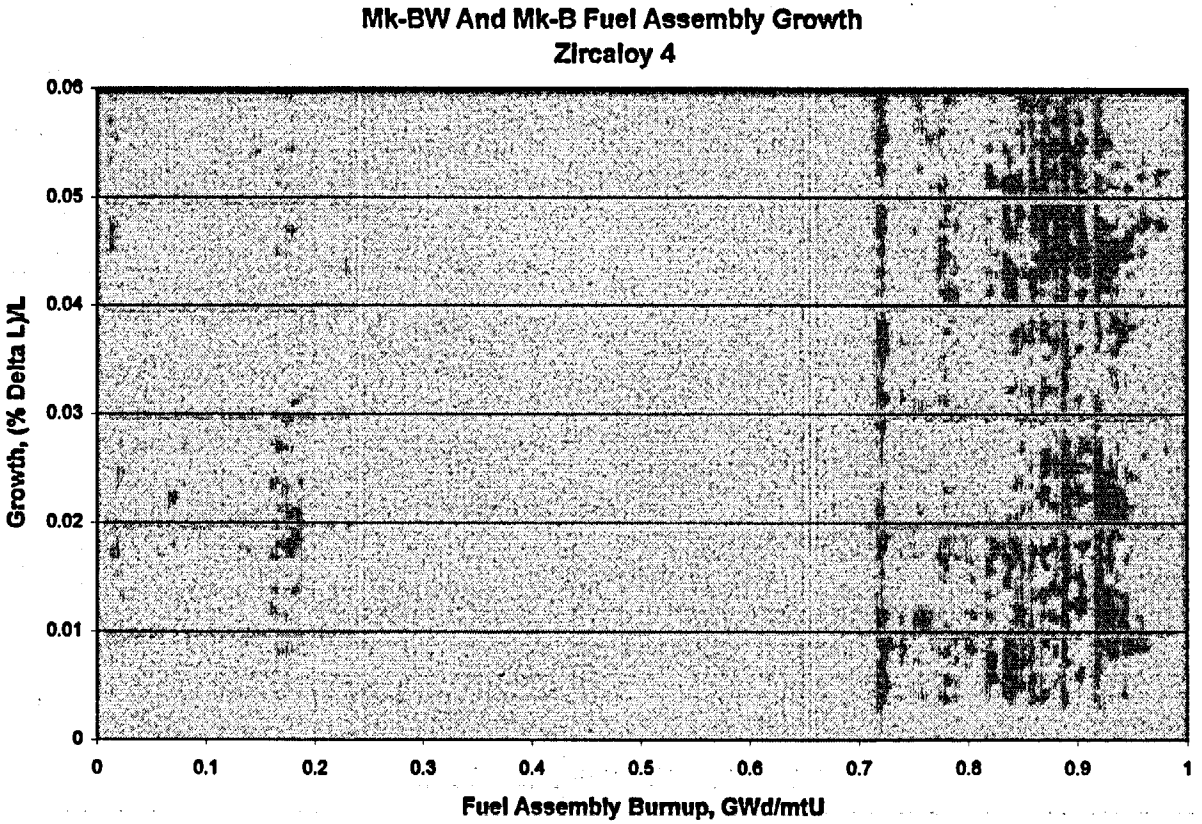
Mk-BW And Mk-B Fuel Assembly Growth Data are Consistent



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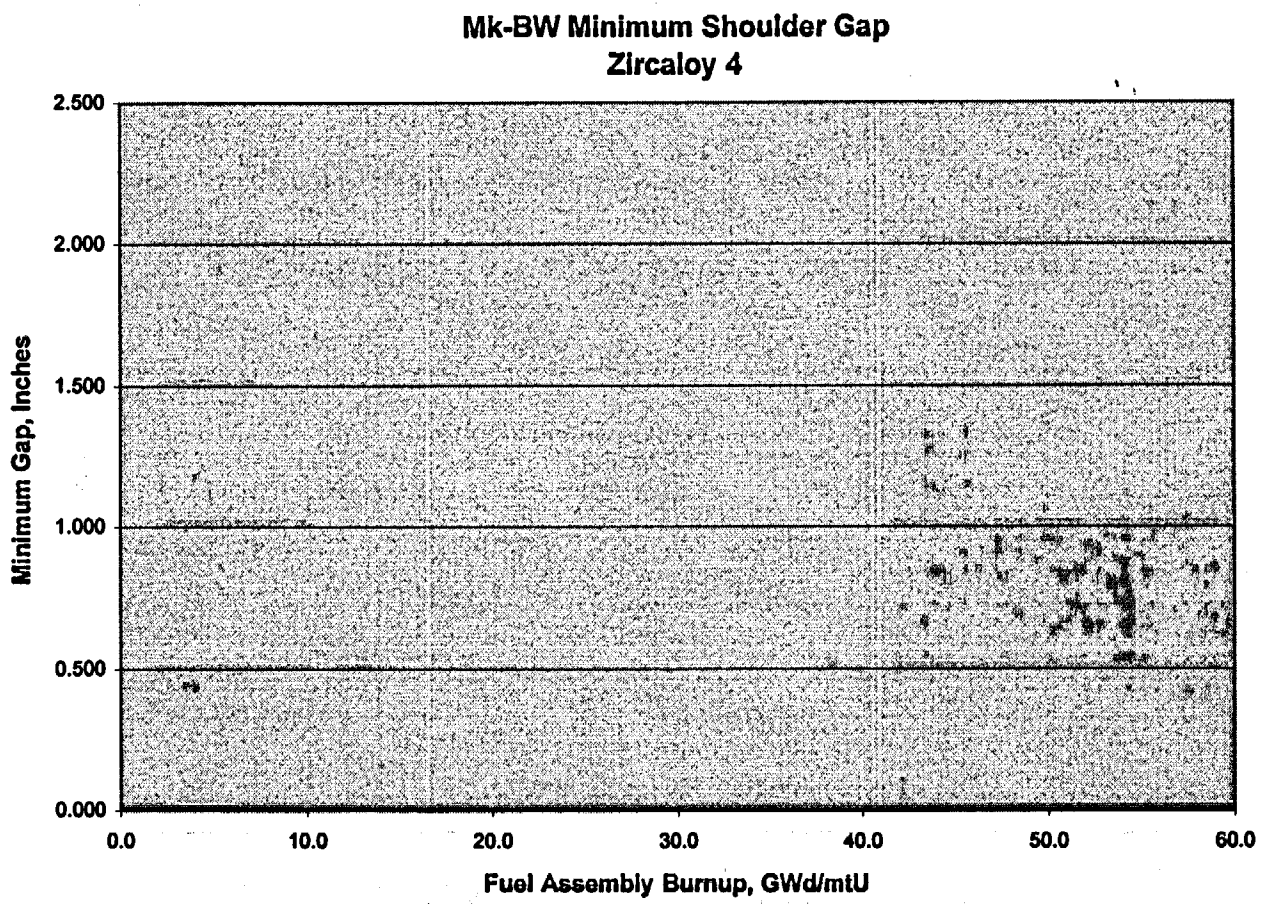
Shoulder Gap Data Well Behaved With Excess Margin Available



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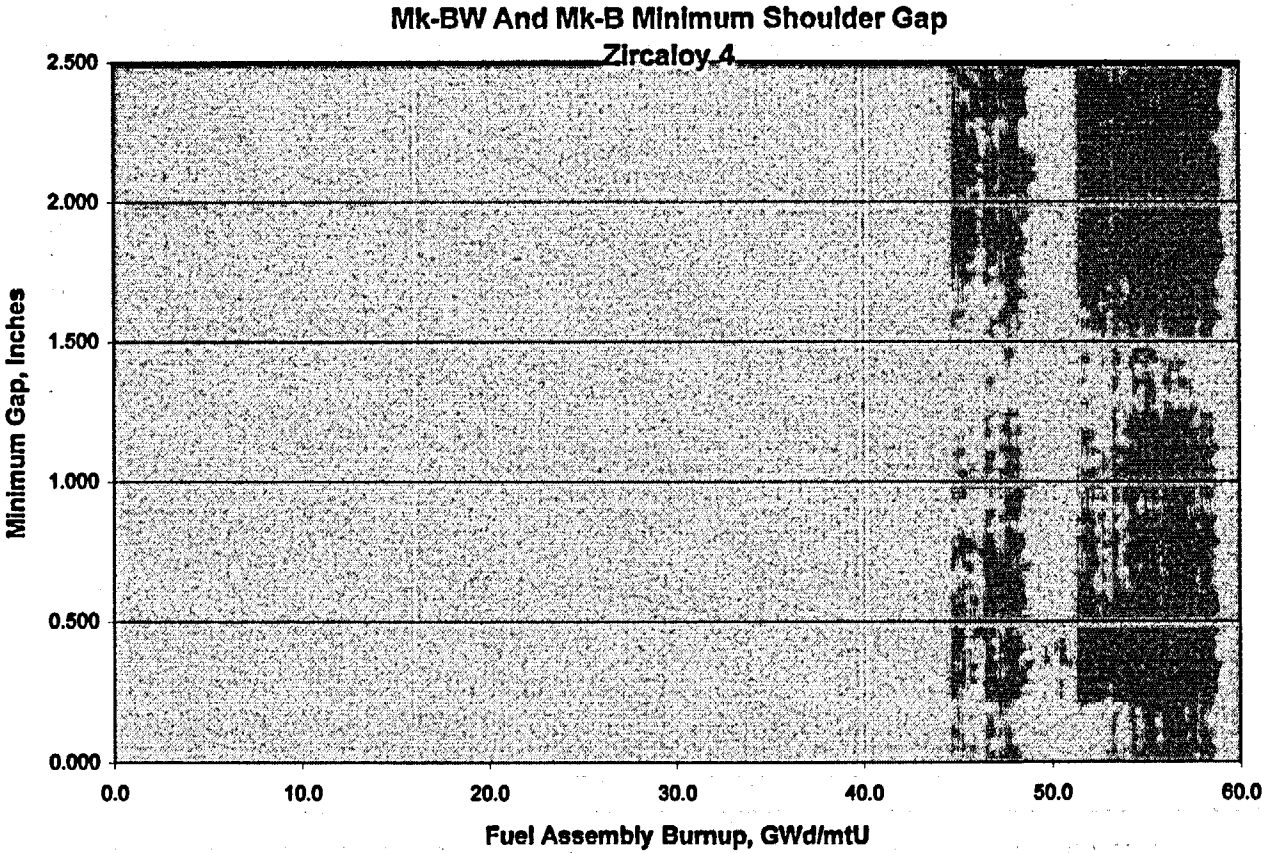
Shoulder Gap Data Well Behaved With Excess Margin Available



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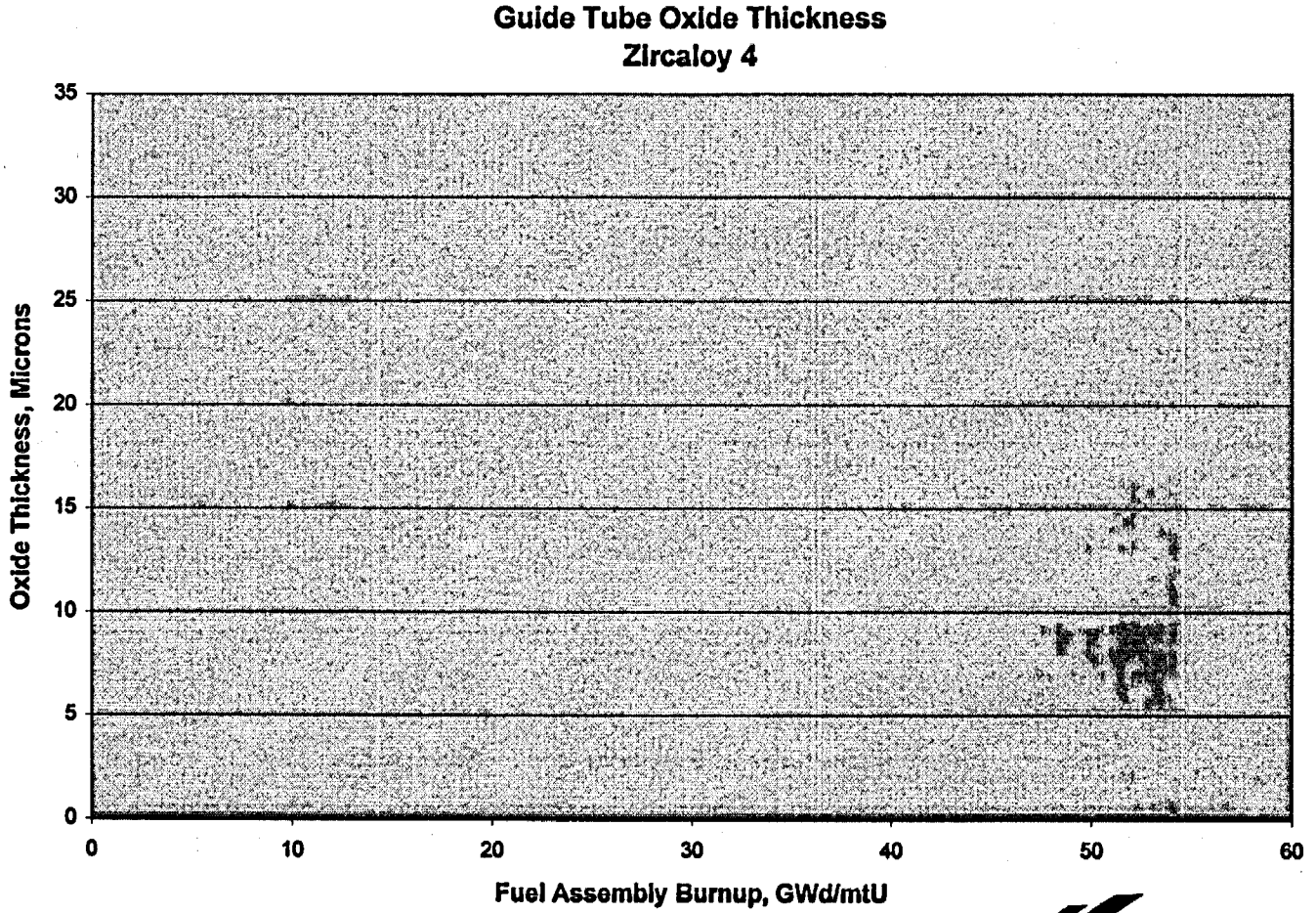
Guide Tube Oxide Thickness Data Demonstrates Significant Margin



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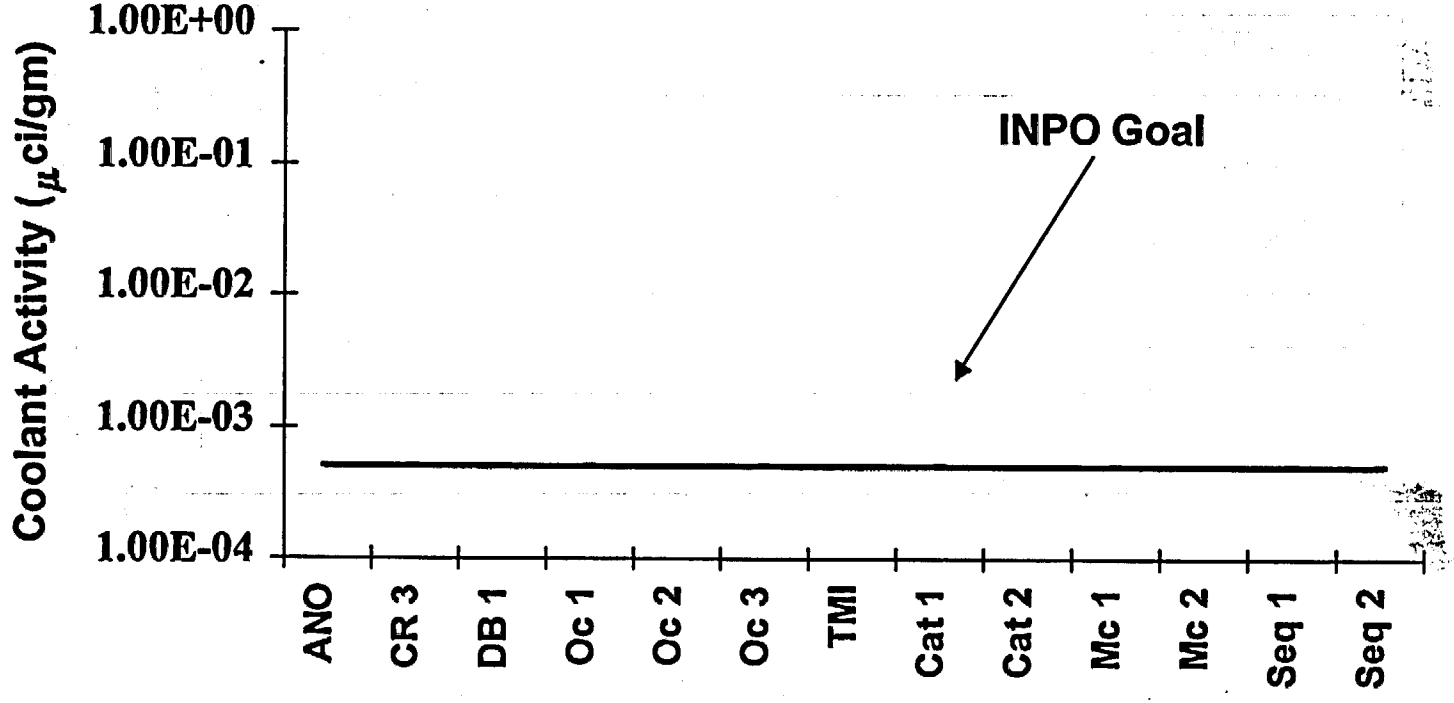
Fuel Performance Status
as of 5/00



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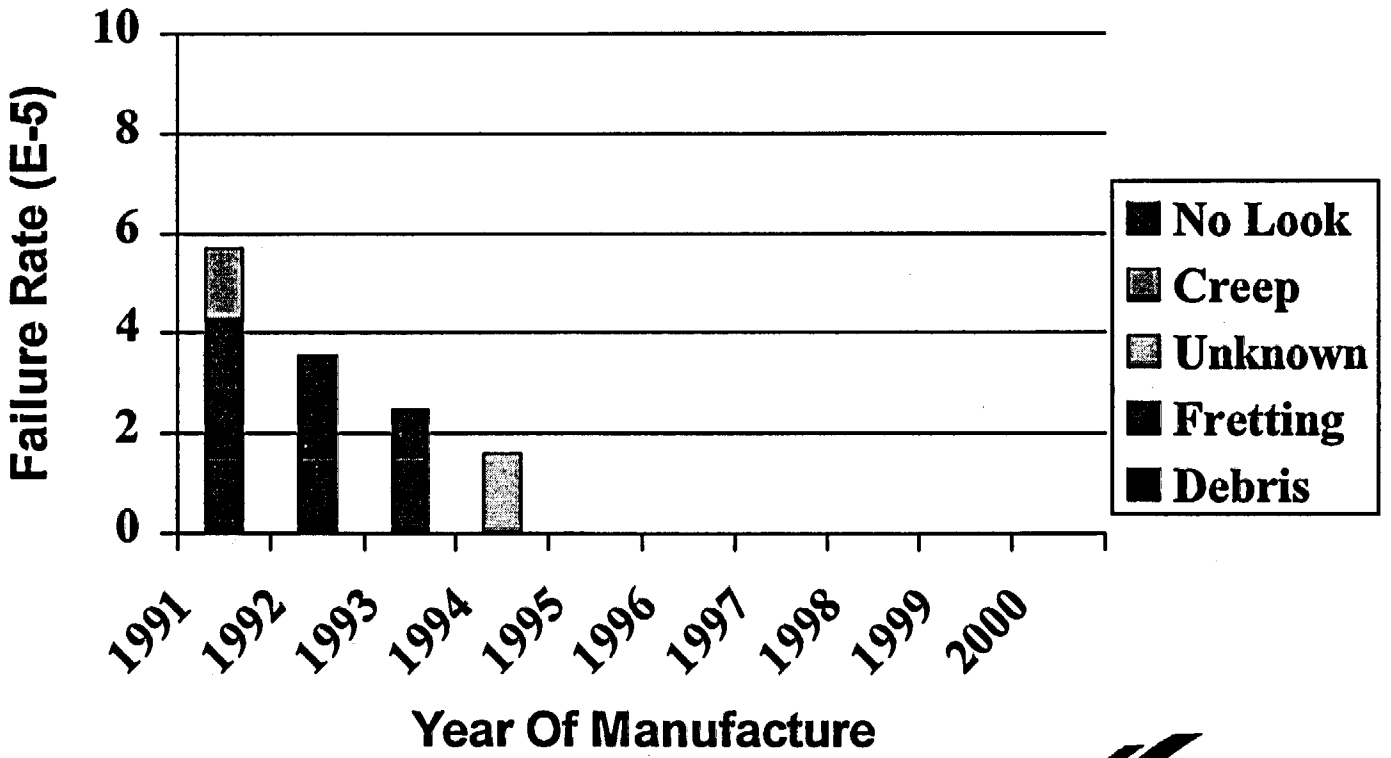
Failure Rate For Mark-BW Fuel By Year Of Manufacture



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Conclusion

- Mk-BW fuel assembly has performed well through 53-GWd/mtU
- Sufficient data exists to verify design models are accurate to a fuel rod burnup of greater than 62 GWd/mtU
- Models provide the tools to design a fuel assembly capable of irradiation to 62 GWd/mtU, rod average

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Conclusion

- On the basis of the information presented today the proposed burnup limit for Mark-BW fuel is justified
- Define process for obtaining NRC review and approval of the proposed limit