Nuclear Operating Company
South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

May 27, 2004
NOC-AE-04001731
File No.: G25
10CFR50.12
10CFR2.390

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
One White Flint North
11555 Rockville Pike
Rockville, MD 20852

South Texas Project
Units 1 and 2
Docket Nos. STN 50-498, STN 50-499
Request for Exemption for Cladding Material
Specified in 10CFR50.44, 10CFR50.46 and 10CFR 50 Appendix K

Pursuant to 10CFR50.12, the South Texas Project requests Nuclear Regulatory Commission approval of an exemption to allow use of a different fuel cladding material as an alternative to that specified in the Code of Federal Regulations. The affected regulations are:

- 10CFR50.44, "Standards for Combustible Gas Control in Light-Water-Cooled Power Reactors"
- 10CFR50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors"
- 10CFR50 Appendix K, "ECCS Evaluation Models"

The regulations as written presume Zircaloy or ZIRLO™ is used as fuel rod cladding material. In order to use a different cladding material, a limited exemption to these regulations is needed.

The licensing basis for ZIRLO™, as defined in WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," specifies a tin content between 0.80% and 1.20%. However, available industry data indicates that reducing the tin content should enhance the in-reactor corrosion resistance. Optimization of corrosion resistance will support improved fuel performance and reliability at higher burnup levels.

The South Texas Project intends to use up to eight lead test assemblies containing fuel rods with Optimized ZIRLO™ cladding. The proposed amount of tin in the lead test assemblies is nominally below the lower bound licensed limit of 0.80%. The exemption is necessary because the reduced tin content is less than that of the current licensing basis as specified in WCAP-12610-P-A. The attachments to this letter provide justification for the acceptability of Optimized ZIRLO™.

The South Texas Project plans to initially insert the lead test assemblies in non-limiting core locations during the Unit 1 refueling outage scheduled to begin in March 2005. Consequently, the South Texas Project requests that review and approval of the exemption request be completed by October 31, 2004 to support fuel procurement and delivery for the Unit 1 March, 2005 refueling outage. Fuel assemblies with the new cladding will be used in Unit 2 no sooner than the refueling outage scheduled for March 2007.

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As demonstrated in the attachment to this letter, the requested exemption:

- Is authorized by law;
- Presents no undue risk to public health and safety;
- Is consistent with common defense and security; and
- Is supported by special circumstances.

Enclosed are a Westinghouse authorization letter, CAW-04-1836, with accompanying affidavit, proprietary information notice, and copyright notice, and the technical justification for this exemption request. There are two versions of the technical justification for this exemption request. The first is non-proprietary, and the second is proprietary.

Classification of information as "proprietary" to Westinghouse Electric Company LLC is supported by the affidavit signed by Westinghouse, the owner of the information. The affidavit sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of Section 2.390 of the Commission's regulations. Accordingly, the South Texas project requests that information proprietary to Westinghouse be withheld from public disclosure in accordance with 10 CFR Section 2.390 of the Commission's regulations.

Correspondence with respect to the copyright or proprietary aspects of the items listed above or the supporting Westinghouse affidavit should reference CAW-04-1836 and be addressed to J. A. Gresham, Manager of Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P. O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

If there are any questions, please contact either Philip L. Walker at 361-972-8392 or me at 361-972-7902.

T. J. Jordan
Vice President,
Engineering & Technical Services

PLW

Attachments: 1. Application for Withholding Proprietary Information from Public Disclosure, with Affidavit, Proprietary Information Notice, and Copyright Notice (CAW-04-1836)

2. Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification (Nonproprietary), May 2004

3. Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification (Proprietary), May 2004

cc: Non-proprietary except (*)
(paper copy)

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ATTACHMENT 1

Application for Withholding Proprietary Information from Public Disclosure, with Affidavit, Proprietary Information Notice, and Copyright Notice (CAW-04-1836)

Westinghouse

Westinghouse Electric Company
Nuclear Services
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USA

U.S. Nuclear Regulatory Commission
Document Control Desk
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Our ref: CAW-04-1836

May 18, 2004

APPLICATION FOR WITHHOLDING PROPRIETARY INFORMATION FROM PUBLIC DISCLOSURE

Subject: "Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification" (Proprietary)

The proprietary information for which withholding is being requested in the above-referenced report is further identified in Affidavit CAW-04-1836 signed by the owner of the proprietary information, Westinghouse Electric Company LLC. The affidavit, which accompanies this letter, sets forth the basis on which the information may be withheld from public disclosure by the Commission and addresses with specificity the considerations listed in paragraph (b)(4) of 10 CFR Section 2.390 of the Commission's regulations.

Accordingly, this letter authorizes the utilization of the accompanying affidavit by (South Texas Project Nuclear Operating Company), South Texas Units 1 and 2.

Correspondence with respect to the proprietary aspects of the application for withholding or the Westinghouse affidavit should reference this letter, CAW-04-1836 and should be addressed to J. A. Gresham, Manager, Regulatory Compliance and Plant Licensing, Westinghouse Electric Company LLC, P.O. Box 355, Pittsburgh, Pennsylvania 15230-0355.

Very truly yours,

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Enclosures

cc: J. S. Wermiel/NRR
F. M. Akstulewicz, NRR
W. A. Macon/NRR
E. S. Peyton/NRR

CAW-04-1836

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA:

ss

COUNTY OF ALLEGHENY:

Before me, the undersigned authority, personally appeared J. A. Gresham, who, being by me duly sworn according to law, deposes and says that he is authorized to execute this Affidavit on behalf of Westinghouse Electric Company LLC (Westinghouse), and that the averments of fact set forth in this Affidavit are true and correct to the best of his knowledge, information, and belief:

J. A. Gresham, Manager
Regulatory Compliance and Plant Licensing

Sworn to and subscribed
before me this 18th day
of May, 2004

Sharon L. Fiori
Notary Public

Notarial Seal
Sharon L. Fiori, Notary Public
Monroeville Boro, Allegheny County
My Commission Expires January 29, 2007
Member, Pennsylvania Association Of Notaries

(1) I am Manager, Regulatory Compliance and Plant Licensing, in Nuclear Services, Westinghouse Electric Company LLC (Westinghouse), and as such, I have been specifically delegated the function of reviewing the proprietary information sought to be withheld from public disclosure in connection with nuclear power plant licensing and rule making proceedings, and am authorized to apply for its withholding on behalf of Westinghouse.

(2) I am making this Affidavit in conformance with the provisions of 10 CFR Section 2.390 of the Commission's regulations and in conjunction with the Westinghouse application for withholding accompanying this Affidavit.

(3) I have personal knowledge of the criteria and procedures utilized by Westinghouse in designating information as a trade secret, privileged or as confidential commercial or financial information.

(4) Pursuant to the provisions of paragraph (b)(4) of Section 2.390 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure should be withheld.

(i) The information sought to be withheld from public disclosure is owned and has been held in confidence by Westinghouse.

(ii) The information is of a type customarily held in confidence by Westinghouse and not customarily disclosed to the public. Westinghouse has a rational basis for determining the types of information customarily held in confidence by it and, in that connection, utilizes a system to determine when and whether to hold certain types of information in confidence. The application of that system and the substance of that system constitutes Westinghouse policy and provides the rational basis required.

Under that system, information is held in confidence if it falls in one or more of several types, the release of which might result in the loss of an existing or potential competitive advantage, as follows:

(a) The information reveals the distinguishing aspects of a process (or component, structure, tool, method, etc.) where prevention of its use by any of Westinghouse's competitors without license from Westinghouse constitutes a competitive economic advantage over other companies.

(b) It consists of supporting data, including test data, relative to a process (or component, structure, tool, method, etc.), the application of which data secures a competitive economic advantage, e.g., by optimization or improved marketability.

(c) Its use by a competitor would reduce his expenditure of resources or improve his competitive position in the design, manufacture, shipment, installation, assurance of quality, or licensing a similar product.

(d) It reveals cost or price information, production capacities, budget levels, or commercial strategies of Westinghouse, its customers or suppliers.

(e) It reveals aspects of past, present, or future Westinghouse or customer funded development plans and programs of potential commercial value to Westinghouse.

(f) It contains patentable ideas, for which patent protection may be desirable.

There are sound policy reasons behind the Westinghouse system which include the following:

(a) The use of such information by Westinghouse gives Westinghouse a competitive advantage over its competitors. It is, therefore, withheld from disclosure to protect the Westinghouse competitive position.

(b) It is information that is marketable in many ways. The extent to which such information is available to competitors diminishes the Westinghouse ability to sell products and services involving the use of the information.

(c) Use by our competitor would put Westinghouse at a competitive disadvantage by reducing his expenditure of resources at our expense.

(d) Each component of proprietary information pertinent to a particular competitive advantage is potentially as valuable as the total competitive advantage. If competitors acquire components of proprietary information, any one component may be the key to the entire puzzle, thereby depriving Westinghouse of a competitive advantage.

(e) Unrestricted disclosure would jeopardize the position of prominence of Westinghouse in the world market, and thereby give a market advantage to the competition of those countries.

(f) The Westinghouse capacity to invest corporate assets in research and development depends upon the success in obtaining and maintaining a competitive advantage.

(iii) The information is being transmitted to the Commission in confidence and, under the provisions of 10 CFR Section 2.390, it is to be received in confidence by the Commission.

(iv) The information sought to be protected is not available in public sources or available information has not been previously employed in the same original manner or method to the best of our knowledge and belief.

(v) The proprietary information sought to be withheld in this submittal is that which is appropriately marked in "Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification" (Proprietary), dated May 18, 2004 for information in support of South Texas Project, Units No. 1 and 2 exemption request to the cladding material specified in 10 CFR 50.44, 10 CFR 50.46 and 10 CFR 50 Appendix K to the Commission, transmitted via South Texas Projects Nuclear Operating Company for South Texas Project, Units No. 1 and 2 letter and Application for Withholding Proprietary Information from Public Disclosure, J. A. Gresham, Westinghouse, Manager Regulatory Compliance and Plant Licensing to the attention of Document Control Desk. The proprietary information provides the technical assessment for the exemption request.

This information is part of that which will enable Westinghouse to:

(a) Provide technical assessment for the exemption request.

(b) Assist customers to obtain license changes.

Further this information has substantial commercial value as follows:

(a) Westinghouse can use this information to further enhance their licensing position with their competitors.

Public disclosure of this proprietary information is likely to cause substantial harm to the competitive position of Westinghouse because it would enhance the ability of competitors to provide similar fuel designs and licensing defense services for commercial power reactors without commensurate expenses. Also, public disclosure of the information would enable others to use the information to meet NRC requirements for licensing documentation without purchasing the right to use the information.

The development of the technology described in part by the information is the result of applying the results of many years of experience in an intensive Westinghouse effort and the expenditure of a considerable sum of money.

In order for competitors of Westinghouse to duplicate this information, similar technical programs would have to be performed and a significant manpower effort, having the requisite talent and experience, would have to be expended.

Further the deponent sayeth not.

Proprietary Information Notice

Transmitted herewith are proprietary and/or non-proprietary versions of documents furnished to the NRC in connection with requests for generic and/or plant-specific review and approval.

In order to conform to the requirements of 10 CFR 2.390 of the Commission's regulations concerning the protection of proprietary information so submitted to the NRC, the information which is proprietary in the proprietary versions is contained within brackets, and where the proprietary information has been deleted in the non-proprietary versions, only the brackets remain (the information that was contained within the brackets in the proprietary versions having been deleted). The justification for claiming the information so designated as proprietary is indicated in both versions by means of lower case letters (a) through (f) located as a superscript immediately following the brackets enclosing each item of information being identified as proprietary or in the margin opposite such information. These lower case letters refer to the types of information Westinghouse customarily holds in confidence identified in Sections (4)(ii)(a) through (4)(ii)(f) of the affidavit accompanying this transmittal pursuant to 10 CFR 2.390(b)(1).

Copyright Notice

ATTACHMENT 2

Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification (Nonproprietary), May 2004

South Texas Project
Units 1 and 2

Request for Exemption from the Provisions of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K for Eight Lead Test Assemblies (LTAs) and Supporting Justification (Proprietary), May 2004

[Proprietary information is enclosed in brackets. Superscripts a, b, and c refer to Affidavit paragraphs 4(ii)(a), 4(ii)(b), and 4(ii)(c), respectively.]

PURPOSE

This attachment provides supporting justification pursuant to 10CFR50.12 for an exemption request to allow use of Optimized ZIRLO™ Lead Test Assemblies at the South Texas Project.

10 CFR 50.44, "Standards for combustible gas control system in light-water-cooled power reactor," references analysis for water-metal reactions. This relates back to the use of the Baker-Just equation which assumes use of a zirconium alloy different than the Optimized ZIRLO™ used in Lead Test Assemblies. 10 CFR 50.46, "Acceptance criteria for emergency core cooling systems for light-water nuclear power reactors," specifically refers to fuel with Zircaloy or ZIRLO™ cladding. 10 CFR 50 Appendix K, "ECCS Evaluation Models," paragraph I.A.5, references an analysis that utilizes the Baker-Just equation which assumes use of a zirconium alloy different than the Optimized ZIRLO™ used in Lead Test Assemblies. Therefore, 10 CFR 50.44, 10 CFR 50.46, and 10CFR 50 Appendix K do not allow for use of the proposed Lead Test Assemblies because the concentration of tin in the Optimized ZIRLO™ is nominally [ ]^{a,c}. This reduced tin concentration is below the lower bound (0.80%) of the licensed limit of ZIRLO™ as specified in Appendix A of WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," dated April 1995.

BACKGROUND

As the nuclear industry pursues longer operating cycles with increased fuel discharge burnups and more aggressive fuel management, corrosion performance requirements for nuclear fuel cladding become more demanding. In addition, fuel rod internal pressures (resulting from increased fuel duty, use of integral fuel burnable absorbers (IFBAs) and corrosion/temperature feedback effects) have become more limiting with respect to fuel rod design criteria.

Available industry data from the American Nuclear Society, the International Atomic Energy Agency, the Electric Power Research Institute, and Westinghouse indicate the corrosion resistance improves for cladding with a lower tin content. The optimum tin concentration

provides a reduced corrosion rate while maintaining the benefits of mechanical strengthening and resistance to accelerated corrosion from abnormal chemistry conditions. Reducing the associated corrosion buildup and thus minimizing temperature feedback effects obtains additional margin to fuel rod internal pressure design criteria.

To meet these needs, Westinghouse Electric Company developed a lead test assembly program in cooperation with the South Texas Project. One element of the program is use of Optimized ZIRLO™ cladding. The Byron Station, Catawba, and Millstone have received NRC approval of an exemption with respect to 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K to allow use of Optimized ZIRLO™ lead test assemblies. Westinghouse and the South Texas Project intend to include Optimized ZIRLO™ in eight lead test assemblies to be initially inserted into South Texas Project Unit 1 during the refueling outage in March 2005. The South Texas Project lead test assemblies will have the same nominal tin concentration of [ ]^{a,c} as that used for Catawba and Millstone, compared to the nominal tin concentration of [ ]^{a,c} used for Byron.

The South Texas Project Technical Specifications, Section 5.3.1, "Fuel Assemblies," specifies that each fuel assembly shall consist of a matrix of zircaloy- or ZIRLO™-clad fuel rods. Since the Optimized ZIRLO™ cladding material has a tin concentration less than that currently licensed in WCAP-12610-P-A, an exemption from 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K is required.

Westinghouse has determined [

]^{a,b,c}. Therefore, Westinghouse will perform a LOCA evaluation of the South Texas Project lead test assemblies using existing LOCA methods prior to implementation to ensure they are bounded by the current analysis of record.

The South Texas Project Technical Specifications have sufficient flexibility as written to allow use of Optimized ZIRLO™; therefore, no additional changes to the Technical Specifications are necessary to allow use of the lead test assemblies.

TECHNICAL JUSTIFICATION

The South Texas Project and Westinghouse will jointly perform evaluations of the lead test assemblies during the program development phase. These evaluations will include both testing and analysis, and will address all aspects of safety, including mechanical, neutronic, thermal-hydraulic, transient, and loss-of-coolant accident analyses, and will address the design feature changes for the lead test assemblies. The evaluations pertinent to the Optimized ZIRLO™ are as follows:

- The South Texas Project lead test assemblies will be evaluated mechanically with respect to criteria governing acceptability considering its mechanical design. The same design methods utilized for the current RFA fuel will be used. No new or altered design limits for purposes of 10 CFR 50, Appendix A, General Design Criterion 10, "Reactor Design," need to be applied or are required for this program. A fuel rod design evaluation will be performed for the South Texas Project lead test assemblies. The objective of this evaluation will be to show that all fuel rod design criteria (i.e., specified acceptable fuel design limits as required by GDC 10) would be met.

With respect to the mechanical evaluations, inclusive of material properties, three specific areas would be potentially impacted by use of Optimized ZIRLO™. These areas are:

- **Material Properties**

[a, b, c]

[ ] a, b, c

- Corrosion

[ ] a, b, c

- Thermal Creep

[ ] a, b, c

a, b, c

[ ]

The design criteria will be confirmed in the cycle-specific reload safety evaluations.

- Impact of the lead test assemblies on the nuclear design has been evaluated. The standard reload methodologies can be used to model the lead test assemblies. The features of the lead test assemblies do not challenge the validity of the standard methodologies. The South Texas Project will use the standard reload methodologies for reloads containing the lead test assemblies. The lead test assemblies will not be placed in limiting core locations.

- Thermal-hydraulic, safety analysis evaluations of loss-of-coolant accident (LOCA) and non-LOCA transients will be performed for the lead test assemblies. These evaluations are to confirm that the lead test assemblies are bounded by the current analyses of record.

JUSTIFICATION OF EXEMPTION

10 CFR 50.12, "Specific exemptions," states that the Nuclear Regulatory Commission may grant exemptions from the requirements of this part provided three conditions are met:

- The exemption is authorized by law;
- The exemption will not present an undue risk to the health and safety of the public;
- The exemption is consistent with the common defense and security.

In addition, the Commission will not consider granting an exemption unless special circumstances are present.

The requested exemption to allow use of Optimized ZIRLO™ cladding material rather than Zircaloy or ZIRLO™ in the lead test assemblies satisfies these criteria as described below:

1. **This exemption is authorized by law.**

Selection of a specific cladding material in 10 CFR 50.46, and implied in 10 CFR 50.44 and 10 CFR 50 Appendix K, was at the discretion of the Commission consistent with its statutory authority. No statute required the NRC to adopt this specification. Additionally, the NRC has the authority under Section 50.12 to grant exemptions from the requirements of Part 50 with provision of proper justification. Furthermore, this request does not seek an exemption from the acceptance and analytical criteria of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50 Appendix K. The request is intended only to allow application of these regulations to Optimized ZIRLO™ cladding material.

2. **This exemption will not present an undue risk to public health and safety.**

The lead test assembly safety evaluation will ensure that these acceptance criteria are met following insertion of the assemblies containing Optimized ZIRLO™ material. Fuel assemblies using Optimized ZIRLO™ cladding will be evaluated using NRC-approved analytical methods and will address the changes in the cladding material properties. The safety analysis for the South Texas Project is supported by the applicable technical specifications. The South Texas Project reload cores containing Optimized ZIRLO™ cladding will continue to be operated in accordance with the operating limits specified in the technical specifications. Lead test assemblies using Optimized ZIRLO™ cladding will be placed in non-limiting core locations. Therefore, this exemption will not pose an undue risk to public health and safety.

3. **This exemption is consistent with common defense and security.**

The exemption request is only to allow application of regulatory requirements to a slightly different cladding material. Requirements and acceptance criteria will be maintained. Special nuclear material in these assemblies will continue to be handled and controlled in accordance with approved procedures. Use of the lead test assemblies in South Texas Project Units 1 and 2 will not affect plant operations and is consistent with maintaining the common defense and security.

SPECIAL CIRCUMSTANCES

10 CFR 50.12(a)(2) states that the NRC will not consider granting an exemption to the regulations unless special circumstances are present. The requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii) which states that, "Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." In this particular circumstance,

application of the subject regulations is not necessary to achieve the underlying purpose of the regulations.

The underlying purpose of 10 CFR 50.44 is to ensure that there is an adequate means of controlling generated hydrogen. The hydrogen produced in a post-LOCA scenario comes from a reaction between water and zirconium. Tests performed by Westinghouse on the Optimized ZIRLO™ have demonstrated that reducing the tin content has an [ ] [a, c] versus current ZIRLO™. Therefore, using Optimized ZIRLO™ will have no significant effect on current assessments of hydrogen gas production.

10 CFR 50.46 identifies acceptance criteria for ECCS performance at nuclear power plants. Due to similarities in the material properties of the Optimized ZIRLO™ and current ZIRLO™, the current ECCS analysis approach remains applicable and unchanged. Westinghouse will perform a LOCA evaluation of the South Texas Project lead test assemblies using existing LOCA methods prior to implementation to ensure the assemblies are bounded by the current analysis of record. Therefore, the conclusion is that the ECCS performance of the South Texas Project will not be affected by insertion of eight Optimized ZIRLO™ lead test assemblies.

10 CFR 50, Appendix K, paragraph 1.A.5 applies an equation of rates of energy release, hydrogen generation, and cladding oxidation from a metal-water reaction that conservatively bounds all post-LOCA scenarios. Application of the Baker-Just equation has been demonstrated to be appropriate for the Optimized ZIRLO™ alloy.

CONCLUSION

10 CFR 50.44 references analysis for water-metal reactions relate back to the use of the Baker-Just equation which assumes use of a zirconium alloy different than the Optimized ZIRLO™ used in Lead Test Assemblies. 10 CFR 50.46 only applies to use of fuel rods clad with Zircaloy or ZIRLO™. 10 CFR 50.46 does not apply to use of the proposed Optimized ZIRLO™ lead test assemblies because composition of tin in these fuel rods will be nominally [ ] [a, c] which is below the lower bound of the licensing basis for ZIRLO™ (i.e., 0.80%) as defined in WCAP-12610-P-A. In addition, paragraph I.A.5 of 10 CFR 50 Appendix K, "ECCS Evaluation Models," references an analysis utilizing the Baker-Just equation which assumes use of a zirconium alloy different from the Optimized ZIRLO™ used in the lead test assemblies.

In order to support optimization of the ZIRLO™ material with regard to improved corrosion resistance, an exemption from the requirements of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR 50, Appendix K is requested. As required by 10 CFR 50.12, the requested exemption is authorized by law, does not present undue risk to public health and safety, and is consistent with common defense and security. Approval of this exemption request does not violate the

underlying purpose of the rule. Special circumstances do exist to justify the approval of an exemption from the subject requirements.

REFERENCES

1) Davidson, S.L. and Nuhfer, D.L. (Eds.), "Vantage+ Fuel Assembly Reference Core Report," WCAP-12610-P-A, April 1995.

2) Letter from Mr. J. B. Hickman (NRC) to Mr. O. D. Kingsley (President, Nuclear Generation Group, Commonwealth Edison Company), "Issuance of Exemption from the Requirements of 10 CFR 50.44, 10 CFR 50.46, and 10 CFR Part 50, Appendix K - Byron Station, Units 1 and 2 (TAC Nos. MA3930 and MA3931)," February 26, 1999.