

Nuclear Information and Resource Service

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EMERGENCY ADDENDA TO NIRS'

PETITION FOR EMERGENCY ENFORCEMENT ACTION

OF JULY 21, 1992

AND ADDENDA TO THE ORIGINAL PETITION

BASED ON NEW INFORMATION

I. BACKGROUND

On July 21, 1992, the Nuclear Information and Resource Service (NIRS), Alliance for Affordable Energy, and Citizens Organized to Protect our Parish filed a petition, requesting emergency enforcement action, with the Nuclear Regulatory Commission (NRC) staff under provisions of 10 C.F.R. 2.206. Specifically, NIRS requested a suspension of Gulf States Utilities' (GSU) operating license for its River Bend reactor based on its use of a fire barrier material called "Thermo-Lag." Repeated testing of both the material as installed and retrofit configurations have conclusively demonstrated that this material, at River Bend, does not work, and does not meet the requirements of 10 C.F.R. 50.48(a), 10 C.F.R. 50 Appendix A and Appendix R. Thus, River Bend is in violation of NRC regulations.

The clear and present danger caused by GSU's failure to meet essential NRC safety regulations requires a suspension of the license until GSU removes and replaces its Thermo-Lag with a new fire barrier that can meet NRC's requirements.

In addition, NIRS requested that the NRC staff immediately issue Generic Letter 92-xx, February 11, 1992, which would institute a program of independent testing of Thermo-Lag fire barriers at every reactor which uses the material. Where such testing fails to prove that Thermo-Lag meets regulatory requirements, and thus leaves reactors in violation of NRC fire protection regulations, NIRS requested that those reactors be immediately shut down until such time as effective fire barriers are in place.

NIRS included in its petition a lengthy discourse on the history of the failures of Thermo-Lag as installed, and of the NRC's own acknowledgement of the tremendous risk posed by fires in most

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dedicated to a sound non-nuclear energy policy.



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reactors' overall core meltdown risk.

Because of the urgent nature of this problem, NIRS requested a response from the NRC staff by August 5, 1992.

II. NRC RESPONSE AND NIRS' REPLY FOR ADDITIONAL ACTION

As of August 10, 1992, the NRC staff has not responded to NIRS' petition of July 21, 1992. We must assume that the NRC staff is still considering its response to this petition.

River Bend has been in an extended maintenance/repair outage, which began in March 1992. It would be illogical for the NRC staff to seek more time in which to render a decision on our petition, but still allow River Bend to restart. This would, in effect, be a negative decision on our petition.

To the best of our knowledge, GSU intends to restart River Bend on or about August 15, 1992. By allowing restart, the NRC staff would, in effect, be denying our petition. If this is the case, NRC staff should say so, and we will appeal that decision. There is no rationale, other than subterfuge, for NRC staff to claim to be both considering our petition and to allow River Bend to restart.

It would be impossible for GSU to remove and replace its Thermo-Lag while in an operational mode. And it makes no sense whatsoever to allow River Bend to restart, only to cause it to close and enter another outage three weeks later to replace its Thermo-Lag. Indeed, our petition was timed to ensure that River Bend would not restart, and that the necessary modifications could be made while River Bend was already in a maintenance outage.

It has been more than five years since the problems with Thermo-Lag at River Bend were first confirmed by GSU. Five years of fire watches, violation of NRC fire protection regulations, and inadequate protection of the public. We repeat our insistence that River Bend not be allowed to restart until its Thermo-Lag is removed and replaced. And under no conditions can River Bend be allowed to restart until the NRC staff has even made a decision on our petition. This would indicate dishonesty and deception of the highest order, and can only be viewed as arbitrary and capricious.

In the case of issuance of Generic Letter 92-xx (February 11, 1992), we must admit some puzzlement over why the NRC cannot go ahead and send this letter to the nation's utilities. After all, the letter was written more than six months ago, and intervening events--including several tests of Thermo-Lag in various configurations--have only added to the sense of urgency to resolve this outstanding safety problem. In short, Thermo-Lag has continued to fail independent tests while the NRC has not to this date produced any acceptable fire tests of Thermo-Lag, and the NRC staff refuses to act to protect the public's health and safety. However, we will wait 30 more days before pursuing further action to bring



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about independent testing at most utilities.

We continue to believe that the NRC staff wishes to do the right thing, and grant our petition. Thus, we are not at this time submitting an appeal to the NRC Commissioners.

III. ADDENDA TO NIRS PETITION OF JULY 21, 1992

Substantial new information has come to NIRS' attention since the filing of our 10 C.F.R. 2.206 petition on July 21, 1992. This new information has caused us to modify our petition as follows. A number of co-petitioners are joining NIRS in this addenda. A description of the co-petitioners appears in section IV.

1. The NRC staff must issue an immediate "stop-work" order to Texas Utilities regarding Thermo-Lag installation at Comanche Peak Unit-2 and a suspension of the operating license of Comanche Peak Unit-1.

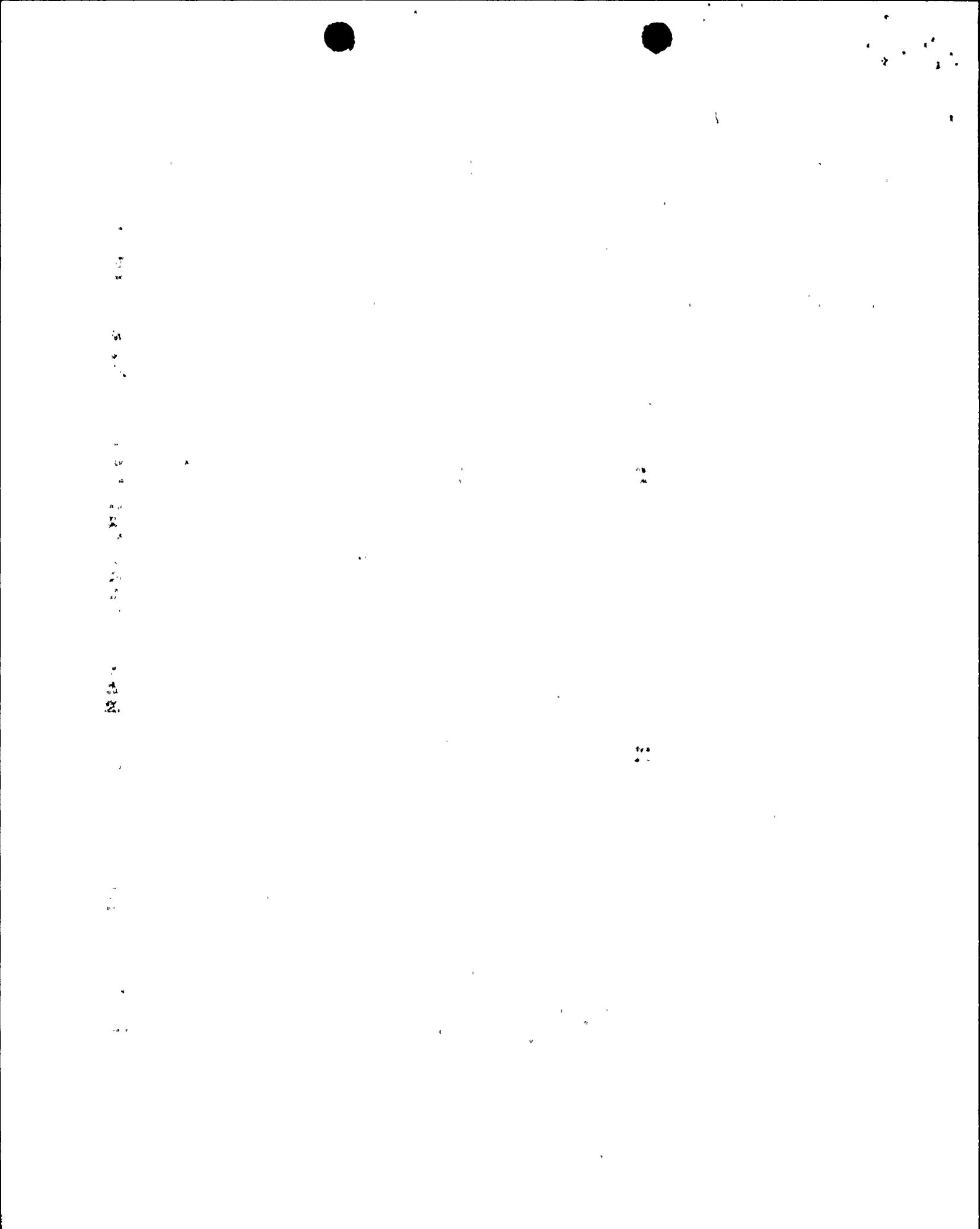
Despite the ongoing controversy over the use of Thermo-Lag, and the results of failed tests of Thermo-Lag in configurations used at Comanche Peak Unit-1, as documented in NRC Bulletin 92-01, June 24, 1992 (Failure of Thermo-Lag 330 Fire Barrier System To Maintain Cabling In Wide Cable Trays and Small Conduits Free From Fire Damage), our sources indicate that as many as 54 utility, contractor, and/or subcontractor personnel continue to install Thermo-Lag at Comanche Peak Unit-2.

Moreover, the NRC staff, on or about August 1, 1992, issued an extension of the construction permit for Comanche Peak Unit-2, despite its awareness of the problems of Thermo-Lag and of NIRS' petition for issuance of Generic Letter 92-xx (February 11, 1992) which calls into serious question the adequacy of Thermo-Lag as a fire barrier material. In addition, even with the "enhanced test configurations" used for the Comanche Peak tests, Thermo-Lag failed hose stream test requirements.

The NRC staff cannot seriously have considered justifying a finding of "no significant impact" to allow issuance of this extension of the construction permit. In fact, on August 1, 1992, the NRC staff was aware that Thermo-Lag, particularly in its configuration at Comanche Peak, does not meet NRC fire protection requirements.

Indeed, the NRC staff used color photographs of failed tests of Thermo-Lag, in Comanche Peak's configuration, at a July 7, 1992 meeting between NRC and NUMARC (Nuclear Utilities and Management Resources Council) to emphasize staff's determination to take decisive action on Thermo-Lag.

Why, then, would NRC allow extension of Comanche Peak Unit-2's construction permit, in full knowledge that Texas Utilities is continuing to install Thermo-Lag, which, through testing, is known to be clearly in violation of the NRC's fire protection



regulations?

We respectfully request that the NRC staff issue an immediate "stop-work" order regarding continued installation of Thermo-Lag at Comanche Peak Unit-2. Although it is not this petition's intent to stop all construction at Comanche Peak, if, under the provisions of 10 C.F.R. 2.206, we may only seek a full suspension of the construction permit, then we hereby request such a suspension until all Thermo-Lag is removed and replaced with a tested, effective fire barrier material.

In addition, based on the test results documented in NRC Bulletin 92-01, June 24, 1992, we request an immediate suspension of the operating license of Comanche Peak Unit-1, until such time as its Thermo-Lag fire barrier material has been removed and replaced with a tested, effective fire barrier.

We add that fire protection and Thermo-Lag problems are nothing new at Comanche Peak. The first independent testing of Thermo-Lag was performed for Comanche Peak in 1981--a test which Thermo-Lag failed. In early 1990, Texas Utilities was cited by the NRC for a 1989 incident in which a quality control inspector filed a non-conformance report indicating that Thermo-Lag at Comanche Peak did not meet thickness specifications. The subsequent harrassment of this inspector "may have had a chilling effect on other licensee or contractor personnel," according to a January 31, 1990 letter from NRC official C.I. Grimes to W.J. Cahill, Jr., executive vice president of Texas Utilities.

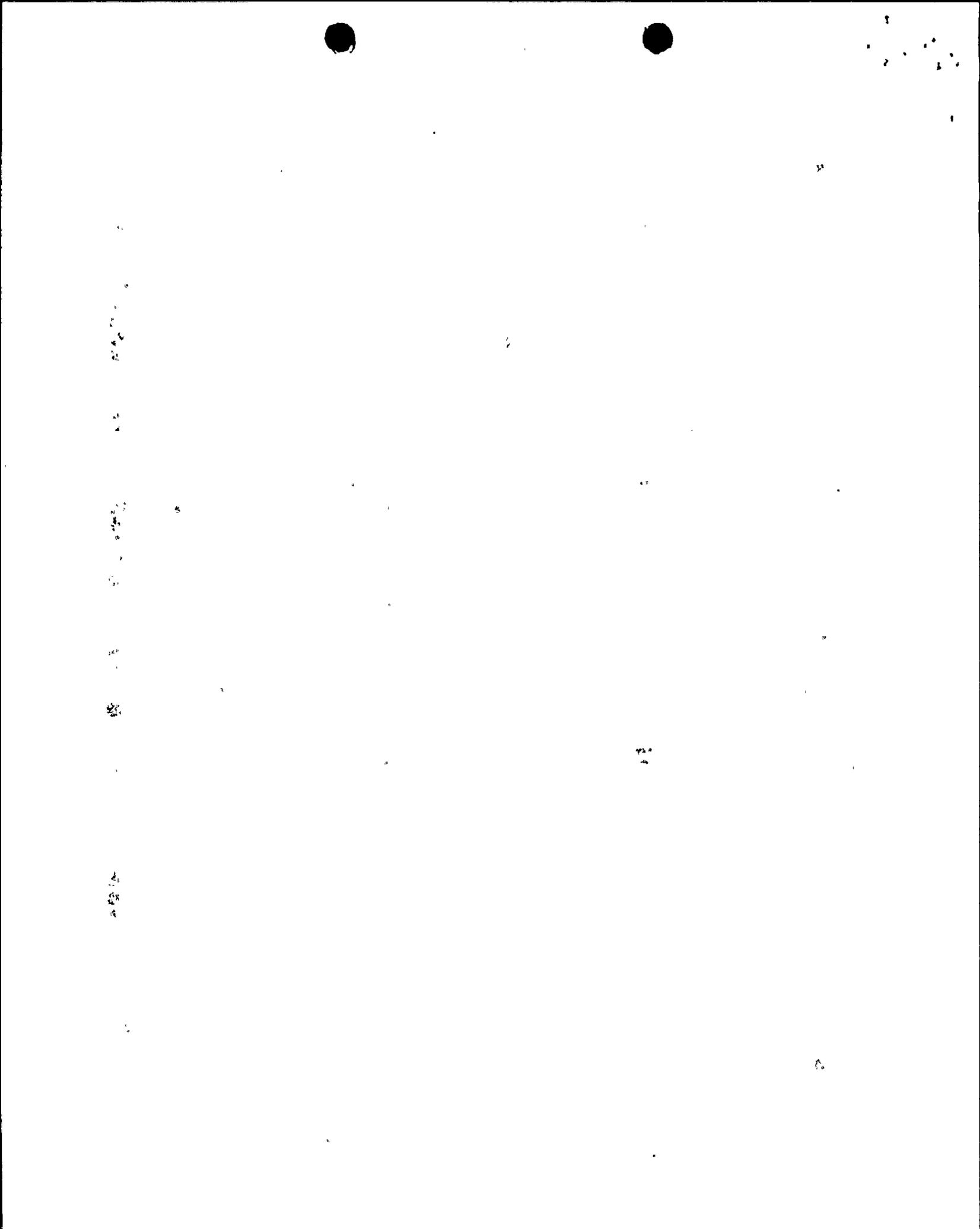
The inadequacy of the "temporary" fire watches espoused by the NRC as its answer to declaring Thermo-Lag "inoperable" (on June 24, 1992) can also be readily seen at Comanche Peak. On March 28, 1991, a \$50,000 fine was proposed for Texas Utilities for the "widespread falsification" of fire watch records, "involving 26 individuals directly or indirectly." In other words, utility personnel were claiming to have performed fire watches, but did not do so.

2. The NRC must issue immediate suspensions of the operating licenses of Shearon Harris, Fermi-2, Ginna, WPPSS-2, and Robinson.

On July 27, 1992, six days after the filing of NIRS' initial petition, the NRC issued Information Notice 92-55 (Current Fire Endurance Test Results for Thermo-Lag Barrier Material). This notice documented new NRC testing of Thermo-Lag, in a firewall configuration.

According to this notice, to achieve a "passing" grade the Thermo-Lag fire barrier would have had to keep temperatures on the unexposed site to 250 degrees Fahrenheit above ambient in both a one-hour and a three-hour test mode.

However, according to these NRC-sponsored tests, in the one-hour



test, temperatures on the unexposed side (i.e. the "protected" side) reached not 250 degrees above ambient (approximately 325 degrees), but 1716 degrees Fahrenheit, within 45 minutes. In fact, the Thermo-Lag itself caught on fire, and added heat to the furnace in which the material was being tested. Average temperatures reached 1206 degrees, the panels burned completely through in two locations, and 85% of the unexposed surface was blackened.

For the three-hour test, the Thermo-Lag on the unexposed side reached "only" 432 degrees, with an average temperature of 403 degrees. This, too, indicates a failure of the Thermo-Lag to meet regulatory requirements, although apparently there was no evident electrical cable damage. However, NIRS has learned that the NRC's test itself was faulty, in that the NRC did not remove certain edge sections of the stress skin, as would be done under normal installation, before conducting this test. Removal of these sections likely would have resulted in a greater failure of this test.

Further, we note that the Thermo-Lag material tested by the NRC varied greatly in its thickness. According to specifications, the three-hour Thermo-Lag fire barrier material is one-inch thick. Yet the three-hour material tested by the NRC varied from 1.09 to 1.56 inches thick--or up to more than 50% thicker (and, presumably, more effective) than the specified installation. The one-hour (half-inch) material varied from 0.54 to 0.72 inches. This indicates either an appalling lack of quality control (with the company unable to provide even the NRC with material with a precision within a half-inch on a one-inch specification) or a desire to present the best face possible for these tests.

The combination of the failure to remove certain edge sections of the stress skin and the tremendous variability of the size of the Thermo-Lag tested brings into grave question the adequacy of these NRC-sponsored tests, particularly the three-hour test. Indeed, this test must be considered faulty, and must be re-done. There is absolutely no reason to believe, based on this test, that the three-hour firewall configuration of Thermo-Lag is any more effective than the clearly-failed one-hour configuration.

It is NIRS' understanding that five reactors--Shearon Harris, Fermi-2, Ginna, WPPSS-2 and Robinson--now use Thermo-Lag in a firewall configuration. Other than the NRC's tests described above, in which Thermo-Lag failed miserably or in which the test results were so skewed as to be meaningless, there is no independent testing that would demonstrate that Thermo-Lag in a firewall configuration meets NRC fire protection requirements.

As a result of this July 27, 1992 Information Notice, NRC cannot make a finding that these four reactors are in compliance with NRC regulations. Indeed, every indication is that these plants are seriously out of compliance with regulations and present a clear



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hazard to the public's health and safety.

We remind the NRC that its own reactor safety documents, particularly NUREG-1150 (Severe Accident Risks: An Assessment for Five U.S. Nuclear Power Plants, December 1990) conclude that fires represent a major initiator of core meltdowns. Because risk is measured as a function of probability times consequences, every plant which operates in violation of fire protection requirements increases risk to the American public.

In this case, the risk is clear: the only independent tests on the firewall configuration of Thermo-Lag demonstrate that not only is this material ineffective as a fire barrier, it could actually increase damages from a fire by catching fire itself. Because the above-mentioned reactors use this configuration, we respectfully request that their licenses be suspended until an effective and tested fire barrier is in place.

As we noted in our initial petition, fire watches are a wholly inadequate substitute for fire barriers. At best, they are a temporary response for those plants for which adequate testing of Thermo-Lag has not yet been accomplished. In the case of the plants listed above, testing has demonstrated non-compliance with regulations and replacement of the Thermo-Lag fire barriers must be undertaken to meet the regulation. Fire watches cannot possibly provide the required one-hour and three-hour fire barrier requirement and are thus acceptable only as a temporary measure while the plants are shut down to replace the Thermo-Lag. Further, as noted in the Comanche Peak case above as well as at various reactors in New England over the past 18 months, there is a demonstrated history of missed fire watches, falsification of documents, and a general utility attitude of not taking fire watches seriously that further undermines the credibility of this "solution."

IV. DESCRIPTION OF PETITIONERS

The Nuclear Information and Resource Service (NIRS), lead petitioner, is as described in our original petition of July 21, 1992.

Citizens for Fair Utility Regulation (CFUR) is an unincorporated group of individuals residing in Texas, including Tarrant, Hood and Somervell counties. Several members reside within a few miles of the Comanche Peak nuclear power plant. CFUR was organized in 1976 and is funded by voluntary donations. It has a mailing list of over 350 supporters, a governing board of seven members, with board meetings monthly which are open to all members as well as the public. CFUR was an intervenor in the licensing hearings on Comanche Peak from 1979 until 1982 and has intervened before the Texas Public Utility Commission.

Don't Waste New York (DWNY) is a statewide organization composed



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of more than 4,000 members concerned about nuclear power and radioactive waste. Several members live within a few miles of the Ginna reactor.

Citizens Against Radioactive Dumping is a 501(c)(4) non-profit organization with a membership located primarily in Cortland County, New York. Its several hundred members are concerned with all nuclear reactors and radioactive waste generation in New York State.

The Coalition for Alternatives to Shearon Harris (CASH) is a 501(c)(4) organization founded in 1986 to express widespread citizen opposition to construction and operation of the Shearon Harris nuclear power plant. CASH set up chapters in Chatham, Orange, Durham, Harnett, Lee, and Wake counties.

For more than twenty years, the Conservation Council of North Carolina has lobbied the North Carolina and federal legislatures on a variety of environmental issues. The Council is a 501(c)(4) organization with members across the state of North Carolina.

The Safe Energy Coalition of Michigan (SECOM) is a non-profit grassroots group based in southeastern Michigan. Since 1977, SECOM has advocated the use of safe energy technology and the termination of nuclear power. The coalition has lobbied the Michigan Public Service Commission for fair rate structures on behalf of ratepayers, and appeared before the NRC Commissioners in 1985 in opposition to the full-power license for Fermi-2.

Member of Parliament Steven Langdon (Essex-Windsor, Ontario) has been a member of the Canadian Parliament for eight years and sits on the House of Parliament Finance Committee. He represents Canadian citizens within 12 kilometers of the Fermi-2 reactor.

Essex County Citizens Against Fermi-2 (ECCAF) was formed in 1987 after a merger of a citizens group in Amherstburg, Ontario and the Downwinders Alliance. ECCAF has organized petition drives, community events and participated in Fermi evacuation and safety hearings on behalf of Essex County, Ontario residents.

The Natural Guard is a South Carolina-based environmental foundation that provides resources for the peace, justice, and environmental movement in South Carolina. Founded in 1978, the Natural Guard does not have membership, but joins the work of any individual working to nonviolently defend the Earth and its inhabitants from exploitation.

Northwest Environmental Advocates (NWEA) is a regional nonprofit environmental organization which has been working since 1969 to restore the environmental quality of the Columbia River Basin. Originally the Coalition for Safe Power, the organization changed its name in 1987. NWEA has 4,000 supporters in the Pacific

Northwest, with members who reside within 50 miles of WPPSS-2. Since its inception, NWEA has been working to inform the public of the risks posed to human health and the environment from nuclear facilities, including the Trojan reactor, WPPSS-2, the Hanford nuclear weapons complex, and proposed nuclear reactors throughout Oregon and Washington.

V. RELIEF REQUESTED

Under the provisions of 10 C.F.R. 2.206, NIRS, and co-petitioners, request that:

1. A stop-work order on installation of Thermo-Lag, or, if necessary, a suspension of the construction permit, be issued for Texas Utilities' Comanche Peak Unit-2.
2. The operating licenses of Texas Utilities' Comanche Peak Unit-1, Carolina Power & Light's Shearon Harris and Robinson reactors, Detroit Edison's Fermi-2 reactor, Washington Public Power Supply System's WPPSS-2 reactor, and Rochester Gas & Electric's Ginna reactor be immediately suspended until such time as effective and tested fire barriers are in place.
3. Gulf States Utilities' River Bend reactor must not be allowed to restart pending an NRC staff decision on NIRS' petition of July 21, 1992. We repeat our request that River Bend's license be suspended until a tested and effective fire barrier is in place.
4. Generic Letter 92-xx (February 11, 1992) must be issued in a timely fashion. We request that this letter be issued before September 5, 1992.

Respectfully submitted,



Michael Mariotte
Executive Director
Nuclear Information and Resource Service
August 12, 1992