[Notice 95–009]

Intent To Grant a Partially Exclusive Patent License

AGENCY: National Aeronautics and Space Administration.

ACTION: Notice of Intent to Grant a Patent License.

SUMMARY: NASA hereby gives notice of intent to grant Veatronics Corporation of Charlotte, North Carolina, 28205, a partially exclusive license to practice the invention protected by U.S. Patent Application No. 08/323,943 entitled, PASSIVE FETAL HEART RATE MONITORING APPARATUS AND METHOD WITH ENHANCED FETAL HEART BEAT DISCRIMINATION'' which was filed on October 13, 1994, by the United States of America as represented by the Administrator of the National Aeronautics and Space Administration. The partially exclusive license will contain appropriate terms and conditions to be negotiated in accordance with NASA Patent Licensing Regulations (14 CFR part 1245). NASA will negotiate the final terms and conditions and grant the license unless, within 60 days of the date of this notice, the Director of Patent Licensing receives written objections to the grant, together with supporting documentation. The Director of Patent Licensing will review all written responses to this notice and then recommend to the Associate General Counsel (Intellectual Property) whether to grant the license.

DATES: Comments to the notice must be received by March 31, 1995.

ADDRESSES: National Aeronautics and Space Administration, Code GP, Washington, DC 20546.

FOR FURTHER INFORMATION CONTACT: Mr. Harry Lupuloff, NASA, Director of Patent Licensing, (202) 358–2041.

Dated: January 20, 1995.

Edward A. Frankle,

General Counsel.

[FR Doc. 95–2224 Filed 1–27–95; 8:45 am]

BILLING CODE 7510–01–M

NUCLEAR REGULATORY COMMISSION

Proposed Generic Communication Supplement 5 to Generic Letter 88–20, ''Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities''

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of opportunity for public comment.

SUMMARY: The Nuclear Regulatory Commission (NRC) is proposing to issue Supplement 5 to Generic Letter 88–20, ''Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities.'' This draft generic letter supplement (1) notifies addressees about proposed modifications in the seismic IPEEE scope for the focused-scope and full-scope plants and (2) provides guidance to licensees who wish to voluntarily modify their previously committed seismic IPEEE programs. NRC is seeking comment from interested parties regarding both the technical and regulatory aspects of this proposed generic letter supplement, which is presented under the Supplementary Information heading. This proposed generic letter supplement and supporting documentation were discussed in meeting number 267 of the Committee to Review Generic Requirements (CRGR) on December 13, 1994. The relevant information that was sent to CRGR to support their review of the proposed generic letter is available in the Public Document Rooms under accession number 9412290183. NRC will consider comments received from interested parties in the final evaluation of the proposed generic letter supplement. The final evaluation by NRC will include a review of the technical position and, when appropriate, an analysis of the value/impact on licensees. Should this generic letter supplement be issued by NRC, it will become available for public inspection in the Public Document Rooms.

DATES: Comment period expires March 1, 1995. Comments submitted after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except for comments received on or before this date.

ADDRESSES: Submit written comments to Chief, Rules Review and Directives Branch, U.S. Nuclear Regulatory Commission, Washington, DC 20555. Written comments may also be delivered to 11545 Rockville Pike, Rockville, Maryland, from 7:30 am to 4:15 pm, Federal workdays. Copies of written comments received may be examined at the NRC Public Document Room, 2120 L Street, NW. (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: John T. Chen, (301) 415–6549.

SUPPLEMENTARY INFORMATION:

NRC Generic Letter 88–20, Supplement 5: Individual Plant Examination of External Events for Severe Accident Vulnerabilities

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this generic letter to (1) notify addressees about proposed modifications in the recommended scope of seismic reviews which are performed as part of an individual plant examination of external events (IPEEEs) for the focused-scope and full-scope plants and (2) give guidance to licensees who wish to voluntarily modify their previously committed seismic IPEEE programs.

Background

On June 28, 1991, NRC issued Generic Letter 88–20, Supplement 4, ''Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities,'' (Reference 1), and NUREG–1407F, ''Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities: Final Report,'' (Reference 2). The generic letter requested all licensees to perform an IPEEE to find plant-specific vulnerabilities to severe accidents caused by external events and report the results to NRC. Section 4.1 of Reference 1 and Chapter 3 of Reference 2 address the seismic portion of the IPEEE. The lists of review level earthquakes (RLEs) and review scope defined by the staff for all U.S. sites are presented in Appendix 3 of Reference 1. Plants in the central and eastern U.S. have been assigned to appropriate review categories (plant bins) primarily according to comparison of available seismic hazard results. The hazard results used in the binning process included those published in 1989 by Lawrence Livermore National Laboratory (LLNL) (Reference 3) and the Electric Power Research Institute (EPRI) (Reference 4). NRC established relative groups because of the large inherent uncertainties in the probabilistic estimation of seismic hazard (Appendix A to Reference 2). Using this approach, the staff compared the relative seismic hazard of the 69 central and eastern U.S. plant sites, and assigned each plant into one of four categories for the seismic margins method (Reduced-Scope, 0.3g Focused-Scope, 0.3g Full-Scope, and 0.5g bin). Two plants in the 0.5g bin

have committed to perform a seismic probabilistic risk assessment and have performed that assessment.

Description of Circumstances

In 1994, based on a re-elicitation of LLNL ground-motion and seismicity experts, the staff published revised seismic hazard results in NUREG–1488 (Reference 5). The new LLNL mean hazard estimates are lower than the 1989 LLNL results but higher than the EPRI estimates. The Nuclear Energy Institute (NEI), based on these revised hazard estimates, advocated that most focused-scope plants should instead perform reduced-scope studies as part of the seismic IPEEE (Reference 6). NEI also stated that each licensee is responsible for proposing the most cost-effective program to satisfy the seismic IPEEE request consistent with the level of seismic hazard at the specific site. Seven licensees have already informed NRC of their intent to revise their IPEEE commitments.

These developments prompted NRC to revisit systematically the seismic IPEEE program rather than dealing with each licensee individually. The staff stated its intent, to review LLNL's revised seismic hazard estimates and to determine if it is appropriate to revise the seismic IPEEE scope, in Information Notice 94–32, ''Revised Seismic Hazard Estimate,'' (Reference 7). The staff also stated in Reference 7 that licensees who have not completed the seismic portion of the IPEEE may continue with their program and submit their completed IPEEE based on References 1 and 2.

NRC contracted Energy Research, Inc. (ERI) to do the seismic revisit study to determine whether consideration of the new LLNL seismic hazard estimates (1) would significantly change the original binning results, and (2) warranted adjusting the seismic scope and guidelines of the seismic IPEEE review. The latter effort would also require a determination of how the scope should be modified and the technical justification for such modifications. ERI completed the study and submitted two reports in September 1994 (References 8 and 9). The staff held a public workshop on October 21 to discuss these reports, present a peer review group's comments, determine issues to be addressed, and solicit public input for developing the staff position on the seismic scope modification. The transcript of the workshop is available in Reference 10.

Discussion

The staff evaluated the ERI re-assessment reports, the peer review group's comments, the NEI white paper (Reference 6), and comments received at and after the workshop. The staff concludes that the scope of the seismic IPEEE can be modified for all focused-scope and full-scope plants, by eliminating the need to calculate the capacity of certain generally rugged components or certain site effects that would not be significant sources or contributors to seismic severe-accident risk or would not result in cost-beneficial improvements. The justification for this reduction in the seismic review scope is that the perceived seismic hazard estimates and associated risks have decreased. However, the examination process for the modified seismic IPEEE remains the same process described in Supplement 4 to Generic Letter 88–20 and NUREG–1407. The most significant comments and concerns with respect to reducing the scope of the IPEEE seismic review which were raised at and after the workshop and the associated resolutions are summarized in Attachment 1.

However, certain utilities represented at the public workshop expressed concern that GL 88–20, Supplement 4, and guidance in NUREG–1407 could be interpreted as precluding the use of the expert judgement or the use of the most efficient approach to do the seismic portion of IPEEE. For instance, certain utilities interpreted NUREG–1407 to require a minimum number of margin capacity calculations (i.e., high confidence of low probability of failure). The NRC staff wants to reemphasize that the guidance in the generic letter or NUREG–1407 does not preclude the use of well-based expert judgement and efficient approaches to minimize the effort to do an IPEEE. In GL 88–20, the staff stated:

> ''The application of the above approaches involves considerable judgment with regards to the requested scope and depth of the study, level of analytical sophistication, and level of effort to be expended.''

The detailed guidelines presented in NUREG–1407 do not preclude use of this type of judgment. The use of judgment is further recognized in NUREG–1407 in connection with the importance of the peer review. Discussions at the workshop indicated that some utilities did use such judgment, within the framework of the current guidance as discussed, to reduce the cost of an IPEEE.

Modified Scope of Seismic Examination

The methods originally described and guidelines described in NUREG–1407 fulfill Supplement 4 to GL 88–20. However, the results of the revised LLNL seismic estimates, indicate that the perceived seismic risk has been reduced for most plant sites in the central and eastern U.S. Accordingly, NRC proposed reducing the scope of the seismic IPEEE programs for licensees of the focused-scope and full-scope plants. The proposed scope change follows.

(1) Focused-Scope Plants

The seismic capacities for reactor internals and soil-related failures need not be evaluated for the seismic IPEEE (Attachment 1). Modifying the seismic IPEEE for focused-scope plants in this manner will make these evaluations equivalent to those for the reduced-scope plants, with additional evaluations of a few known weaker, but critical, components or items.

(2) Full-Scope Plants

The seismic IPEEE need not include an evaluation of seismic capacities for reactor internals. Soil-related failures should still be evaluated, but only for safety-related supporting systems and equipment that are founded on soil such that their function might be affected by liquefaction or general instability of the soil. The licensee may also need to evaluate the potential for such postulated soil failures or the consequences resulting from them. Reference 11 contains guidance for such evaluations; a review of appropriate design and construction records is adequate.

The staff is aware of recent observations of cracks associated with reactor internals at some plants. The issue is not yet resolved and is being evaluated separately both as an operating issue (i.e., within design basis) (Ref. 12) and with respect to severe accident implications (i.e., beyond design basis) (Ref. 13), therefore, eliminating this item will not detract from the IPEEE. The remaining scope is the same as that outlined in Supplement 4 to GL 88–20 and NUREG–1407. The staff reviewed discussions at the workshop and other information and has taken the position that using appropriate judgment as allowed in the generic letter and NUREG–1407 and eliminating detailed evaluations for soil-related failures and reactor internals that may not lead to cost beneficial improvements will maintain the integrity of the IPEEE process while reducing cost. However, a careful and thorough seismic walkdown remains the key element to examining seismic vulnerability regardless of the category assigned the plant.

Requested Information

Licensees of focused-scope and full-scope plants who voluntarily choose to

do seismic IPEEEs using the modified procedures described above must inform NRC in writing of their intent to do so. If the revised submittal schedule differs from previously committed schedules, then the new proposed schedule must be included in the response. NRC will schedule meetings with the licensee, if requested, during the examinations to discuss subjects raised by licensees and to give necessary clarifications.

Licensees who do not modify their seismic IPEEEs are not expected to submit any response to this generic letter.

Required Response

Within 60 days from the date of this generic letter, all addressees who voluntarily choose to perform seismic IPEEEs using the modified procedures described above are required to submit a response containing the information requested above.

Address the required written reports to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555, under oath or affirmation under the provisions of Section 182a, Atomic Energy Act of 1954, as amended, and Section 50.54(f) of Title 10 of the Code of Federal Regulations (10 CFR 50.54(f)).

Backfit Discussion

This generic letter only requests information under the provisions of 10 CFR 50.54(f) from addressees who voluntarily choose to do seismic IPEEEs using the modified procedures described above. Therefore, the staff has not performed a backfit analysis. The information requested is needed to evaluate voluntary changes to the seismic portions of IPEEE in response to the information in this generic letter.

The evaluation required by 10 CFR 50.54(f) to justify this information request is included in the preceding discussion.

Attachments:

1. Comments and Resolution
2. References

Attachment 1—Comments and Resolution

All significant comments and concerns raised at and after the workshop, together with staff's response, are summarized below.

(1) *Candidates plant sites for seismic scope reduction:* The industry suggested that candidate sites should not be limited to focused-scope plants.

Response: In addition to modifying the scope for focused-scope plants, the staff also reduced the scope of review for full-scope plants by eliminating the evaluation of reactor internals.

(2) *Use of absolute hazard or risk criteria for rebinning or sub-binning candidate sites:* The comments indicated that the absolute risk criterion should play a significant role in the seismic rebinning.

Response: The staff considered absolute seismic hazard and risk criteria when it reconsidered seismic rebinning. However, the inherent uncertainty in the absolute number would affect decision making, in that small variations in the CDF threshold or in the approximately calculated CDFs of candidate plants would significantly affect the binning for many plants. No consensus was reached on the specific risk criterion that should be selected for the rebinning process. Therefore, the staff did not recommend using an absolute risk criterion when determining whether to reduce the seismic scope. However, licensees may use numerical values in determining which plant-specific improvements should be implemented.

(3) *Overall reduction of seismic scope for all candidate sites:* The suggested reduction as presented in the ERI report, with the exception of reactor internals, would not reduce the scope of seismic review.

Response: Past experience demonstrated that certain weaker components need to be retained in the IPEEE. Attachment 1 describes the rationale for retaining the evaluations of those critical components and items.

(4) *Role of the licensee's seismic review team (SRT):* Certain utilities expressed concern that the role of the licensee's SRT in decision making is not clear.

Response: Although the guidance in NUREG–1407 allows for the use of judgment and latitude in implementing the IPEEE program, certain utilities may not have used the most cost-efficient and expedient approach. The staff wants to emphasize that the SRT has an important role in determining how to implement the IPEEE program. The importance and flexibility of the SRT have been stated clearly in the IPEEE guidance.

(5) *Evaluation of the effects of soil-related failures:* No simple or cost-effective improvements may be available for plants.

Response: Although simple or cost-effective improvements may not be available for low seismic hazard sites to deal with the effects of soil-related failures, soil-related failures are still considered to be important for relatively high seismic hazard sites in the seismic IPEEE. Therefore, the staff concludes that the licensees of focused-scope plants may eliminate the evaluation of soil-related failures from their seismic IPEEE programs. However, the full-scope plants should continue evaluating the effects of soil-related failure, to gain insights from those evaluations. However, the evaluation effort should be focused only on safety-related supporting systems and equipment that are founded on soil such that their function might be affected by soil-related failures.

(6) *Cost savings:* The potential cost savings associated with eliminating certain evaluations described in the NEI white paper (Reference 6) are high.

Response: The experience gained at certain plants indicated that the potential cost savings are likely to be substantially lower than those presented in the NEI paper. Some of the savings cited by the utility personnel can be achieved without changing scope, since NUREG–1407 offers flexibility such as in eliminating detailed evaluation of reactor internals and using an alternate approach to bad actor [1] relay assessment.

(7) *Seismic capacity evaluation of reactor internals:* Should the evaluation of reactor internals be eliminated?

Response: The results of a few seismic PRAs indicated that un-cracked reactor internals are inherently rugged (having seismic capacities well beyond the requested earthquake review level of 0.3g) and do not contribute significantly to the core damage frequency. However, a significant effort is involved in calculating the fragility or capacity of the reactor internal components. On the basis of earlier study results (assuming un-cracked reactor internals) and the perceived reduction of seismic hazard estimates and associated seismic risk, the staff concluded that the cost of the evaluation outweighs the risk of the failure of reactor internal components and proposes to eliminate them from the examination. However, the staff is aware of recent observations of cracks associated with reactor internals at some plants. The issue is not yet resolved and is being evaluated separately both as an operating issue (i.e., within design basis) and with respect to severe accident implications (i.e., beyond design basis), therefore, eliminating this item will not detract from the IPEEE.

(8) *Generic seismic fragilities used in seismic rebinning:* The seismic rebinning on the basis of generic seismic fragilities, as was done in the ERI's

[1] ''Bad actor'' relays, as described in NUREG–1407, are those low-seismic-ruggedness relays identified by USI A–46 implementation.

study, would result in anomalous results.

Response: The staff concurs that seismic rebinning solely on the basis of generic seismic fragilities could result in anomalous results, since such items as the plant design basis and vintage of the plant might not be appropriately included. For instance, plants located at the same site were put in different bins (Salem and Hope Creek), and the plants in the New Madrid area were placed in the modified-scope bin. These observations contributed to the staff's decision to eliminate the use of an absolute risk criterion in the seismic scope modifications.

(9) *Information exchange through a workshop on lessons learned from IPEEE:* An information exchange workshop on IPEEE lessons learned to discuss the experience gained from practical or more efficient ways of carrying out the seismic IPEEEs (i.e., relay chatter issue) would benefit both industry and staff.

Response: The staff will consider such a workshop in the future.

(10) *Components and items needing evaluation and bases:* Certain evaluations of a few known weaker and critical components and items need to be retained in the seismic IPEEE program.

Response: Those components and items identified as needing evaluation and the bases for the retention are briefly described below:

(a) Relay Chatter Issue

While preparing the original guidance in NUREG–1407, the NRC staff developed its position on relay chatter issue after thoroughly discussing the issue with industry and evaluating the results of previous studies. The staff drastically reduced the scope of relay chatter evaluation, retaining only the identification of *bad actor* relays. Since these relays are of low capacity, their identification is considered minimum scope for the IPEEE review. The guidance does not preclude any efficient and expeditious means of identifying these relays.

(b) Masonry and Block Walls

Probabilistic risk assessments and margin studies have demonstrated that failure of masonry or block walls might be a significant safety concern in existing nuclear power plants. The earthquake experience database and analytical evaluations of seismic fragility demonstrate that masonry and block walls without proper reinforcements are vulnerable to earthquake motion. Although this type of construction would not be appropriate for use in the current design of nuclear power plants, it has been used in several plants. In evaluating these walls, more lenient criteria were used; thus, the available margins beyond the safe shutdown earthquake may not be comparable to those of other components of the plant. Therefore, in doing the seismic IPEEE review, the licensee needs to identify and evaluate masonry and block walls where they may affect safety components required for safe plant operation. The licensee would need to correct, if warranted, any situation that may present a significant threat to plant safety.

(c) Flat-Bottom Tanks

Earthquake experience data and analytical fragility evaluations have demonstrated that flat-bottom tanks with poor anchorage are vulnerable to earthquake ground motion. The typical failure mode of concern is the buckling at the base of the tank, which could cause the liquid contents to escape or cause the tank to collapse. If a flat-bottom tank fails, it could flood surrounding areas in the plant, in addition to the consequences of loss of function of the tanks. Past seismic studies of nuclear power plants have designated flat-bottom tanks as low-capacity components. Such components include the refueling water storage tank and the condensate storage tank, whose failures would often significantly affect plant safety. The identification and evaluation of flat-bottom tanks should, therefore, be included as a fundamental element of the seismic IPEEE review to correct, if warranted, any situation that may threaten plant safety.

(d) Other Items

The licensee would also need to consider several other items that pertain to inadequate anchorage and bracing, adverse physical interactions, building impact, or pounding. These items include the weaker components of the diesel generators or pumps. However, the licensee's seismic review team should determine whether seismic capacities of those components need to be evaluated in the seismic review.

Attachment 2—References

[1] U.S. Nuclear Regulatory Commission, Generic Letter 88–20, Supplement No. 4, ''Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities—10 CFR 50.54(f),'' June 1991.

[2] NRC, NUREG–1407, ''Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities,'' Final Report, June 1991.

[3] NRC, NUREG/CR–5250, ''Seismic Hazard Characterization of 69 Nuclear Power Plant Sites East of the Rocky Mountains,'' January 1989.

[4] Electric Power Research Institute (EPRI), NP–6395–D, ''Probabilistic Seismic Hazard Evaluation at Nuclear Plant Sites in the Central and Eastern United States: Resolution of the Charleston Issue,'' April 1989.

[5] NRC, NUREG–1488, ''Revised Livermore Seismic Hazard Estimates for 69 Nuclear Power Plant Sites East of the Rocky Mountains,'' April 1994.

[6] Letter from W. Rasin (NEI) to A. Thadani (NRC), ''NEI White Paper, 'Justification for Reduction in IPEEE Program Based on Revised LLNL Seismic Hazard Results,' '' April 5, 1994.

[7] NRC IN 94–32, ''Revised Seismic Hazard Estimate,'' April 29, 1994.

[8] Energy Research, Inc. (ERI) Report (ERI/NRC 94–502), ''A Proposed Approach to Seismic Scope Re-assessment for Individual Plant Examination of External Events (IPEEE),'' Final Draft, September 1994

[9] ERI/NRC 94–504, ''Approaches for Proposed Modifications of Seismic IPEEE Guidelines for Focused-Scope Plants'', Final Draft, September 1994.

[10] NRC Transcript, ''Workshop in Seismic IPEEE Revisit,'' October 21, 1994.

[11] EPRI NP–6041, ''A Methodology for Assessment of Nuclear Power Plant Seismic Margin,'' October 1988.

[12] NRC Generic Letter 94–03, ''Intergranular stress Corrosion Cracking of Core Shrouds in BWR Reactors,'' July 25, 1994.

[13] NRC memorandum from W. Russell to E. Beckjord, ''NRR User Need Request for Support of Resolving Problem of Stress Corrosion of Reactor Vessel Internal Components,'' December 2, 1994.

Dated at Rockville, Maryland, this 20th day of January 1995.

For the Nuclear Regulatory Commission.

Brian K. Grimes,

Director, Division of Project Support, Office of Nuclear Reactor Regulation.

[FR Doc. 95–2168 Filed 1–27–95; 8:45 am]

BILLING CODE 7590–01–P

Nominations for Medical Visiting Fellow Program

AGENCY: Nuclear Regulatory Commission.

ACTION: Call for nominations.

SUMMARY: The Nuclear Regulatory Commission is re-opening the invitation period for nominations of physicians, having expert qualifications in the medical specialty field of Radiation Oncology (Therapy), to apply for positions as Medical Visiting Fellows (Fellows). Others having expert qualifications in related fields such as Therapeutic Radiological Physics are also invited to apply. NRC noticed an