EPRI
Electric Power
Research Institute

Powering Progress through Innovative Solutions

May 9, 1996

Mr. James M. Taylor
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: EPRI Computer Programs - **MAAP 4.0 & GOTHIC**
Royalty-free Government Agency License Agreement

Dear Mr. Taylor:

On May 9, 1996 EPRI returned to the NRC the two Licenses identified above. Unfortunately, I made an error in executing these agreemenst and must now attempt to correct my mistake.

If you recall, our original draft limited the use of the codes to employees of the NRC. The NRC responded to this draft requesting the ability to have the codes used by NRC contractors. I took this request to the EPRI Technical Managers of these codes. They agreed to allow NRC contractors who are performing work for the NRC to use the codes, so long as the codes are only installed on computers owned and controlled by the NRC and only so long as these computers are located at NRC offices.

I failed to clearly capture the last requirement in my follow up drafts. Therefore, I must take the following action and make the following proposal. First, pursuant to the third paragraph of the "Other Terms and Conditions" from the license agreements, EPRI hereby provides written notice to LICENSEE (NRC) of termination of the Gothic and MAAP licenses. Second, EPRI offers the attached agreements as replacements.

It is my sincere hope that the proposed modifications are acceptable. If the agreements are acceptable, please have 2 of the 3 enclosed copies of each license signed and return them to me. I will countersign them for EPRI and will return one fully executed copy of each to you for your records.

I am at fault and I apologize for any inconvenience that this may cause. Please contact me at (415) 855-2845 or FAX (415) 855-8931, if you have any questions about this letter.

Sincerely,

Arthur Kenny
Intellectual Property Attorney
Intellectual Property Department

AK/ak

EDO -- GT96328

enclosures

cc: A. Singh, EPRI/NPG w/agmt
J. Chao, EPRI/NPG w/agmt
J. Haugh, EPRI/NPG w/ agmt
T. George, NAI w/agmt via fax 509-943-6617

Headquarters: 3412 Hillview Avenue, Post Office Box 10412, Palo Alto, CA 94303, USA • (415) 855-2000
Washington Office: 2000 L Street, NW, Suite 805, Washington, DC 20036, USA • (202) 872-9222 • Fax: (202) 293-2697

ACTION

EDO Principal Correspondence Control

FROM: DUE: 05/31/96

EDO CONTROL: GT96328
DOC DT: 05/09/96
FINAL REPLY:

Arthur Kenny
Electric Power Research Institute (EPRI)

TO:

James Taylor

FOR SIGNATURE OF : ** GRN ** CRC NO:

Executive Director

DESC:

EPRI COMPUTER PROGRAMS - MAAP 4.0 & GOTHIC
ROYALTY-FREE GOVERNMENT AGENCY LICENSE AGREEMENT

ROUTING:

Taylor
Milhoan
Thompson
Blaha
Morrison,RES
Cranford,IRM

DATE: 05/10/96

ASSIGNED TO: CONTACT:

NRR Russell

SPECIAL INSTRUCTIONS OR REMARKS:

Ref. GT96127

NRR RECEIVED: MAY 13, 1996
NRR ACTION: DSSA:HOLAHAN

NRR ROUTING:
RUSSELL
MIRAGLIA
THADANI
ZIMMERMAN
GRIMES
BOHRER

ACTION

DUE TO NRR DIRECTOR'S OFFICE

BY May 28, '96

EPRI
Electric Power
Research Institute *Powering Progress through Innovative Solutions*

May 9, 1996

Mr. James M. Taylor
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: EPRI Computer Programs - **MAAP 4.0 & GOTHIC**
Royalty-free Government Agency License Agreement

Dear Mr. Taylor:

On May 9, 1996 EPRI returned to the NRC the two Licenses identified above. Unfortunately, I made an error in executing these agreemenst and must now attempt to correct my mistake.

If you recall, our original draft limited the use of the codes to employees of the NRC The NRC responded to this draft requesting the ability to have the codes used by NRC contractors. I took this request to the EPRI Technical Managers of these codes. They agreed to allow NRC contractors who are performing work for the NRC to use the codes, so long as the codes are only installed on computers owned and controlled by the NRC and only so long as these computers are located at NRC offices.

I failed to clearly capture the last requirement in my follow up drafts. Therefore, I must take the following action and make the following proposal. First, pursuant to the third paragraph of the "Other Terms and Conditions" from the license agreements, EPRI hereby provides written notice to LICENSEE (NRC) of termination of the Gothic and MAAP licenses. Second, EPRI offers the attached agreements as replacements.

It is my sincere hope that the proposed modifications are acceptable. If the agreements are acceptable, please have 2 of the 3 enclosed copies of each license signed and return them to me. I will countersign them for EPRI and will return one fully executed copy of each to you for your record.

I am at fault and I apologize for any inconvenience that this may cause. Please contact me at (415) 855-2845 or FAX (415) 855-8931, if you have any questions about this letter.

Sincerely,

Arthur Kenny
Intellectual Property Attorney
Intellectual Property Department

AK/ak

EDO -- GT96328

enclosures

cc: A. Singh, EPRI/NPG w/agmt
J. Chao, EPRI/NPG w/agmt
J. Haugh, EPRI/NPG w/ agmt
T. George, NAI w/agmt via fax 509-943-6617

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission

AGREEMENT DATE: _____

ADDRESS:

Washington, DC 20555

COMPUTER PKOGRAM: MAAP 4.0

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

INFORMATION IN THE PROGRAM. ANY ACTION TAKEN BY EPRI WITH RESPECT TO ANY SUCH INFRINGEMENT OR UNLAWFUL ACQUISITION SHALL BE AT EPRI'S SOLE DISCRETION. EPRI DOES NOT WARRANT THE NONINFRINGEMENT BY THE PROGRAM OF ANY OTHER COPYRIGHT OR OTHER PROPRIETARY RIGHT, DOMESTIC OR FOREIGN. NEITHER EPRI, ANY MEMBER OF EPRI, NOR ANY PERSON OR ORGANIZATION ACTING ON BEHALF OF ANY OF THEM:

(A) MAKES ANY WARRANTY OR REPRESENTATION WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PROGRAM, OR

(B) ASSUMES ANY LIABILITY WHATSOEVER WITH RESPECT TO ANY USE OF THE PROGRAM OR ANY PORTION THEREOF OR WITH RESPECT TO ANY DAMAGES WHICH MAY RESULT FROM SUCH USE.

THE BREACH OF ANY WARRANTY SHALL CONSTITUTE A DEFAULT FOR WHICH THE SOLE REMEDY SHALL BE TERMINATION OF THIS AGREEMENT IN THE MANNER HEREINAFTER SPECIFIED.

OTHER TERMS AND CONDITIONS

Failure by the LICENSEE to comply with any of the obligations and conditions contained in this Agreement shall constitute a default. If such default is not cured or made good within thirty (30) days after receipt of written notice, this license may be terminated by EPRI by giving to the LICENSEE notice of termination which shall take effect upon the latter of either the date of receipt of such notice of termination or a later date of termination if specified therein.

The term of this Agreement shall commence on the effective date of this Agreement and unless sooner terminated, shall continue until the expiration of EPRI's rights in the Program.

EPRI reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to LICENSEE. Upon termination, LICENSEE agrees to return to EPRI all copies of the Program and related supplementary information.

The terms and conditions of this Agreement shall prevail, notwithstanding any variance with any purchase order or other written instrument submitted by LICENSEE, whether formally rejected by EPRI or not.

In the absence of applicable Federal law, this Agreement shall be construed in accordance with the laws of the State of California.

U. S. NUCLEAR REGULATORY COMMISSION

By _____
Name:
Title:
Date:

ELECTRIC POWER RESEARCH INSTITUTE, INC.

By _____
Name:
Title:
Date:

ATTACHMENT A

DESCRIPTION OF THE PROGRAM

THE MAAP COMPUTER PROGRAM

The Modular Accident Analysis Program (MAAP is a computer code which simulates light water reactor system response to accident initiation events. It was originally prepared as a part of the IDCOR (Industry Degraded Core Rule-making) program; since 1985, EPRI has continued its development. Its principal use is to investigate the physical phenomena which might occur in the event of a serious light water reactor accident leading to core damage, possible reactor pressure vessel failure, and possible containment failure and depressurization. MAAP includes models for all the important phenomena which might occur in a serious light water reactor accident. There are two parallel versions of MAAP, MAAP/BWR and MAAP/PWR, for the two general light water reactor types in use.

The MAAP program can predict the progression of a hypothetical accident sequence from a set of initiating events to either a safe, stable, coolable state or to containment failure and depressurization. MAAP treats a wide spectrum of phenomena including steam formation, core heatup, cladding oxidation, fission product release, transport and deposition, etc. MAAP treats all of the important engineered safety systems such as emergency core cooling, containment sprays, fan coolers, and power operated relief valves, and the auxiliary or reactor building can be modeled for sequences in which it is important. In addition, MAAP allows operator interventions and incorporates these in a very flexible manner, permitting the user to model operator behavior in a general way. The user models the operator by specifying a set of variable values and/or events which are the operator intervention conditions. There is a large set of actions the operator can take in response to the intervention conditions.

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission

AGREEMENT DATE: _____

ADDRESS:

Washington, DC 20555

COMPUTER PROGRAM: MAAP 4.0

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

INFORMATION IN THE PROGRAM. ANY ACTION TAKEN BY EPRI WITH RESPECT TO ANY SUCH INFRINGEMENT OR UNLAWFUL ACQUISITION SHALL BE AT EPRI'S SOLE DISCRETION. EPRI DOES NOT WARRANT THE NONINFRINGEMENT BY THE PROGRAM OF ANY OTHER COPYRIGHT OR OTHER PROPRIETARY RIGHT, DOMESTIC OR FOREIGN. NEITHER EPRI, ANY MEMBER OF EPRI, NOR ANY PERSON OR ORGANIZATION ACTING ON BEHALF OF ANY OF THEM:

(A) MAKES ANY WARRANTY OR REPRESENTATION WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PROGRAM, OR

(B) ASSUMES ANY LIABILITY WHATSOEVER WITH RESPECT TO ANY USE OF THE PROGRAM OR ANY PORTION THEREOF OR WITH RESPECT TO ANY DAMAGES WHICH MAY RESULT FROM SUCH USE.

THE BREACH OF ANY WARRANTY SHALL CONSTITUTE A DEFAULT FOR WHICH THE SOLE REMEDY SHALL BE TERMINATION OF THIS AGREEMENT IN THE MANNER HEREINAFTER SPECIFIED.

OTHER TERMS AND CONDITIONS

Failure by the LICENSEE to comply with any of the obligations and conditions contained in this Agreement shall constitute a default. If such default is not cured or made good within thirty (30) days after receipt of written notice, this license may be terminated by EPRI by giving to the LICENSEE notice of termination which shall take effect upon the latter of either the date of receipt of such notice of termination or a later date of termination if specified therein.

The term of this Agreement shall commence on the effective date of this Agreement and unless sooner terminated, shall continue until the expiration of EPRI's rights in the Program.

EPRI reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to LICENSEE. Upon termination, LICENSEE agrees to return to EPRI all copies of the Program and related supplementary information.

The terms and conditions of this Agreement shall prevail, notwithstanding any variance with any purchase order or other written instrument submitted by LICENSEE, whether formally rejected by EPRI or not.

In the absence of applicable Federal law, this Agreement shall be construed in accordance with the laws of the State of California.

U. S. NUCLEAR REGULATORY COMMISSION

By _____
Name:
Title:
Date:

ELECTRIC POWER RESEARCH INSTITUTE, INC.

By _____
Name:
Title:
Date:

ATTACHMENT A

DESCRIPTION OF THE PROGRAM

THE MAAP COMPUTER PROGRAM

The Modular Accident Analysis Program (MAAP is a computer code which simulates light water reactor system response to accident initiation events. It was originally prepared as a part of the IDCOR (Industry Degraded Core Rule-making) program; since 1985, EPRI has continued its development. Its principal use is to investigate the physical phenomena which might occur in the event of a serious light water reactor accident leading to core damage, possible reactor pressure vessel failure, and possible containment failure and depressurization. MAAP includes models for all the important phenomena which might occur in a serious light water reactor accident. There are two parallel versions of MAAP, MAAP/BWR and MAAP/PWR, for the two general light water reactor types in use.

The MAAP program can predict the progression of a hypothetical accident sequence from a set of initiating events to either a safe, stable, coolable state or to containment failure and depressurization. MAAP treats a wide spectrum of phenomena including steam formation, core heatup, cladding oxidation, fission product release, transport and deposition, etc. MAAP treats all of the important engineered safety systems such as emergency core cooling, containment sprays, fan coolers, and power operated relief valves, and the auxiliary or reactor building can be modeled for sequences in which it is important. In addition, MAAP allows operator interventions and incorporates these in a very flexible manner, permitting the user to model operator behavior in a general way. The user models the operator by specifying a set of variable values and/or events which are the operator intervention conditions. There is a large set of actions the operator can take in response to the intervention conditions.

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission

AGREEMENT DATE: _____

ADDRESS:

Washington, DC 20555

COMPUTER PROGRAM: MAAP 4.0

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

INFORMATION IN THE PROGRAM. ANY ACTION TAKEN BY EPRI WITH RESPECT TO ANY SUCH INFRINGEMENT OR UNLAWFUL ACQUISITION SHALL BE AT EPRI'S SOLE DISCRETION. EPRI DOES NOT WARRANT THE NONINFRINGEMENT BY THE PROGRAM OF ANY OTHER COPYRIGHT OR OTHER PROPRIETARY RIGHT, DOMESTIC OR FOREIGN. NEITHER EPRI, ANY MEMBER OF EPRI, NOR ANY PERSON OR ORGANIZATION ACTING ON BEHALF OF ANY OF THEM:

(A) MAKES ANY WARRANTY OR REPRESENTATION WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PROGRAM, OR

(B) ASSUMES ANY LIABILITY WHATSOEVER WITH RESPECT TO ANY USE OF THE PROGRAM OR ANY PORTION THEREOF OR WITH RESPECT TO ANY DAMAGES WHICH MAY RESULT FROM SUCH USE.

THE BREACH OF ANY WARRANTY SHALL CONSTITUTE A DEFAULT FOR WHICH THE SOLE REMEDY SHALL BE TERMINATION OF THIS AGREEMENT IN THE MANNER HEREINAFTER SPECIFIED.

OTHER TERMS AND CONDITIONS

Failure by the LICENSEE to comply with any of the obligations and conditions contained in this Agreement shall constitute a default. If such default is not cured or made good within thirty (30) days after receipt of written notice, this license may be terminated by EPRI by giving to the LICENSEE notice of termination which shall take effect upon the latter of either the date of receipt of such notice of termination or a later date of termination if specified therein.

The term of this Agreement shall commence on the effective date of this Agreement and unless sooner terminated, shall continue until the expiration of EPRI's rights in the Program.

EPRI reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to LICENSEE. Upon termination, LICENSEE agrees to return to EPRI all copies of the Program and related supplementary information.

The terms and conditions of this Agreement shall prevail, notwithstanding any variance with any purchase order or other written instrument submitted by LICENSEE, whether formally rejected by EPRI or not.

In the absence of applicable Federal law, this Agreement shall be construed in accordance with the laws of the State of California.

U. S. NUCLEAR REGULATORY COMMISSION

By _____
Name:
Title:
Date:

ELECTRIC POWER RESEARCH INSTITUTE, INC.

By _____
Name:
Title:
Date:

ATTACHMENT A

DESCRIPTION OF THE PROGRAM

THE MAAP COMPUTER PROGRAM

The Modular Accident Analysis Program (MAAP is a computer code which simulates light water reactor system response to accident initiation events. It was originally prepared as a part of the IDCOR (Industry Degraded Core Rule-making) program; since 1985, EPRI has continued its development. Its principal use is to investigate the physical phenomena which might occur in the event of a serious light water reactor accident leading to core damage, possible reactor pressure vessel failure, and possible containment failure and depressurization. MAAP includes models for all the important phenomena which might occur in a serious light water reactor accident. There are two parallel versions of MAAP, MAAP/BWR and MAAP/PWR, for the two general light water reactor types in use.

The MAAP program can predict the progression of a hypothetical accident sequence from a set of initiating events to either a safe, stable, coolable state or to containment failure and depressurization. MAAP treats a wide spectrum of phenomena including steam formation, core heatup, cladding oxidation, fission product release, transport and deposition, etc. MAAP treats all of the important engineered safety systems such as emergency core cooling, containment sprays, fan coolers, and power operated relief valves, and the auxiliary or reactor building can be modeled for sequences in which it is important. In addition, MAAP allows operator interventions and incorporates these in a very flexible manner, permitting the user to model operator behavior in a general way. The user models the operator by specifying a set of variable values and/or events which are the operator intervention conditions. There is a large set of actions the operator can take in response to the intervention conditions.

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission

AGREEMENT DATE: _____

ADDRESS: Washington, DC 20555

COMPUTER PROGRAM: GOTHIC

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

ATTACHMENT A

Description of the EPRI's GOTHIC Computer Program

The Program, known as GOTHIC Version 5.0 and other versions provided under this LICENSE, is an EPRI sponsored code based on the Containment Analysis Package (CAP), also known as FATHOMS, which was developed by NAI. CAP was developed from the COBRA-NC code for compressible, mutidimensional, multiphase, multicomponent fluid analysis. COBRA-NC was developed by Battelle Pacific Northwest Laboratories under NRC sponsorship. The Program includes specific features for containment analysis but is a general purpose thermal hydraulics code and is not limited to containment applications.

The Program can be used for either lumped parameter computations, as has been traditional for containment analysis, or each compartment can be subdivided in two or three dimensions, should more detail be required. This extra detail allows for the calculation of realistic local velocities and fluid conditions, and consequently the application of local heat transfer coefficients when needed for particular compartments.

The component models currently available in the Program include valves, pumps, fans, heat exchangers, heaters, coolers, vacuum breakers, fan coolers, ignitors and spray nozzles. Trips can be specified to control various components.

The Program is able to address situations where flow nonequilibrium and/or buoyancy phenomena play an important role. It will also handle several species of noncondensible gases and their evolving concentrations throughout containment during the transient. The Program can calculate the combustion of hydrogen in lumped parameter modeling or in subdivided compartments.

A user friendly preprocessor is included that considerably simplifies the input of both lumped parameter and multidimensional analysis. The preprocessor uses interactive graphics to allow the user to sketch noding diagrams and describe the input. Much of the required input is taken directly from the noding diagrams, thereby eliminating many common input errors made in setting up models. The preprocessor is also used to interactively generate graphical output.

The Program runs on Unix workstations and on IBM PC compatibles. The Program is fully described in the documentation set that includes:

1. Users Manual
2. Technical Manual
3. Installation Manual
4. Qualification Report

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission

AGREEMENT DATE: _____

ADDRESS: Washington, DC 20555

COMPUTER PROGRAM: GOTHIC

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

INFORMATION IN THE PROGRAM. ANY ACTION TAKEN BY EPRI WITH RESPECT TO ANY SUCH INFRINGEMENT OR UNLAWFUL ACQUISITION SHALL BE AT EPRI'S SOLE DISCRETION. EPRI DOES NOT WARRANT THE NONINFRINGEMENT BY THE PROGRAM OF ANY OTHER COPYRIGHT OR OTHER PROPRIETARY RIGHT, DOMESTIC OR FOREIGN. NEITHER EPRI, ANY MEMBER OF EPRI, NOR ANY PERSON OR ORGANIZATION ACTING ON BEHALF OF ANY OF THEM:

(A) MAKES ANY WARRANTY OR REPRESENTATION WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PROGRAM, OR

(B) ASSUMES ANY LIABILITY WHATSOEVER WITH RESPECT TO ANY USE OF THE PROGRAM OR ANY PORTION THEREOF OR WITH RESPECT TO ANY DAMAGES WHICH MAY RESULT FROM SUCH USE.

THE BREACH OF ANY WARRANTY SHALL CONSTITUTE A DEFAULT FOR WHICH THE SOLE REMEDY SHALL BE TERMINATION OF THIS AGREEMENT IN THE MANNER HEREINAFTER SPECIFIED.

OTHER TERMS AND CONDITIONS

Failure by the LICENSEE to comply with any of the obligations and conditions contained in this Agreement shall constitute a default. If such default is not cured or made good within thirty (30) days after receipt of written notice, this license may be terminated by EPRI by giving to the LICENSEE notice of termination which shall take effect upon the latter of either the date of receipt of such notice of termination or a later date of termination if specified therein.

The term of this Agreement shall commence on the effective date of this Agreement and unless sooner terminated, shall continue until the expiration of EPRI's rights in the Program.

EPRI reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to LICENSEE. Upon termination, LICENSEE agrees to return to EPRI all copies of the Program and related supplementary information.

The terms and conditions of this Agreement shall prevail, notwithstanding any variance with any purchase order or other written instrument submitted by LICENSEE, whether formally rejected by EPRI or not.

In the absence of applicable Federal law, this Agreement shall be construed in accordance with the laws of the State of California.

U. S. NUCLEAR REGULATORY COMMISSION

By _____
Name:
Title:
Date:

ELECTRIC POWER RESEARCH INSTITUTE, INC.

By _____
Name:
Title:
Date:

ATTACHMENT A

Description of the EPRI's GOTHIC Computer Program

The Program, known as GOTHIC Version 5.0 and other versions provided under this LICENSE, is an EPRI sponsored code based on the Containment Analysis Package (CAP), also known as FATHOMS, which was developed by NAI. CAP was developed from the COBRA-NC code for compressible, mutidimensional, multiphase, multicomponent fluid analysis. COBRA-NC was developed by Battelle Pacific Northwest Laboratories under NRC sponsorship. The Program includes specific features for containment analysis but is a general purpose thermal hydraulics code and is not limited to containment applications.

The Program can be used for either lumped parameter computations, as has been traditional for containment analysis, or each compartment can be subdivided in two or three dimensions, should more detail be required. This extra detail allows for the calculation of realistic local velocities and fluid conditions, and consequently the application of local heat transfer coefficients when needed for particular compartments.

The component models currently available in the Program include valves, pumps, fans, heat exchangers, heaters, coolers, vacuum breakers, fan coolers, ignitors and spray nozzles. Trips can be specified to control various components.

The Program is able to address situations where flow nonequilibrium and/or buoyancy phenomena play an important role. It will also handle several species of noncondensible gases and their evolving concentrations throughout containment during the transient. The Program can calculate the combustion of hydrogen in lumped parameter modeling or in subdivided compartments.

A user friendly preprocessor is included that considerably simplifies the input of both lumped parameter and multidimensional analysis. The preprocessor uses interactive graphics to allow the user to sketch noding diagrams and describe the input. Much of the required input is taken directly from the noding diagrams, thereby eliminating many common input errors made in setting up models. The preprocessor is also used to interactively generate graphical output.

The Program runs on Unix workstations and on IBM PC compatibles. The Program is fully described in the documentation set that includes:

1. Users Manual
2. Technical Manual
3. Installation Manual
4. Qualification Report

EPRI/USNRC
601NRC
05/8/96

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

ROYALTY-FREE LICENSE AGREEMENT FOR COMPUTER PROGRAM

TO A U.S. GOVERNMENT AGENCY

LICENSEE: U. S. Nuclear Regulatory Commission **AGREEMENT DATE:** _____

ADDRESS: Washington, DC 20555 **COMPUTER PROGRAM:** GOTHIC

The Program designated above (the Program) and described in Attachment A to this Agreement contains information proprietary to EPRI. The term "Program" as used herein includes any and all proprietary and supplementary information provided with the Program.

EPRI hereby grants to LICENSEE a royalty-free, nonexclusive, revocable, nontransferable license (except as set forth below) to use the Program only for its own benefit in the United States. The use of the Program is strictly limited to only the employees of the Agency and Agency contractors who are performing work for the Agency at Agency offices and who are under obligations of confidentiality. The Program may not be installed on any computer that is not directly under control of the Agency or on any computer that is not located at Agency offices. LICENSEE hereby agrees that this royalty-free license is not an acquisition and therefore is not subject to the Federal Acquisition Regulations (FAR) 48 CFR Chapters 1 through 61.

LICENSEE shall not reproduce, distribute or otherwise disclose the Program to others or grant to others any license in the Program or use the Program in connection with the sale of a service to others or the sale or lease of a product to, or use of a product by, others.

NRC recognizes that it has a duty to protect EPRI's proprietary Program and agrees to take appropriate action to prevent the distribution of that Program in violation of this Agreement.

LICENSEE agrees that, under the laws governing patents, potentially patentable subject matter, trade secrets and/or copyright, the Program contains and constitutes information proprietary to EPRI, the confidentiality of which warrants preservation pursuant to the Freedom of Information Act exemption for confidential information, 5 U.S.C. 552 (b)(4).

This license is not a sale, lease, loan or transfer of the Program. This License Agreement and the license herein granted shall be binding upon and inure to the benefit of successors and assigns of the LICENSEE and EPRI. The License Agreement may not be assigned by LICENSEE without the prior written approval of EPRI.

LIMITATION OF WARRANTIES AND REMEDIES

EPRI WARRANTS THAT IT HAS THE RIGHT TO LICENSE OTHERS UNDER ITS COPYRIGHT AND PROPRIETARY RIGHTS IN THE PROGRAM. HOWEVER, EPRI ASSUMES NO RESPONSIBILITY FOR ABATING ANY INFRINGEMENT OF ITS COPYRIGHT OR UNLAWFUL ACQUISITION OF

INFORMATION IN THE PROGRAM. ANY ACTION TAKEN BY EPRI WITH RESPECT TO ANY SUCH INFRINGEMENT OR UNLAWFUL ACQUISITION SHALL BE AT EPRI'S SOLE DISCRETION. EPRI DOES NOT WARRANT THE NONINFRINGEMENT BY THE PROGRAM OF ANY OTHER COPYRIGHT OR OTHER PROPRIETARY RIGHT, DOMESTIC OR FOREIGN. NEITHER EPRI, ANY MEMBER OF EPRI, NOR ANY PERSON OR ORGANIZATION ACTING ON BEHALF OF ANY OF THEM:

(A) MAKES ANY WARRANTY OR REPRESENTATION WHATSOEVER, EXPRESS OR IMPLIED, WITH RESPECT TO THE MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO THE PROGRAM, OR

(B) ASSUMES ANY LIABILITY WHATSOEVER WITH RESPECT TO ANY USE OF THE PROGRAM OR ANY PORTION THEREOF OR WITH RESPECT TO ANY DAMAGES WHICH MAY RESULT FROM SUCH USE.

THE BREACH OF ANY WARRANTY SHALL CONSTITUTE A DEFAULT FOR WHICH THE SOLE REMEDY SHALL BE TERMINATION OF THIS AGREEMENT IN THE MANNER HEREINAFTER SPECIFIED.

OTHER TERMS AND CONDITIONS

Failure by the LICENSEE to comply with any of the obligations and conditions contained in this Agreement shall constitute a default. If such default is not cured or made good within thirty (30) days after receipt of written notice, this license may be terminated by EPRI by giving to the LICENSEE notice of termination which shall take effect upon the latter of either the date of receipt of such notice of termination or a later date of termination if specified therein.

The term of this Agreement shall commence on the effective date of this Agreement and unless sooner terminated, shall continue until the expiration of EPRI's rights in the Program.

EPRI reserves the right to terminate this Agreement without cause upon thirty (30) days written notice to LICENSEE. Upon termination, LICENSEE agrees to return to EPRI all copies of the Program and related supplementary information.

The terms and conditions of this Agreement shall prevail, notwithstanding any variance with any purchase order or other written instrument submitted by LICENSEE, whether formally rejected by EPRI or not.

In the absence of applicable Federal law, this Agreement shall be construed in accordance with the laws of the State of California.

U. S. NUCLEAR REGULATORY COMMISSION

By _____
Name:
Title:
Date:

ELECTRIC POWER RESEARCH INSTITUTE, INC.

By _____
Name:
Title:
Date:

ATTACHMENT A

Description of the EPRI's GOTHIC Computer Program

The Program, known as GOTHIC Version 5.0 and other versions provided under this LICENSE, is an EPRI sponsored code based on the Containment Analysis Package (CAP), also known as FATHOMS, which was developed by NAI. CAP was developed from the COBRA-NC code for compressible, mutidimensional, multiphase, multicomponent fluid analysis. COBRA-NC was developed by Battelle Pacific Northwest Laboratories under NRC sponsorship. The Program includes specific features for containment analysis but is a general purpose thermal hydraulics code and is not limited to containment applications.

The Program can be used for either lumped parameter computations, as has been traditional for containment analysis, or each compartment can be subdivided in two or three dimensions, should more detail be required. This extra detail allows for the calculation of realistic local velocities and fluid conditions, and consequently the application of local heat transfer coefficients when needed for particular compartments.

The component models currently available in the Program include valves, pumps, fans, heat exchangers, heaters, coolers, vacuum breakers, fan coolers, ignitors and spray nozzles. Trips can be specified to control various components.

The Program is able to address situations where flow nonequilibrium and/or buoyancy phenomena play an important role. It will also handle several species of noncondensible gases and their evolving concentrations throughout containment during the transient. The Program can calculate the combustion of hydrogen in lumped parameter modeling or in subdivided compartments.

A user friendly preprocessor is included that considerably simplifies the input of both lumped parameter and multidimensional analysis. The preprocessor uses interactive graphics to allow the user to sketch noding diagrams and describe the input. Much of the required input is taken directly from the noding diagrams, thereby eliminating many common input errors made in setting up models. The preprocessor is also used to interactively generate graphical output.

The Program runs on Unix workstations and on IBM PC compatibles. The Program is fully described in the documentation set that includes:

1. Users Manual
2. Technical Manual
3. Installation Manual
4. Qualification Report