

Department of Electrical and Computer Engineering

Faculty of Engineering

University of Waterloo 200 University Avenue West Waterloo, Ontario, Canada N2L 3G1 Claudio Cañizares PhD PEng Professor 519-888-4567x5355 Fax 519 746-3077 c.canizares@ece.uwaterloo.ca http://www.power.uwaterloo.ca

Abril 14, 2005

A quien le pueda interesar:

Por la presente certifico que el programa PSAT esta siendo utilizado en los cursos de postgrado ECE664 "Power System Computer Applications" y ECE6601PD "Power System Modeling and Stablity Analysis" del Departamento de Ingeniería Eléctrica y Computación (E&CE) de la Universidad de Waterloo, de los cuales yo soy el Instructor principal. El programa esta también siendo utilizado por varios de mis estudiantes de doctorado como una herramienta de investigación.

PSAT es un programa ideal para la enseñaza y la investigación, muy bien diseñado y con una gran variedad opciones de análisis que no se encuentra en ningún otro programa similar, además de ser gratuito. El Prof. Federico Milano ha hecho un gran trabajo en el desarrollo de este programa, por lo que la comunidad científica en al área de Sistemas de Potencia está muy agradecida. Mis más sinceras felicitaciones al Dr. Milano por su excelente trabajo y gran generosidad.

Sinceramente,

Claudio A. Cañizares Professor

BUILDING A TALENT TRUST

UNIVERSIDAD DE SAN CARLOS DE GUATEMALA





FACULTAD DE INGENIERIA

To whom it may concern:

By this means the School of Electric Mechanical Engineering of the Faculty of Engineering of the Universidad de San Carlos de Guatemala recognizes that the program PSAT is being used in the courses of Licenciatura en Ingeniería Eléctrica in the Power Engineering Area, particularly in the laboratory of the course Análisis de Sistemas de Potencia 1. The program has also been used and it's currently being used by several students for the development of their graduation projects.

PSAT is an ideal program for teaching and research, it's very well designed and with a great variety analysis options that are not available in any other similar program, besides being of free. Dr. Federico Milano has made a great effort in the development of this program, and so the scientific community in the Power Systems area it's very grateful. We send our best congratulations to Dr. Federico Milano for his excellent work and great generosity.

Sincerely, DIRECCION Dr. Enrique Edmando Ruiz Carballo Ing. Gustavo Benigno Orozco Godínez Coordinador del Área de Potencia Director Escuela de Ingeniería Mecánica Eléctrica Escuela de Ingeniería Mecánica Eléctrica Facultad de Ingeniería Facultad de Ingeniería Universidad de San Carlos de Guatemala Universidad de San Carlos de Guatemala



To whom it may concern:

By this means the Electronics' Engineering Career of the Faculty of Engineering in Information Sciences of the Universidad Mariano Gálvez de Guatemala recognizes that the program PSAT is being used in the courses of Licenciatura en Ingeniería Electrónica in the Control Engineering Area, particularly in the courses of the course Sistemas de Control 1, Sistemas de Control 2 and Seminario. The program will be used by several students for the development of their graduation projects.

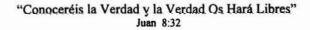
PSAT is an ideal program for teaching and research, it's very well designed and with a great variety analysis options that are not available in any other similar program, besides being of free. Dr. Federico Milano has made a great effort in the development of this program, and so the professors in the control area very grateful. We send our best congratulations to Dr. Federico Milano for his excellent work and great generosity.

Sincerely,

Att Cutors Sinter an and

COURDINAD

Ing. Otto Miguel Hurtarte Hernández Coordinador Carrera de Ingeniería Electrónica Facultad de Ingeniería en Sistemas de Información Universidad Mariano Gálvez de Guatemala





Prof. Dr. Carlos A. Castro Jr. DSEE/FEEC/UNICAMP C.P. 6101 13081-970 Campinas SP Brasil Voice: +55 19 3788 3732 / +55 19 3788 3708 Fax: +55 19 3289 1395 Email: ccastro@ieee.org Web: http://www.dsee.fee.unicamp.br/~ccastro

Campinas, June 13, 2005.

To whom it may concern

As the Chair of the Power Systems Department of the University of Campinas, Brazil, I certify that the software Power Systems Analysis Toolbox (PSAT), developed by Prof. Dr. Federico Milano, has been used by our graduate students as a computational tool to develop research projects and to solve assigned homeworks in our graduate courses.

PSAT is a very useful software package for teaching and investigation purposes, covering a wide range of power systems related topics. It is well elaborated and documented. I take this opportunity to congratulate Prof. Milano for his initiative of distributing his program to the international scientific community.

Carlos A. Castro, Ph.D. Associate Professor

DSEE/FEEC/UNICAMP C.P. 6101 13081-970 Campinas SP Brasil Voice: +55 19 3788 3708 Fax: +55 19 3289 1395



Universidad Centroamericana José Simeón Cañas Departamento de Ciencias Energéticas y Fluídicas Apartado Postal (01) 168 - San Salvador, El Salvador, C. A. Teléfono (503) 2210 6662, Fax (503) 2210 6664.

San Salvador, 29 de julio de 2005

A quien interese:

Dada la dinámica del sector eléctrico en El Salvador, el tema del Análisis de Sistemas de Potencia se considera como una de las áreas de mayor relevancia en la docencia e investigación desarrollada por este departamento. A la fecha para la formación de los estudiantes de ingeniería eléctrica se imparten dos cursos de Análisis de Sistemas de Potencia y el curso "Tópicos de Mercados Eléctricos". Algunos trabajos de investigación, orientados a describir el sistema eléctrico nacional, combinan ya ambos fundamentos.

Para una adecuada enseñanza de las asignaturas mencionadas y desarrollar una investigación efectiva en esta temática se hace indispensable contar con herramientas computacionales accesibles, amigables en su uso y con la variedad de opciones de análisis que los sistemas de potencia requieren . Esta universidad ha encontrado en el software **Power System Análisis Toolkit (PSAT)** desarrollado por el Profesor Federico Milano una herramienta extremadamente valiosa para los fines indicados.

El uso del PSAT para el estudio del despacho económico, programación horaria de carga, elementos de seguridad, estabilidad de los sistemas de potencia, para mencionar algunos, es verdaderamente útil.

Felicitamos al Profesor Federico Milano por haber desarrollado tan útil herramienta y aprovechamos para agradecerle el haber aceptado venir a esta universidad a impartir el curso de educación continua Análisis de Sistemas de Potencia en Ambiente de Mercados Eléctricos.

Nos sentimos muy honrados con su presencia.

Ing. Isloael Antonio Sánchez Jefe de Departamento UNIVERSIDAD CENTROAMERICANA "JOSE SIMEON CAÑAS" DEPARTAMENTO DE CIENCIAS ENERGETICAS Y FLUIDICAS SAN SALVADOR, EL SALVADOR, C.A. Ministère de l'Enseignement Supérieur **** Université 7 Novembre A Carthage **** Institut National des Sciences Appliquées et de Technologie



وزارة التعليم العالي **** جامعة 7 نوفمبر بقرطاج *** المعهد الوطني للعلوم التطبيقية و التكنولوجيا

Tunis, September 17th, 2005

To whom it may concern

As the scientific manager of the Research Unit « Electrical Machines and Power Systems » at National Institute of Applied Sciences and Technology (INSAT), University 7 November, Tunis, Tunisia:

I certify that the software Power Systems Analysis Toolbox (PSAT) developed by Prof. Dr. Federico Milano, is used in my Laboratory as a computational tool for various topics (pedagogic works, developments of Master Projects and Thesis Diploma).

I also certify that PSAT generates accurate and precious results for a wide range of power systems related topics. The documentation of PSAT and the integrated examples are well structured and very useful for users.

I congratulate Prof. Federico Milan for his very great effort in developing PSAT and for his initiative of distributing it to international community.

Dhifaoui Rachid Professor in Electrical Engineering

INSAT, Tunisia

Institut National des Sciences Appliquées et de Technologie Centre Urbain Nord de Tunis B.P.N°676, 1080 Tunis Cedex Tél. : (+216) 71703 829 / 929 / 627 Fax : (+216) 71 704 329 المعهد الوطني للعلوم التطبيقية والتكنولوجيا المنطقة الحضرية بتونس الشما لية ص . ب. 676 – 1080 تونس التوزيع الخاص الهاتف : 627 / 299 / 289 70 71 (216+) الفاكس : 329 70 71 (216+)



GLENN L. MARTIN INSTITUTE OF TECHNOLOGY A. JAMES CLARK SCHOOL OF ENGINEERING

Institute for Systems Research

Office of the Director, Dr. Eyad H. Abed

Room 2173 A.V. Williams Building (115) College Park, Maryland 20742 301.405.3631 TEL 301.314.9920 FAX http://www.isr.umd.edu abed@isr.umd.edu

October 4, 2005

To Whom It May Concern:

I am writing to attest to the fact that the software package Power System Analysis Toolbox (PSAT), which was developed by Professor Dr. Federico Milano, has been and continues to be very useful to my research group in our analysis of nonlinear power system models. My graduate students and post-doctoral researchers have employed this tool in a study aimed at characterizing signatures that can be detected prior to instability in an electric power system.

We have been very fortunate to learn of this package, which has had a major impact on our work. I am very grateful to Prof. Milano for his initiative in developing this important and user-friendly tool for the power system research community, and for making it widely available.

Any assistance that can be provided to Prof. Milano in supporting the continuation of his research and development in this field would be greatly appreciated.

With my best regards,

Dr. Eyad H. Abed Professor and Director, Institute for Systems Research and Professor, Electrical and Computer Engineering



School of Information Technology and Electrical Engineering

Dr. Federico Milano, Assistant Professor Electrical Engineering Department, Univ. Castilla - La Mancha, Campus Universitario, s/n, 13071 Ciudad Real, Spain

Dear Professor Milano,

The PSAT toolbox for Matlab is a wonderful tool for the research and teaching purposes in our School.

I had been thinking of introducing advanced power system analysis to students for a few years now. To do a meaningful analysis we explored special purpose commercial software but the learning curve for students was too steep. Our students will not be able to spend more than ten hours doing the software related power systems exercises. We were stuck till I found out about PSAT. This toolbox can be easily used by the students since they are very familiar with the Matlab environment. We thank you for giving us a chance to enhance our teaching capabilities.

Our research in power systems includes FACTS devices. The incorporation of these devices in PSAT has given us a great ease in simulating the performance of our designed controllers.

Finally, your documentation is excellent. I personally learnt a few things about FACTS devices which I couldn't understand from research papers and books.

I hope you continue the development and maintenance of this software.

With regards,

Hemanshu R Pota Associate Professor of Electrical Engineering



THE UNIVERSITY OF NEW SOUTH WALES at the Australian Defence Force Academy • Canberra ACT 2600 • Australia



Ministério da Educação UNIVERSIDADE FEDERAL DE ITAJUBÁ Criada pela Lei 10.435 de 24 de abril de 2002 Instituto de Sistemas Elétricos e Energia

To whom it may concern:

As a Research Assistant - PhD Student in the School of Electrical and Computer Engineering at Federal University of Itajubá, Brazil I certify that software Power Systems Analysis Toolbox (PSAT), developed by Prof. Federico Milano, have used by graduate students as a computational tool to develop research projects.

PSAT is an ideal program for teaching and research, it's very well designed and with a great variety analysis options that are not available in any other similar program, besides being of free. Dr. Federico Milano has made a great effort in the development of this program, and so the scientific community in the Power Systems area it's very grateful. I send my best congratulations to Dr. Federico Milano for his excellent work and great generosity.

Sincerely,

Clodomiro Unsihuay Vila Research Assistant - PhD Student School of Electrical and Computer Engineering Federal University of Itajubá, Brazil

To Whom It May Concern:

It is a great pleasure for me to write this recommendation letter for PSAT, a MATLAB-based power system analysis software developed by Professor Federico Milano. The main activity in our division is to develop commercial software for Chinese power industry. PSAT is a very useful tool for us. It has provided an excellent platform to test our prototype design work, which saves a lot of time-consuming Fortran programming efforts. We also use PSAT to train newcomers in our division. With its open code and elaborated documentation, PSAT helps them to become experienced software developers very quickly.

I take this opportunity to thank Professor Milano for his initiatives of opening the source code of PSAT. Any assistance for the continued development of PSAT will be highly appreciated.

With best regards,

Champon Fr

Changan Ji Director Stability Technology Division Nanjing Automation Research Institute 8 Nan Rui Road Nanjing, Jiangsu 210003 P. R. China



EPSM, Energy, School of Environment, Resources and Development, Asian Institute of technology, P. O. Box 4, Klongluang, Pathumthani 12120 Thailand **N. Mithulananthan, Ph.D. (Waterloo), MIEEE** Assistant Professor,

Tel. 66-2-524-5405, 66-2-524-5437 Fax. 66-2-542-5439, 66-2-524-6589 e-mail: <u>mithulan@ait.ac.th</u>, <u>mithulan@ieee.org</u>

10th November 2005

Letter of Recommendation

We have been using the PSAT analytical software tool in Electric Power System Management (EPSM) area of specialization in energy filed of study at Asian Institute of Technology (AIT) since 2003. AIT as you may know, an international post graduate institution with over a couple of thousand students from fifty countries enrolled as of today.

PSAT has been developed by Dr. Milano. He made it available free for research community in the electric power system engineering filed. As a faculty and researcher working little over a decade in the area of power system, I find PSAT is a very useful tool. The interesting feature of the tool is that it has different modules that could be used for various types of analytical studies. Moreover, all FACTS controllers that are currently available are incorporated in PSAT with their appropriate models.

I hope Dr. Milano would be getting the necessary support to continue his support to research community in power system engineering by providing updates and guides to the PSAT.

Yours truly,

NJ. MAIler

(N. Mithulananthan)



KOCAELI UNIVERSITES MÜHENDİSLİK FAKÜLTES Elektrik Mühendisliği Kocaeli Üniversitesi Veziroğlu Kampusü Elektrik Mühendisliği Bölümü 41050 KOCAELI/TURKIYE http://mf.kou.edu.tr

November 24, 2005

Dr. Federico Milano, Assistant Professor Electrical Engineering Department, Univ. Castilla - La Mancha, Campus Universitario, s/n, 13071 Ciudad Real, Spain

Dear Professor Milano,

The PSAT toolbox is a very useful tool for the research and teaching purposes in our Electrical Engineering Department. We enhance our power system analysis studies with this software. Its graphical user interface is another asset. Our research in power systems also includes FACTS devices and PSAT has given us a considerable ease in simulating the performance of the systems. The documentation is also quite sufficient to understand power system analysis. 'We congratulate Prof. Milano for his initiative in developing this important tool for the power system research community, and for making it widely available.

Any assistance that can be provided to Prof. Milano in supporting the continuation of his research and development in this field would be greatly appreciated.

With my best regards,

Prof. Dr. Semra OZTURK Kocaeli University Chairman of the Electrical Engineering Department

UNIVERSITÀ DEGLI STUDI DI GENOVA DIPARTIMENTO DI INGEGNERIA ELETTRICA



Laboratorio di Progettazione Assistita da Calcolatore di Dispositivi Elettromagnetici 11a, Via Opera Pia I - 16145 Genova (GE)

Prof. Paola Girdinio

Genoa, 7 dicembre 2005

TO WHOM IT MAY CONCERN:

I would like to attest that the software package Power System Analysis Toolbox (PSAT), developed by Prof. Federico Milano for a Matlab environment, has been very useful to my students for the development of thesis and for research activity in the area of nonlinear power system modelling.

Recently an undergraduate student of mine has employed very effectively this tool in a study of electrical protection systems of a new nuclear power station located in Romania.

In the context of this activity, Prof. Milano gave significant assistance and helpful suggestions for the solution of several specific problems encountered by the student in this activity.

We hope that Prof. Milano will continue to develop his useful tool and we look forward to continuing to cooperate with him for research and development activities in the field.

Sincerely,

Prof. Paola Girdinio



CENTRO DE INVESTIGACIONES ELÉCTRICAS - ELECTRÓNICAS DEL PERÚ

A quien corresponda.

Por la presente certifico que el programa PSAT, esta siendo utilizado como una herramienta de investigación en las áreas de sistemas eléctricos de potencia, por parte de los investigadores del Centro de Investigaciones Eléctricas - Electrónicas del Perú CIEEP.

PSAT, es un Software de Ingeniería Eléctrica ideal para investigación e instrucción, es dotado de herramientas muy útiles que cubren distintas áreas de la ingeniería de potencia, que permite optar por esta herramienta en ves de programas comerciales que hace prácticamente lo mismo.

Aprovecho además para agradecer y felicitarle sinceramente al Doctor Milano por la eficiente contribución a la ingeniería eléctrica, que día a día beneficia a gran cantidad de usuarios en el mundo y adicionalmente asistidos por el mismo Doctor y sus colaboradores mediante el PSAT Forum en grupos de yahoo.

Mis más sinceros reconocimientos y que sigan los éxitos.

Muy atte.

Braulio Chuco P. Coordinador de Investigación



DEPARTMENT OF ELECTRICAL ENGINEERING Indian Institute of Technology Kanpur

Kanpur-208016 (U.P.), India

Dr. S.N. Singh, Ph.D.

Associate Professor

Tel: +91-512-2597009 (O), 2598509 (R) Fax: +91-512-2590065/2590063 Email: snsingh@iitk.ac.in URL: http://home.iitk.ac.in/~snsingh

Dr. Federico Milano, Assistant Professor Electrical Engineering Department, Univ. Castilla - La Mancha, Campus Universitario, s/n, 13071 Ciudad Real, Spain

December 26, 2005

Dear Professor Milano,

I am pleased to inform you that the software package Power System Analysis Toolbox (PSAT) for Matlab developed by you is very good tool and widely used for the research and teaching purposes. This toolbox is easily used by the students since they are very familiar with the Matlab environment. We thank you for giving us a chance to enhance our teaching and research capabilities. We have been very fortunate to learn of this package, which has had a major impact on our work.

Our research in power systems includes FACTS devices and wind power. The incorporation of these in PSAT has given us a great ease in simulating the performance of our designed controllers. Finally your documentation is excellent. I personally learnt a few things about power system modeling which I couldn't understand from research papers and books.

I am very grateful to Prof. Milano for his initiative in developing this important and userfriendly tool for the power system research community, and for making it widely available. Any assistance that can be provided to Prof. Milano in supporting the continuation of his research and development in this field would be greatly appreciated.

I hope you continue the development and maintenance of this software.

With regards NUR Dr S.N. Sing





COPPE Coordenação dos Programas de Pós-Graduação de Engenharia Universidade Federal do Rio de Janeiro

January 12, 2006

To Whon it may concern

I certify that the software Power System Analysis Toolbox (PSAT), developed by Prof. Federico Milano, is being used by one of my Ph.D. students (Amélia Yukie Takahata) as a computational tool to develop her thesis. The focus of the thesis is the analysis of small-signal stability considering uncertainties. So, the modal analysis contained in PSAT has been very useful in her research.

I take this opportunity to congratulated Prof. Milano for his initiative of distributing his well-documented and comprehensive program worldwide.

Sincerely,

Glauco N. Taranto, Ph.D. Associate Professor Federal University of Rio de Janeiro Brazil



ROF. GLAUCO NERY TARANTO PEE - COPPE/UFRJ REGISTRO Nº 014999-9



Dr. G.K. Singh B.Tech., Ph.D., C.Engg., MIE, MISCEE Professor

DEPARTMENT OF ELECTRICAL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE Roorkee - 247 667, Uttaranchal, India Phone : +91-1332-285070 (O), 277861, 285139 (R) Fax : +91-1332-273560 e-mail : gksngfee@iitr.ernet.in

February 21, 2006

To Whom It May Concern

My graduate students and I had the wonderful opportunity of using PSAT toolbox for MATLAB developed by Prof. F. Milano. We found it to be an excellent value-added addition to the widely used MATLAB platform. It has opened up new vistas of learning and research in the area of Power System Engineering. This toolbox is being used extensively by us for class room and research related problems. We are immensely impressed by PSAT's capabilities.

My students and I are grateful to Prof. F. Milano for developing such a useful and powerful public domain toolbox. We wish him great success in his selfless endeavor.

Any assistance that can be provided to Prof. Milano for his continued efforts in improving, expanding and enhancing the capabilities of PSAT for the benefit of entire Power System fraternity would be greatly appreciated.

With best regards,

1 the

G. K. Singh



DEPARTMENT OF ELECTRICAL, ELECTRONICS AND SYSTEMS ENGINEERING FACULTY OF ENGINEERING

13 Sept 2006

TO WHOM IT MAY CONCERN

As the head of Department of Electrical, Electronic and Systems Engineering, Universiti Kebangssan Malaysia, I would like to inform that the Software Package Power System Analysis Toolbox PSAT developed by Prof. Dr. Federico Milano has been very useful to my student for use in research as a software tool in running power flow and contingency analyses.

PSAT is very well designed, documented and developed. With that, my student and I would like to take this opportunity to congratulate Prof. Federico Milano for his initiative in distributing his well-documented and comprehensive program worldwide.

Thank you

Yours Truly,

Prof. Dr. Azah Mohamed Head of Department Dear Dr Milano,

The development of flexible free software is important in the context of the changes in power system structures, and the advent of technologies like FACTS and PMU. In this context, I happened to access your PSAT software a few months back.

I think that a software like PSAT is a stupendous effort.

PSAT contains all tools for LF, OPF, CPF, time-domain simulation-large signal stability and small signal stability, FACTS and HVDC systems and PMU placement. It is an effort to be further consolidated and carried forward.

Congratulations to you for putting together a fine tool.

Best Regards

A.M.Kulkarni

Associate Professor Department of Electrical Engg. Indian Institute of Technology, Bombay, Powai, Mumbai 400 076 INDIA Phone: (+91)-22 2576 7416 (off) (+91)-22 2576 8416 (res)

Fax : (+91)-22 2572-3707

email: anil@ee.iitb.ac.in

University of Ljubljana Faculty of Electrical Engineering

Gregor Verbic, Ph.D. Assistant Professor Trzaska 25 SI-1000 Ljubljana Phone: +386 1 4768 240 Faks: +386 1 426 46 51 e-mail: gregor.verbic@fe.uni-lj.si

Ljubljana, November 15, 2006

To whom it may concern:

As an assistant professor at the Power Systems and Devices Department at Faculty of Electrical Engineering, University of Ljubljana, Slovenia, I herewith certify that PSAT, a Matlab-based power system analysis software developed by Prof. Dr. Federico Milano, is used at our department for research and teaching purposes.

We find PSAT very well suited for teaching purposes as the students are mostly familiar with Matlab environment so they can fully concentrate on power systems related issues.

For research purposes, PSAT provides an excellent platform as it allows the user to freely develop and include his or her own models, which is usually all but impossible with dedicated software packages.

Last but not least, the documentation is excellent.

I would also like to use this opportunity to congratulate Prof. Milano for great effort he has put in developing PSAT and providing support. Any support would be highly appreciated so Prof. Milano can continue his excellent job in PSAT development.

Sincerely, Gregor Verbic



November 18, 2006.

To Whom It May Concern:

At Rensselaer Polytechnic Institute, the course EPOW 4010 - Power Engineering Fundamentals is offered to undergraduate students pursuing their B.Sc. in Electric Power Engineering. In this course, students learn topics such as transformers and synchronous machines, transmission lines, network matrices, power flow, faults in power systems and etc.

To enhance our students learning they are assigned a course project to solve a practical power system problem. We found that the Power System Analysis Toolbox (PSAT) developed by Prof. Dr. Federico Milano is a suitable tool for the students to learn and solve power flow problems.

Students were taught how to use the program on a brief one-class tutorial, we were surprised to see how quickly many of our students were able to use the program and perform their calculations with it. Some of our students expressed that they enjoyed learning to use the software and that the software has helped them improve their understanding of power systems. This is in part due to the user friendliness of PSAT.

PSAT has been an excellent tool for undergraduate teaching at RPI. I would like to encourage Dr. Federico Milano to continue to distribute and to further develop the PSAT. Any assistance that can be provided to Prof. Milano in support of the further development of this software would be greatly appreciated.

With best reaards,

Leila Parsa, Assistant Professor Electrical, Computer and Systems Engineering Rensselaer Polytechnic Institute

Parsa

Rensselaer Polytechnic Institute 110 8th Street | Troy, NY 12180-3590 USA | ECSE-5012JEC Phone (518) 276-6329 | Fax (518) 276-6226



SERVIÇO PÚBLICO FEDERAL UNIVERSIDADE FEDERAL DE PERNAMBUCO CENTRO DE TECNOLOGIA E GEOCIÊNCIAS-ESCOLA DE ENGENHARIA DE PERNAMBUCO DEPARTAMENTO DE ENGENHARIA ELÉTRICA E SISTEMAS DE POTÊNCIA

Recife, February 27, 2007

To whom it may concern

As associate professor of the Power Systems Departament of the Universidade Federal de Pernambuco, I certify that the software Power Systems Analysis Toolbox (PSAT), developed by Prof. Federico Milano, has been used by me as a computational tool to develop research projets and solve assigned homeworks in our graduate courses.

PSAT is a very useful software package for teaching and investigation purposes, covering a wide range of power related topics. It is well elaborated and documented. I take this opportunity to congratulated Prof. Milano for his iniciative of distributing his well-documented and comprehensive program worldwide.

Sincerely,

Auzusto Cepep de Chreize. Augusto César Cavalcanti de Oliveira

Augusto César Cavalcanti de Oliveira Associate Professor Universidade Federal de Pernambuco Brazil





Facultad de Ingeniería Eléctrica Instituto Superior Politécnico José Antonio Echeverría Cujae



Centro de Investigaciones y Pruebas Electroenergéticas Instituto Superior Politécnico José A. Echeverría

Ciudad de La Habana, 15 de Julio de 2007

Dr. Federico Milano, Profesor Asistente. Departamento de Ingeniería Eléctrica. Universidad Castilla - La Mancha Campus Universitario, s/n. 13071. Ciudad Real. España.

Estimado Profesor Milano:

Nuestro Centro de Investigaciones y Pruebas Electroenergéticas (CIPEL) pertenece a la Facultad de Ing. Eléctrica del Instituto Superior Politécnico "José Antonio Echeverría" (CUJAE) y tiene entre sus principales funciones la formación de Ingenieros Electricistas, rige a nivel nacional la enseñanza de esta especialidad dentro de las carreras de ingeniería, al mismo tiempo que imparte cursos de Postgrado incluyendo Maestrías y Doctorados como centro autorizado.

Hemos revisado su Toolbox PSAT sobre Matlab, pudiendo comprobar sus excelentes posibilidades para prácticamente ejecutar cualquier estudio en Sistemas Eléctricos de Potencia.

Por la sencillez del software que permite ser asimilado rápidamente por los estudiantes, por la forma detallada de sus tablas de resultados y por la gran variedad de estudios que son posibles acometer con la ayuda del mismo estamos comenzando a utilizar el mismo en los estudios de pregrado y postgrado en nuestro centro.

Queremos felicitarlo por las excelentes posibilidades de su toolbox y esperamos mantenernos en contacto con Ud. brindándole toda la colaboración necesaria.

Con saludos afectuosos,



Dra. Miriam Vilaragut Llanes Directora CIPEL

Open Secure Energy Control Systems, LLC

8070 Georgia Avenue - Suite 205 Silver Spring, Maryland 20910 Phone: 301-565-4025 Fax: 301-589-9443 Web: http://www.osecs.com

June 17, 2008

To whom it may concern:

Under Small Business Innovation Research (SBIR) contracts and grants with the US Department of Homeland Security and the US Department of Energy, Open Secure Energy Control Systems, LLC (OSECS) has been developing a toolkit for implementing IEC 61850 and its wind power extension, IEC 61400-25. The toolkit is being developed as open source software with a parallel commercial license for those users who wish to avoid the implications of the GNU General Public License (GPL) on their "secret sauce" technology.

We have planned and initially tested a GPL-compatible interface to PSAT to enable toolkit applications to access advanced functionality such as power flow. In view of our recent focus on wind power, the inclusion of wind power models in Version 2 of PSAT, and our use of Octave as the base technology for running PSAT, we especially applaud the inclusion in PSAT of software that enables Version 2 of PSAT to be run using Octave.

We view PSAT as the foremost collection of power system software available in the open source community. It has a wide variety of potential applications and incorporates models addressing the most recent, critical issues facing the electric power community.

We commend Dr. Federico Milano for his excellent work and his commitment to open source software.

Sincerely,

/s/

Stanley A. Klein Managing Principal





Dr. Federico Milano Electrical Engineering Department, Univ. Castilla - La Mancha, Campus Universitario, s/n, 13071 Ciudad Real, Spain

To whom it may concern:

I certify that the software "Power Systems Analysis Toolbox" (PSAT) developed by Prof. Dr. Federico Milano, is used in my Laboratory as a computational tool for various topics. Many students use the software as an aid to understand the basic issues of power system analysis.

Recently, a student of mine used PSAT during his master thesis work about Smart Grids and, in our opinion, the software has been very helpful to get him quickly involved in the solution of the problem at the basis of his work.

We thank Dr. Federico Milano for his open-source software and we hope that he can further develop PSAT in the near future.

Dr. Massimo La Scala



March 3rd, 2010

Dr. Milano,

My name is Kevin Betts, and I serve as the engineering director for the Advanced Technology Division, a component of the Science Applications International Corporation (SAIC). I wanted to write to commend you on the quality of the Power System Analysis Toolbox (PSAT) software code that you have made available through the GPL license. As we work projects and develop tools, we have found this to be an excellent resource to use to perform independent verification of simulation results from our tool (SIREN) for specialized test cases where the tools overlap. We are also considering making our tools input/output compatible so that we can potentially provide power engineers with an even more powerful analysis capability for tackling future problems of interest in the renewable energy market space that takes advantage of the specialized areas of expertise of each of the tools.

The variety of platforms supported by PSAT (including Matlab and Octave with a Simulink graphical programming set-up capability) combined with some very sophisticated visualization capabilities makes the tool for easy to implement scenarios and quickly understand the results in a physically meaningful way. The wide array of journal and conference papers on the toolbox helped us to quickly understand the capabilities of the tool and determine how to apply it to some of the problems we were trying to solve.

As we discussed previously in emails, as our division becomes more comfortable with using the tool, we are very interested in future potential collaboration opportunities. Our company has a strong history of partnering with small business and universities from around the room whenever the relationship can strengthen the offerings we bring to our customers.

Please, keep up the great work!

Best regards,

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Kevin Betts Engineering Director Advanced Technology Division Science Applications International Corporation (SAIC) Huntsville, AL (USA) 35802 (256) 213-4724



August 6, 2010

To whom it may concern

It has been about seven years since I was introduced to the software package developed by Federico Milano, PSAT (Power System Analysis Toolbox). In a sense, I have grown up with this software, as it has accompanied through my formal academic training.

As an undergraduate student in Guatemala, I used it to analyze a fair number of class examples and exercises, but more importantly, it gave me the opportunity to introduce this advanced computing tool to students in a developing nation.

As a graduate student while at Rensselaer Polytechnic Institute in Troy, NY, I had the opportunity not only to use it for course projects in graduate courses, but also, I was given the opportunity of teaching undergraduate students of the Power Engineering Fundamentals. I saw that PSAT was useful and exciting for the students.

In addition, during my research visit at The University of Glasgow, Scotland, PSAT was used effectively to verify the results obtained from software being developed at this university.

With my recent appointment at the Royal Institute of Technology (KTH) have come research projects, which I am in charge of supervising. It gives me extreme pleasure to be able to share with my own students a Free/*Libre* and Open Source Software package that will allow them to carry out their thesis work, but also teach them on power system computations due to its open nature. I hope that I will be also able to use it for MSc courses at KTH.

I hope this testimony motivates the continued support and assistance of Federico's effort to develop PSAT and any other projects he carries out. After seven years since I was introduced to PSAT I have not only benefited from having a Free/Libre and Open Source Software for power system computations, but also have found in Federico a true gentleman and scholar.

With best regards,

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Dr. Luigi Vanfretti Assistant Professor Royal Institute of Technology (KTH) Electric Power Systems Division Stockholm, Sweden

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