

## **Personal Data:**

*Name:* Abdullah M. Al- Shaalan

*Employer:* King Saud University  
Riyadh 11421  
Kingdom of Saudi Arabia

*Address:* E.E. Dept., P.O. Box 800,  
Riyadh 11421  
Kingdom of Saudi Arabia

*Title:* Professor  
Chairman of the Electrical Engineering Department (1998- 2002)

*Telephone:* (+ 9661) 4676794/4676752

*Fax:* (+ 9661) 4676757

*E-mail:* [shaalan @ ksu.edu.sa](mailto:shaalan@ksu.edu.sa)  
[amshaalan@gawab.com](mailto:amshaalan@gawab.com)

*Education:* BSc (EE), King Saud University (KSA)  
MSc (EE), University of Pennsylvania (USA)  
PhD (EE), UMIST (UK) 84

*PhD Title:* Reliability Evaluation of Long-Range Generation  
Expansion Planning (Supervisor Prof. R. A. Allan)

*Specialization:* Power System Planning  
Reliability Evaluation of Power Systems  
Load Management Strategies  
Energy Management & Conservation  
Power System Contingency Analysis  
Economics Aspects of Power Systems  
Outage Costs Evaluation  
Safety and Hazards Aspects of Electric Power Systems

<i>Societies</i>	CIGRÈ member (Paris)
<i>Membership</i>	IASTED member (Canada)
	IEEE senior member (USA)
	IEE member (UK)
	Reliability Society (USA)
	Saudi Economic Committee (KSA)
	Saudi Engineers Association (KSA)

### **Coarses taught in the EE Department:**

- 1) Basic Electric Circuit Theory (201 EE).
- 2) Electric Circuit Analysis (202 EE).
- 3) Electric Circuit Lab (207 EE).
- 4) Electrical Installations (309 EE).
- 5) Power System Planning (444 EE).
- 6) Reliability Evaluation (544 EE for MSc).
- 7) Optimal Power System Planning (643 EE).
- 8) Reliability Evaluation (644 EE for Ph D).
- 9) Selected Topics (599 EE for MSc).

### **Projects, Thesis and Dissertations Supervision:**

- 1) Over 100 BSc. Graduation Projects.
- 2) 16 Master Thesis.
- 3) 4 Ph D dissertations.

### **Conferences:**

- IASTED, Lugano, Switzerland 24-26 June 1985 (paper)
- 2nd Saudi Engineers, King Fahd University, Dhahran, Saudi Arabia, 16-19 November 1985 (paper).
- IASTED on Electric Power Industry, Bozman, USA, 20-22 August 1986 (paper).
- Electric Power Systems in Fast Developing Countries, King Saud University, 21-24 March 1987 (Paper).
- IASTED, Vancouver, Canada, Simulation and Modeling, 4-6, June ,1986 (paper).

- Reliability, Birmingham, UK, 10-12 July 1985 (Paper).
- Reliability, Damascus, Syria, 1-8 July 1986 (paper).
- Energy Conversion and Utilization, King Abdulaziz University, 4-7 March 1990 (Paper).
- First Maintenance Planning and Operation, King Saud University, 24-26 April 1993 (session Chairman)
- Second Maintenance Planning And operation, King Saud University, 24-26 April 1993 (session chairman).
- 3rd Saudi Engineers Conf. KSU, 24-29 November 1991 (Paper).
- 3rd Saudi Engineers, KSU, November 1991 (paper).
- Inter-RAM, Philadelphia, USA, 25-28 August 1992 (Paper).
- CIGRE, Power System Planning, Kuwait, 16-17 May 1990 (Paper).
- Intersociety Energy Conversion, Monterey, California, USA, 7-11 August 1993, USA (paper).
- Intersociety Energy Conversion, Colorado Springs, Colorado, USA, 2-6 August 1998, USA (2 papers).
- Co-generation and Site Utility Systems Workshop, University of Bahrain, 13-15 May 2006.
- Power Generation Summit, International Institute of Research, Dubai, UAE, 6-8 October 2007.
- Comprehensive Master Plan for Electric Energy Conservation in the Kingdom of Saudi Arabia, King Saud University, 13/5/2008.

- Energy Labeling System for Major Home Electrical Appliances, Saudi Arabian Standards Organization (SASO), Riyadh, 20/5/2008.

### **Publications:**

- [1] A. M. Shaalan, Reliability Criteria Used by SCECOs in Generating and Capacity Planning, Proceedings of the Second Saudi Engineers Conf., KFUPM, Dhahran, pp. 611-631, Nov. 16-19, 1985.
- [2] A. M. Shaalan, Uncertainty Modeling in Long-Range Power System Planning, Proceedings of the IASTED Symposium on Modeling and Simulation, Logano, Switz, pp. 91-94, June 24-26, 1986.
- [3] A. M. Shaalan, Cost and Reliability Assessment in Generation Expansion Planning, Proceedings of the IASTED on High Technology in Power Industry, Bozman, USA, pp. 1-5, Aug. 20-22, 1986.
- [4] R. N. Allan and A. M. Shaalan, Cost-Benefits and Reliability Assessment of Electrical Generating Systems, The Reliability Engineering International Journal Elsevier Applied Science Publishers, vol. 15, no. 1, pp. 1-19, 1986.
- [5] A. M. Shaalan, Reliability Concepts in Power System Planning, Reliability Engineering (Book), Hemisphere Publishers, New York, pp. 166-174, 1986.
- [6] R. N. Allan and A. M. Shaalan, Probabilistic Production Costing Model, The International Journal of Modeling and Simulation, Vol. 8, No. 3, pp. 88-93, July 1988.
- [7] A. M. Shaalan, Problem Associated with Power System Planning in Developing Countries, The Journal of Engineering Science, King Saud University, vol. 14, no. 2, 1988.
- [8] A. M. Shaalan, Electric Service Interruptions, Impacts and Costs Estimation , the Electra, Cigrè, No. 127, pp. 99-109, December 1989.
- [9] A. M. Shaalan, Effects of Electric Power Interruption Upon the Residential Customer in Riyadh City, The Journal of the Arab Gulf for Scientific Research, Riyadh, Vol. 7, no. 1, pp. 79-91, 1989.

- [10] A. M. Shaalan, Load Management Strategy for Riyadh City, completed project # 304/10 funded by the Research Center, College of Engineering, King Saud University, 1994.
- [11] A. M. Shaalan and S. A. Aboreshaid, Automatic Contingency Selection for Composite Power System Reliability Evaluation, 3rd Saudi Engineers Conference, King Saud University, pp. 319-325, November 18-21, 1991.
- [12] A. M. Shaalan, Effects of Electric Service Interruptions Upon Customers and Cost Estimation, The Journal of the Arab Gulf for Scientific Research, Riyadh, Vol.9, No. 3, pp. 161-182, 1991.
- [13] A. M. Shaalan, Reliability Evaluation of Power Systems Based on Customer Perception, Inter-RAMQ Proc., Philadelphia, pp. 98-105, Aug. 25-28, 1992.
- [14] A. M. Shaalan, Consumers Losses due to Electric Outages, Journal of King Saud University, Engineering Sciences, Riyadh, Vol. 4, No. 2, pp. 3-28. 1992.
- [15] A. M. Shaalan, Reliability-Cost Assessment in Power System Planning", Journal of King Abdulaziz University Engineering Sciences, Jeddah, Vol. 5, pp. 49-67, 1993.
- [16] A. M. Shaalan, Maintenance Scheduling for Generating Systems, Proceedings of the 2nd Scientific Symposium on Maintenance Planning and Operations, King Saud University, pp. 30-39, April 1993.
- [17] A. M. Shaalan, Impact of Power Outages on Residential Consumers in Riyadh City, Journal of King Abdulaziz University Engineering Sciences, Jeddah, Vol. 7, 1995.
- [18] A. M. Shaalan, Adequacy Assessment of Power Systems Using the Contingency Ranking Approach, The Electra, Cigrè, Paris, No. 159, pp. 118-131, April 1995.
- [19] A. M. Shaalan, Effects of Interconnection on Reliability Improvement for Electric Power Systems, Journal of King Saud University, Vol. 8, Engineering Sciences, No. 1, 1995.

- [20] A. M. Shaalan, Maintenance Scheduling Approach, The Arabian Journal for Science and Engineering, King Fahd University, Dhahran, 1995.
- [21] A. M. Shaalan, H. A. Zarzoura, Power System Planning: Concepts and Techniques, A book (in Arabic) to be Published in 1997.
- [22] M.A. El-Kady and A.M. Shaalan Research Grant #2/415 (1994-1997) Development of Models for Reliability Evaluation of Composite Power Systems
- [23] M.A. El-Kady and A.M. Shaalan, "Composite Operating Quality Assessment of Large-Scale Power Systems", Proceedings of The Eighth Symposium on Power Systems Operation and Control (Kuwait, October 1997), Accepted for publication.
- [24] A.M. Shaalan and M.A. El-Kady, "Impact of Energy Conservation Strategies on Power System Operation", Proceedings of The Eighth Symposium on Power Systems Operation and Control (Kuwait, October 1997), Accepted for publication.
- [25] M.A. El-Kady and A.M. Shaalan, "Integrated Quality Assessment in Power Systems", Proceedings of The CIGRE Second Regional Conference in Arab Countries, Aman, Jordan, Paper Number SB0325, May 3-5, 1997.
- [26] M.A. El-Kady, A.M. Shaalan and A.A. Al-Ohaly, "Role of university in training of local power utility staff", Proceedings of the Regional Conference on Development of Human Resources as Investment for Arabian Electric Power Utilities (Aman, Jordan, November 1996), Paper No. 210211, pp. 137-143.
- [27] M.A. El-Kady and A.M. Shaalan, "Integrated utility-consumer strategies for demand management and energy conservation", Proceedings of The Joint Engineering Committee/KACST/IEE/IEEE Workshop on Energy Conservation and Load Management (Riyadh, Saudi-Arabia, May 1997).
- [28] M.A. El-Kady and A.M. Shaalan, "Power System Quality Assessment", Proceeding of The Fifth International Middle East Power System Conference, Alexandria, Egypt, January 4-6, 1997, pp. 618-622.

- [29] M.A. El-Kady, M.S. Owayedh, M.A. Shaalan and I.A. Al-Dossary, "Simulation of Customer Interruptions in Power Systems", Proceeding of IASTED International Conference on Modeling, Simulation and Optimization, Paper #242-184, Gold Coast, Australia, May 6-9, 1996.
- [30] M.A. El-Kady, S.M. Al-Ghuwainem, M.A. Shaalan and A.A. Al-Ohaly, "University Role in Computer-Aided Education and Training of Power System Engineers", Proceeding of The Fifth International Middle East Power System Conference, Alexandria, Egypt, January 4-6, 1997, pp. 350-354.
- [31] A.M. Shaalan and M.A. El-Kady, "Future Energy Planning in Developing Countries", Proceeding of The Fifth International Middle East Power System Conference, Alexandria, Egypt, January 4-6, 1997, pp. 623-627.
- [32] A.M. Shaalan and M.A. El-Kady, "Computer-Aided Modeling of Integrated Power System Quality Measures", Proceeding of IASTED International Conference on Modeling, Simulation and Optimization, Paper #242-190, Gold Coast, Australia, May 6-9, 1996.
- [33] M.A. El-Kady and A.M. Shaalan, "Optimal Selection of Power Utility Oriented Reliability Indices", Proceeding of IASTED International Conference on Modeling, Simulation and Optimization, Paper #242-189, Gold Coast, Australia, May 6-9, 1996.
- [34] A. M. Shaalan, Energy Systems Planning in Developing Countries, Journal of King Saud University, Vol. 14, Engineering Sciences, No. 2, 1988, pp.385-397.
- [35] A.M. Shaalan and M.A. El-Kady, "Future Energy Planning in Developing Countries" , Proceeding of The Fifth International Middle East Power System Conference, Alexandria, Egypt, January 4-6,1999, pp. 623-627.
- [36] M.A. El-kady and A.M. Shaalan, "integrated Quality assessment in power systems", proceedings of the CIGRE second regional conference in Arab countries, Amman, Jordan, Paper Number SB0325, May 3-5, 1997.

- [37] A.M. Shaalan and M.A El-Kady, "Impact of Energy Conservation Strategies on power System Operation", proceedings of The Eighth Symposium on power Systems Operation, Energy Conservation Conference, Ministry of Industry and Electricity, Riyadh, Kingdom of Saudi Arabia, November 14-15,1999.
- [38] A.M. Shaalan and M.A. El-Kady, "Future Energy Planning in Developing Countries" , Proceeding of The Fifth International Middle East Power System Conference, Alexandria, Egypt, January 4-6,1999, pp. 623-627.
- [39] Shaalan, A. M., "Power System Expansion Planning Using Reliability Criteria", PhD Thesis, University of Manchester, (UK), 1985.
- [40] A.M. Shaalan, "Reliability Criteria Used by SCECO'S in Generation and Capacity Planning", Proceedings of the second Saudi Engineers Conference, UPM, Dhahran, No. 16-19, 1985, pp. 41-63.
- [41] R.N. Allan, A.M. Shaalan, and J.R. Ochoa, "Cost Benefit and Reliability Assessment of Electrical Generating System", The Reliability Engineering International Journal, Elsevier Applied Science Publishers, Vol.15, No.1, 1986, pp.1-19.
- [42] A.M. Shaalan and N.A. Al-Mohawes, "Reliability Concepts in Power System Planning", Proceedings of the Special Seminar on Reliability, the Arab School of Science and Technology, Syria, July 1-8, pp.1-5.
- [43] R. N. Allan, and A. M. Shaalan, "Cost-Benefit and Reliability Assessment of Electrical Generating Systems", Journal of Reliability Engineering, Elsevier Publishers, London, Vol. 15, No.1, 1986, pp. 1-19.
- [44] A. M. Shaalan, and N. A. Almohawes, "Reliability Concepts in Power System Planning", Hemisphere Publishing Co., New York, 1988, pp. 166-174.
- [45] Shaalan, A. M., "Reliability Indices in Power System Planning", Reliability Engineering (Book), Hemisphere Publishers, New York, 1986, pp. 166-174.

- [46] Shaalan, A. M., "Electric Service Interruptions: Impact and Cost Estimation", *Electra*, Cigrè, No. 127, December 1989, pp. 99-109.
- [47] Allan, R. N., Shaalan, A. M. "Probabilistic Costing Model", *The International Journal of Modeling and Simulation*, Vol. 8, (1988), pp. 88-93.
- [48] R. N. Allan, A. M. Shaalan, "*Cost Benefit and Reliability Assessment of Electrical Generating Systems*," *Reliability Engineering Int. Journal*, Vol. 3, 1986, pp. 1-19.
- [49] A. M. Shaalan, "*Effects of Electric Service Interruptions Upon Customers and Cost Estimation*," *Arab Gulf Journal of Scientific Research*", Vol. 9, No, 3, pp 161-182, Jan. 1992.
- [50] Shaalan, A. M. "Electric Service Interruptions: Impact and Cost Estimation" *Electra*, Cigrè, No. 127, December 1989, pp. 99-109.
- [51] A. M. Shaalan, "*Problems Associated with Power System Planning in Developing Countries*," *The Journal of Engin. Sciences*, King Saud University, Vol. 14, \_ 2, pp 385-397, 1988.
- [52] R. N. Allan, A. M. Shaalan, "*Probabilistic Production Costing Model*," *The Int. Journal of Modeling and Simulation*, Vol. 8, \_ 3, pp 88-93, July 1988.
- [53] Shaalan, A. M., "Reliability Assessment of the Proposed SCECO in the Northern Province", Final Report , Project No. 10/408, Research Center, College of Engineering, King Saud University, 1990.

### **Practical Experience**

- worked with the International Engineering Company (San Francisco) on a project for Nicaragua Master Electrification Plan .
- worked with C. T. Main (Boston) on the Kingdom of Saudi Arabia Long-range Electrification plan .
- worked with Arabian American Oil Company (ARAMCO) as a system planner for 3 months in 1979).

- worked as a part-time consultant to the Saudi Electricity Corporation (1987-1988).
- Member of the ministerial committee for the Kingdom of Saudi Arabia 20-years Electricity requirements.
- worked as a board member of the CIGRÈ for four years and still in the Technical Committee.
- working as a part-time consultant to the Saudi Arabian Standard Organization 1415-Now).

**Researches Funded by and Submitted to the Research Center of the College of Engineering, King Saud University:**

- 1) Customers Losses Due to Power Outages (1988).
- 2) Proposed Methodology for the Northern Region Power Systems Interconnection (1990).
- 3) Load Management Strategy for Riyadh City (1994).
- 4) Power System Planning: Concepts and Techniques (1997).
- 5) Reliability-based Models for large Scale Power Systems (1998).
- 6) Load Management and Energy Conservation Strategies (1999).
- 7) Computer-Aided Arabic Vocabulary.
- 8) Electric Circuit Theory (Book in Arabic).

**Researches Funded by Other Utilites and Research Centers:**

- 1) Comprehensive Simulation and Testing Laboratory for Electrical Safety and Electrocutation Risks Assessment (SABIC).
- 2) Power Factor Management (KACST).
- 3) Development of Integrated Customer-Utility Strategies for Power Factor Improvement for Saudi Electric Systems (MHE).
- 4) Planning and Development of Load Management and Energy Conservation Strategies in the Kingdom of Saudi Arabia (DSR, KSU).
- 5) System-Wide Reliability and Quality Assessment (SEC'c)

### **Books Authored:**

- 1) Concepts And Methodologies in Power System Planning.
- 2) Fundamental of Electric circuits Theories.
- 3) Development of Electric Sector in the reign of the Custodian of Holy Mosques (Late King Fahad Ibin Abdulaziz).
- 4) Development of Basic Structure of Computer Dictionary for Scientific and Technical Vocabularies.
- 5) Participating in authoring a book titled: “ Structure Development Strategies and Policies in the Kingdom of Saudi Arabia”.

### **Books Translated:**

- 1) Control and Stability of Electric Power System (IEEE Press).
- 2) Electrical Installation Guide (Schneider Electric & SASO).
- 3) Safety Regulation in Electrical Installation (Gemelec & SASO).
- 4) Participating in the Translation of the Arabic Version of the Encyclopedia (Al-Showaikhat Office).

### **Honors Certificates:**

- 1) Gold certificate from CIGRÈ for the distinguished efforts done for the Power System Committee, the CIGRÈ (Gulf Branch).
- 2) Distinguished gold certificate for reviewing projects (KACST).
- 3) Several trophies and certificate appreciations from : Civil Defense (Riyadh), King Saud University, International Institute of Research (IIR) in Dubia, Japan International Co-operation Agency (JICA), Saudi Building Code (SBC), Institute of Electrical and Electronic Engineers (IEEE-Dhahran Branch), Saudi Arabian Standards Organization (SASO), Saudi Electric Company (SEC), Ministry of Water and Electricity (MOWE).

### **Specialized Workshops Organized for Professional Engineers**

- 1) Safety in Electrical Equipment (JICA).
- 2) Safety in Electrical Appliances and Products (SASO).
- 3) Recent Methodologies in Energy Conservation (SEC).
- 4) New Criteria in Electrical Installations (Saudi Projax).
- 5) Power Factor Improvement (Saudi Engineers Association).
- 6) Load Management Strategies for Industry (MOWE).

### **Participation in Society Awareness and Cultural Activities:**

To increase the awareness, perception and knowledge of the public about the appropriate ways of utilizing the electric energy and in the mean time avoiding its waste and risks , the following activities have been fulfilled:

- 1) Writing many articles in local newspapers and magazine.
- 2) Arranging number of courses in "Safety of Electrical Installations".
- 3) Broadcast Programs for the purpose of "Energy Conservation".
- 4) Participating in TV shows for Promoting issues in Energy Utilization and Conservation .