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DAFTAR PUSTAKA

[1] University of Wisconsin, "Facts about Propane," *Wisconsin Cent. Environ. Educ.*, pp. 1–2, 2015.

[2] M. M. Hasan Syukur, ST, "Penggunaan Liquified Petroleum Gases (Lpg)," *Forum Teknol.*, vol. 1, no. 2, pp. 1–14, 2011.

[3] D. H. Berman, H. Ave, and C. D. Hafner, "Secondary Energy Infobook," *Natl. Energy Educ. Dev. Proj.*, pp. 35–38, 2018.

[4] N. I. Service, "Propane," vol. 2566, pp. 1–13, 2016.

[5] H. Muda, "Tinjauan Umum Proses Produksi Minyak dan Gas pada Blok Jabung," *Irkutsk Natl. Res. Tech. Univ.*, pp. 1–33, 2017.

[6] M. Kobayasi and M. Tamura, "Fire and Explosion of LPG Tanks at Feyzin, france," pp. 1–14, 1966.

[7] B. Abdolhamidzadeh, C. R. C. Hassan, M. D. Hamid, S. Farrokhmehr, N. Badri, and D. Rashtchian, "Anatomy of a domino accident: Roots, triggers and lessons learnt," *Process Saf. Environ. Prot.*, vol. 90, no. 5, pp. 424–429, 2012, doi: 10.1016/j.psep.2012.04.003.

[8] Honeywell, "Flammable Gas Hazards," *Honeywell Gasb.*, pp. 18–19, 2013.

[9] M. Qi, Y. Kan, X. Li, X. Wang, D. Zhao, and I. Moon, "Spurious activation and operational integrity evaluation of redundant safety instrumented systems," *Reliab. Eng. Syst. Saf.*, vol. 197, no. September 2019, 2020, doi: 10.1016/j.ress.2019.106785.

[10] M. A. Lundteigen and M. Rausand, "Spurious activation of safety instrumented systems in the oil and gas industry: Basic concepts and formulas," *Reliab. Eng. Syst. Saf.*, vol. 93, no. 8, pp. 1208–1217, 2008, doi: 10.1016/j.ress.2007.07.004.

[11] L. Sun, X. Chen, B. Zhang, C. Mu, and C. Zhou, "Optimization of gas detector placement considering scenario probability and detector reliability in oil refinery installation," *J. Loss Prev. Process Ind.*, vol. 65, no. April, p. 104131, 2020, doi: 10.1016/j.jlp.2020.104131.

[12] A. Rad, D. Rashtchian, and M. H. Eghbal Ahmadi, "Optimum placement of gas detectors considering voting strategy with different detection set points," *J. Loss Prev. Process Ind.*, vol. 55, no. May, pp. 53–60, 2018, doi: 10.1016/j.jlp.2018.05.002.

[13] H. Jin, M. A. Lundteigen, and M. Rausand, "New reliability measure for safety instrumented systems," *Int. J. Reliab. Qual. Saf. Eng.*, vol. 20, no. 1, 2013, doi: 10.1142/S0218539313500058.

[14] P. Hokstad, P. Fløtten, S. Holmstrøm, F. McKenna, and T. Onshus, "A

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reliability model for optimization of test schemes for fire and gas detectors," *Reliab. Eng. Syst. Saf.*, vol. 47, no. 1, pp. 15–25, 1995, doi: 10.1016/0951-8320(94)00038-P.

[15] S. Supriyanto, "Desain Engineering Safety Instrumented System (Sis) Pada Furnace 5 (F05) Kilang Pusdiklat Migas," *Forum Teknol.*, vol. 3, no. 1, 2013.

[16] J. Jin, L. Pang, B. Hu, and X. Wang, "Impact of *proof test* interval and *coverage* on probability of failure of safety instrumented function," *Ann. Nucl. Energy*, vol. 87, pp. 537–540, 2016, doi: 10.1016/j.anucene.2015.09.028.

[17] J. V. Bukowski and I. Van Beurden, "Impact of *proof test* effectiveness on safety instrumented system performance," *Proc. - Annu. Reliab. Maintainab. Symp.*, pp. 157–163, 2009, doi: 10.1109/RAMS.2009.4914668.

[18] A. C. Torres-Echeverría, S. Martorell, and H. A. Thompson, "Multi-objective optimization of design and testing of safety instrumented systems with MooN voting architectures using a genetic algorithm," *Reliab. Eng. Syst. Saf.*, vol. 106, pp. 45–60, 2012, doi: 10.1016/j.ress.2012.03.010.

[19] A. C. Torres-Echeverría, S. Martorell, and H. A. Thompson, "Design optimization of a safety-instrumented system based on RAMS+C addressing IEC 61508 requirements and diverse redundancy," *Reliab. Eng. Syst. Saf.*, vol. 94, no. 2, pp. 162–179, 2009, doi: 10.1016/j.ress.2008.02.010.

[20] R. D. Noriyati, A. B. Prakoso, A. Musyafa, and A. Soeprijanto, "HAZOP Study and Determination of Safety Integrity Level Using Fault tree Analysis on Fuel Gas Superheat Burner of Ammonia Unit in Petrochemical Plant, East Java," *Asian J. Appl. Sci.*, vol. 5, no. 2, pp. 396–409, 2017, doi: 10.24203/ajas.v5i2.4683.

[21] S. D. Costa, J. Pujanto, T. R. Biyanto, A. Musyafa, and A. Suprijanto, "Evaluation Safety Integrity Level Using Layer of Protection Analysis in Recycle Gas First Stage Cycle Compressor at PT.Pertamina Persero," *Aust. J. Basic Appl. Sci.*, no. April, pp. 154–163, 2015.

[22] C. Zhou, B. Zhang, S. Qiao, and C. Mu, "A stochastic programming approach for the optimization of gas detector placement in offshore platforms," *Ocean Eng.*, vol. 187, no. March, p. 106223, 2019, doi: 10.1016/j.oceaneng.2019.106223.

[23] K. Cen, T. Yao, Q. Wang, and S. Xiong, "A risk-based methodology for the optimal placement of hazardous gas detectors," *Chinese J. Chem. Eng.*, vol. 26, no. 5, pp. 1078–1086, 2018, doi: 10.1016/j.cjche.2017.10.031.

[24] A. Bratteteig, O. Hansen, F. Gavelli, and S. Davis, "Using CFD to analyze gas detector placement in process facilities," *14th Annu. Symp. Mary Kay O'Connor Process Saf. Cent.*, no. May 2014, pp. 735–753, 2011.

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[25] E. Miyata and S. Mori, "Optimization of Gas Detector Locations by Application of Atmospheric Dispersion Modeling Tools," *Process Prod. Tecnol. Cent.*, vol. I, pp. 1–10, 2011.

[26] The Instrumentation System and Automation Society, "Safety Instrumented Functions (SIF) -Safety Integrity Level (SIL) Evaluation Techniques Part 3 : Determining the SIL of a SIF via Fault tree Analysis," *ISA Stand.*, 2002.

[27] I. Van Beurden and D. willia. M.Goble, "The Key Variables Needed for PFDavg Calculation Barrier Two : PFDavg Calculation," *EXIDA*, pp. 1–15, 2016.

[28] S. Hauge and T. Onshus, *Reliability Data For Safety Instrumented System*, vol. 7, no. 9. SINTEF Tecnology And Society Safety Research, 2015.

[29] Y. Chen, "Reliability analysis of a fire alarm system," *Procedia Eng.*, vol. 24, pp. 731–736, 2011, doi: 10.1016/j.proeng.2011.11.2727.