Perancangan Pembangunan Fasilitas Pengolahan Sampah Menjadi Energi Listrik (PSEL) DKI Jakarta Wilayah Barat = Design for the Construction of Waste Processing Facilities into Electrical Energy (WtE) in DKI Jakarta, West Region

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Abstrak

Rata-rata setiap orang di DKI Jakarta menghasilkan 3.4004-liter atau 0.69 Kg sampah per orang per hari. Dengan 10.748.230 jiwa pada 2022, sampah DKI Jakarta mencapai 7.416.278 kg/hari atau 7416,3 ton/hari. Angka ini menjadi 175.000-ton sampah per hari secara nasional. Karena minimnya penanganan sampah yang baik, berbagai kota mengalami darurat sampah, termasuk Jakarta. Salah satu inisiatif yang diharapkan dapat menjadi solusi adalah pembangunan Fasilitas Pengolahan Sampah Antara (FPSA)/Intermediate Treatment Facility (ITF) II DKI Jakarta Wilayah barat yang akan menjadi fasilitas Pengolahan 2000 ton per hari Sampah menjadi Energi Listrik (PSEL). Laporan Praktik Keinsinyuran ini membahas perancangan pembangunan fasilitas ini dalam peran dan fungsi penulis sebagai Solution Architect dan Project Manager. Laporan ini disusun secara komprehensif memperhatikan kondisi persampahan secara nasional, perhatian pemerintah, tata aturan perundangan, kedaruratan penanganan sampah dan solusinya, proyek yang dijalankan, paradigma penyusunan teknologi, rancangan solusi hingga desain termasuk pemenuhan standar teknologi nasional dan global. Berdasarkan analisis yang dilakukan kegiatan praktik keinsinyuran yang dilaporkan telah dilaksanakan dengan memperhatikan aspek Profesionalisme, Kode Etik Insinyur (KEI) serta Keselamatan, Kesehatan Kerja, dan Lindung Lingkungan (K3LL).
.....On average, each person in DKI Jakarta produces 3,4004 liters or 0.69 kg of waste per person per day. With 10,748,230 people in 2022, DKI Jakarta's waste will reach 7,416,278 kg/day or 7416.3 tons/day. This figure is 175,000 tons of waste per day nationally. Due to the lack of proper waste management, various cities are experiencing waste emergencies, including Jakarta. One of the initiatives that is expected to be a solution is the construction of an Intermediate Treatment Facility (ITF) II DKI Jakarta on West Region which will become a facility for processing 2000 tons per day of Waste into Electricity/Waste to Energy (WtE). This Engineering Practice Report discusses the design of the construction of this facility in the author's role and function as Solution Architect and Project Manager. This report was prepared comprehensively taking into account national waste conditions, government attention, legal regulations, waste handling emergencies and solutions, projects being implemented, technology development paradigms, solution plans and designs including compliance with national and global technology standards. Based on the analysis carried out, the reported engineering practice activities have been carried out taking into account aspects of Professionalism, the Engineer's Code of Ethics and also Safety, Occupational Health and Environmental Protection.