

DAFTAR ISI

| | |
|--|------|
| HALAMAN JUDUL..... | i |
| PERNYATAAN BEBAS PLAGIARISME..... | ii |
| HALAMAN PENGESAHAN..... | iii |
| KATA PENGANTAR | vi |
| DAFTAR TABEL..... | xi |
| DAFTAR GAMBAR | xiii |
| DAFTAR LAMBANG DAN SINGKATAN | xv |
| INTISARI..... | xix |
| ABSTRACT..... | xx |
| BAB I PENDAHULUAN..... | 1 |
| I.1. Latar Belakang..... | 1 |
| I.2. Perumusan Masalah..... | 3 |
| I.3. Batasan Masalah | 4 |
| I.4. Tujuan Penelitian | 4 |
| I.5. Manfaat Penelitian | 4 |
| BAB II TINJAUAN PUSTAKA..... | 5 |
| BAB III DASAR TEORI | 9 |
| III.1. PLTU Banko Barat..... | 9 |
| III.2. NORM..... | 10 |
| III.2.1. Persebaran NORM di Tanah | 10 |
| III.3. TENORM..... | 11 |
| III.3.1. Industri Penghasil TENORM | 12 |
| III.4. Proteksi Radiasi..... | 14 |
| III.5. Jalur Paparan Radiasi Menuju Manusia..... | 15 |
| III.6. Dosis Radiasi..... | 15 |
| III.6.1. Pengertian Dosis Radiasi..... | 15 |
| III.7. Spektroskopi Gamma..... | 17 |
| III.8. Keseimbangan Sekuler..... | 18 |
| III.9. Konsentrasi Dosis Radiasi di Tanah | 20 |



| | | |
|-----------|---|----|
| III.9.1. | Analisis Sumber | 20 |
| III.9.2. | Analisis Perpindahan Lingkungan..... | 21 |
| III.9.3. | Analisis Dosis/paparan | 22 |
| III.9.4. | Analisis Skenario..... | 23 |
| III.10. | RESRAD-Onsite 7.2 | 24 |
| III.10.1. | Prediksi Dosis menggunakan RESRAD-Onsite 7.2..... | 24 |
| III.11. | Permodelan Distribusi Spasial | 30 |
| III.11.1. | Metode Kriging | 31 |
| BAB IV | PELAKSANAAN PENELITIAN | 35 |
| IV.1. | Alat dan Bahan Penelitian..... | 35 |
| IV.1.1. | Alat Penelitian | 35 |
| IV.1.2. | Bahan Penelitian..... | 37 |
| IV.2. | Tata Laksana Penelitian | 37 |
| IV.2.1. | Skema Penelitian | 37 |
| IV.2.2. | Prosedur Penelitian..... | 37 |
| IV.3. | Analisis Hasil Penelitian | 40 |
| IV.3.1. | Kalibrasi Energi..... | 40 |
| IV.3.2. | Kalibrasi Efisiensi | 41 |
| IV.3.3. | Analisis Radionuklida dan Radioaktivitas..... | 42 |
| IV.3.4. | Perhitungan Dosis Radiasi..... | 43 |
| IV.3.5. | Analisis Distribusi Spasial..... | 43 |
| BAB V | HASIL DAN PEMBAHASAN..... | 44 |
| V.1. | Kalibrasi Energi Spektrometer Gamma | 44 |
| V.2. | Kalibrasi Efisiensi Pencacahan | 45 |
| V.3. | Lower Limit Detection (LLD)..... | 48 |
| V.4. | Radioaktivitas Sampel..... | 48 |
| V.5. | Dosis Radiasi Menggunakan RESRAD 7.2 | 52 |
| V.6. | Distribusi Spasial Radioaktivitas dan Dosis Radiasi | 55 |
| BAB VI | KESIMPULAN DAN SARAN | 62 |
| VI.1. | Kesimpulan | 62 |
| VI.2. | Saran | 62 |
| DAFTAR | PUSTAKA | 63 |





| | |
|------------------|----|
| LAMPIRAN | 70 |
| LAMPIRAN A | 71 |
| LAMPIRAN B | 72 |
| LAMPIRAN C | 74 |
| LAMPIRAN D | 76 |
| LAMPIRAN E | 77 |
| LAMPIRAN F | 88 |
| LAMPIRAN G | 98 |

