



### Radiation Shielding

ENERCON is experienced in running the simplest point-kernel programs to the most sophisticated Monte Carlo particle transport codes. Our experience allows us to determine the most cost-effective methods and models to apply to a shielding problem. We understand the code shortcomings and inherent assumptions. We have successfully defended our work to regulatory agencies. Our shielding expertise has been used in diverse applications including:

- Nuclear power plant shield design
- Environmental Qualification
- Dose reduction
- Hot cell design
- Spent fuel and irradiated component transport packages
- Spent fuel storage casks
- Independent Spent Fuel Storage Installations (ISFSI)

In related areas, we have the expertise to perform in-core and ex-core component activation, reactor vessel fluence and thermal energy deposition. This is combined with our ability to perform fuel burnup and fission product inventory to provide a complete and defensible analysis.

**Analysis Codes:**

SCALE6/ORIGEN-S • MCNP6/MCNP-X • MicroShield



Radiation Shielding

### Control Room Habitability

NRC regulatory guidance includes requirements for protection from radiation, smoke, and toxic gases to permit access and occupancy of the control room in order to safely function as needed in the event of an airborne release. ENERCON has supported the nuclear industry in this area through many avenues, including new plant control room and technical support center evaluations, operating plant control room upgrades, plant modifications and alternate source term implementation. Our control room habitability expertise includes:

- Atmospheric relative concentration determinations
- Design basis control room and technical support center radiological assessments
- Evaluation of postulated chemical and radiological releases
- New plant control room and technical support center evaluations
- Periodic toxic chemical surveys for control room habitability updates

**Analysis Codes:**

ARCON96 • RADTRAD • HABIT • ALOHA • SLAB

ENERCON is ranked as one of the largest providers of engineering design services to the U.S. Nuclear Industry. We are uniquely qualified to support our clients' routine and complex engineering needs with over 700+ experienced engineers. Our Engineer of Choice contracts with over 90% of the operating U.S. nuclear power plants allows us to provide high-quality services for all large and small scope projects efficiently.



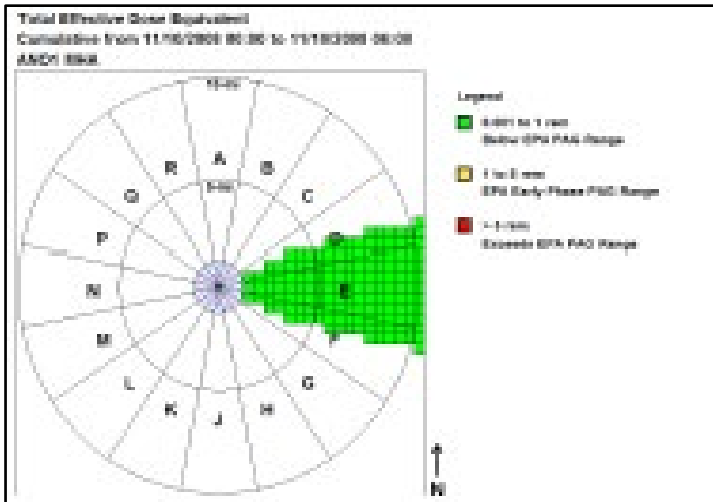
## Radiological Analysis

ENERCON has extensive experience evaluating radiological consequences for regular operation and accident conditions at commercial nuclear power plants, fuel processing facilities, and waste sites. Our radiological expertise includes:

- Calculation of normal and accident radiological source terms
- Estimation of dose under normal and accident situations, including Alternative Source Terms (AST)
- Estimation of short term and long-term site and population doses for severe accidents
- Siting evaluations for new plants
- Evaluations in support of Cost-Benefit Licensing Actions (CBLA)
- Analysis updates for license renewal, power uprate, extended operating cycles, and other design and licensing changes
- Vital area access and equipment qualification evaluations

### Analysis Codes:

ORIGEN-S • RADTRAD • MACCS/MELCOR • RADTRAN • ALOHA • RASCAL • FRAMES • CALPUFF • CAMEO • GASPAR • LADTAP • MicroSkyshine • MicroShield



Radiological Analysis

## Nuclear Fuel & Criticality

ENERCON is experienced in the many aspects of the nuclear fuel cycle, including front-end and back-end evaluations. Our nuclear fuel cycle expertise includes:

- Criticality safety in uranium processing, enrichment, and fuel fabrication
- Criticality accident alarm system evaluation
- Criticality analysis of spent fuel racks
- Criticality analysis of spent fuel storage and transport casks
- Steady state core design, analysis, and review
- Fuel cycle economic analysis

### Analysis Codes:

KENO-V/VI • MCNP5 • CASMO-4 • SIMULATE-3 • MONK

Our corporate philosophy is simple:

**Excellence - Every project. Every day.**

Service excellence is the primary goal of Enercon Services, Inc. We realize that today's market is highly competitive, and, as an employee-owned company focused on doing it right the first time, our work directly reflects on our personal and corporate reputations. This is the reason for our exceptional work standards and client responsiveness.

**CLICK HERE** to contact us and put over thirty years of excellence, innovation, and success on your side.



#2 Nuclear Power  
#15 Power  
#9 Cogeneration  
#57 Pure Design  
#74 Top 500 Design Firms

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