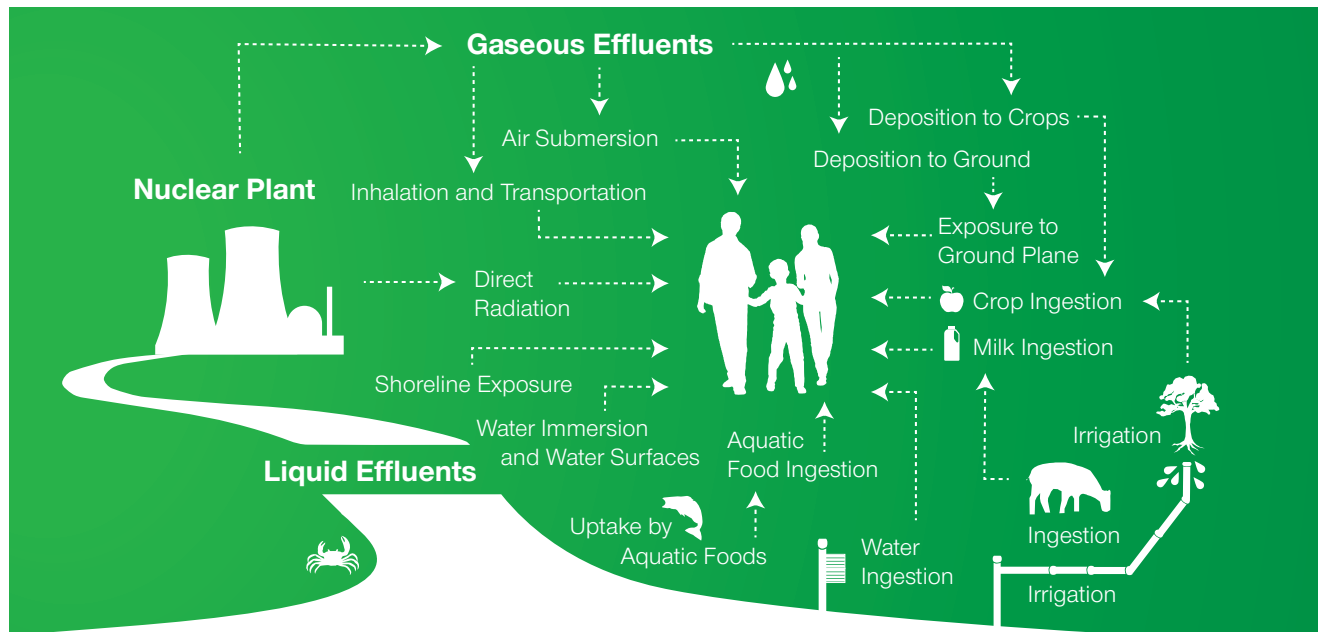


Radiological Effluent and Environmental Monitoring Program Services



10 CFR Part 50 requires a report to be submitted annually to the Nuclear Regulatory Commission (NRC) specifying the quantity of each principal radionuclide released to unrestricted areas in liquid and gaseous effluents during the previous calendar year of operation. The report shall include any additional information that may be required to estimate the annual radiation doses to the public resulting from effluent releases. Regulatory Guide 1.21 describes acceptable programs for measuring, reporting, and evaluating releases of radioactive materials and details format.

Framatome Delivers Proven Experience and Technical Specifications Expertise

Framatome's team of health physicists, radiological engineers, meteorologists and nuclear engineers have provided services related to Radiological Effluent Technical Specifications (RETS) and Radiological Environmental Monitoring Program (REMP) to many operating plants over the past 30 years. More recently they have played a key role in the license applications for the new generation of nuclear power plants. Both scenarios allows the customer to focus on day-to-day operations and program improvements.

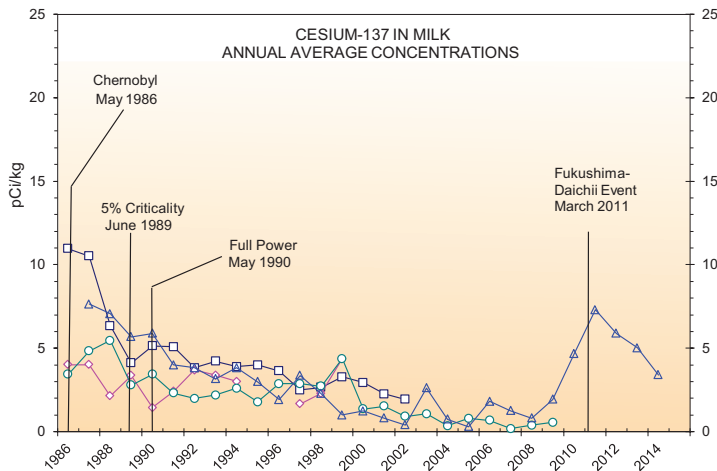
Framatome delivers valuable programmatic RETS experience to support utilities in preparation of annual radiological effluent release reports, evaluation and operation of their effluent monitoring program, and Offsite Dose Calculation Manual (ODCM) revisions.

Features & Benefits

- Dose assessment for Carbon-14 releases
- Radiological dose analyses, using guidance from Regulatory Guide 1.109
- Analysis of atmospheric dispersion and deposition for normal effluent releases, using guidance provided in Regulatory Guide 1.111, Rev. 1
- Preparation of annual radiological effluent release reports
- Development and revision of Offsite Dose Calculation Manual in accordance with Regulatory Guide 1.21, Rev. 1 or Rev. 2
- Independent evaluation or auditing of radiological dose assessment programs
- Review of daily meteorological data for identification of instrumentation problems and/or suspect data and preparation of status reports documenting data recovery rates
- Generation of annual meteorological joint frequency distribution tables

Your performance
is **our everyday commitment**

10 CFR Part 50 also requires each nuclear power station to have a Radiological Environmental Monitoring Program (REMP). The REMP provides data on measurable levels of radiation and radioactive materials in the environment to evaluate the relationship between quantities of radioactive material released in effluents and resultant radiation doses to individuals from principal pathways of exposure. The program also identifies changes in the use of unrestricted areas to permit modifications in monitoring programs for evaluating doses to individuals from principal pathways of exposure.



Radiological Environmental Monitoring Program Expertise

Framatome is uniquely qualified to support licensees in preparation of the annual report and operation of their environmental operating program. The NRC requires that licensees operate an environmental monitoring program and produce an Annual Radiological Environmental Operating Report (AREOR).

Report Preparations

The AREOR preparation includes all data summaries, including data presented in conformance with the format of the table in the NRC Radiological Assessment Branch Technical Position (Rev. 1, 1979), graphical analysis of trends, determination of background and interpretation of results, as well as confirmation of laboratory quality assurance requirements for producing quality data (including inter-laboratory comparisons of split or spiked samples).

Comparisons with both preoperational studies and with past operational periods are made as appropriate to identify changes or potential plant-related impacts on the environment. If positive plant-related radioactivity is identified in environmental media associated with human exposures, dose impact assessments are performed for comparison with plant effluent dose models and predicted dose impacts.

The annual reports also include all deviations from the required program, including missed, lost or unavailable samples, analyses not achieving required lower limit of detections (LLDs), or analysis results in excess of reporting requirements.

Features & Benefits

- Design of environmental monitoring program
- ODCM preparation and updates
- Annual dose-based evaluations of the Land Use Census data for determination of optimum sample collection locations and critical dose impact points
- Preliminary review of environmental data as generated to identify anomalies in the data
- Preparation of Annual Radiological Environmental Operating Reports
- Environmental pathway dose assessment

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