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PWR Fresh Fuel FCC Container Industrial Production

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In 1997, at the request of the French Safety Authorities, Framatome ANP, the foremost world supplier of PWR fuel, redesigned its fresh fuel assembly shipping containers to ensure compliance with current regulations. This program resulted in the up-to-date FCC container model.

After a qualification phase in which two prototypes were built and tested, the French Safety Authorities approved this package in accordance with IAEA 85, amended 90, for a five-year period beginning in 2000, provided manufacturing was performed within the guidelines of a quality assurance program. Production was contracted out to a joint venture between the Daher Lhotellier and ATEA companies, whose knowledge and skill were demonstrated first through the design, construction and subsequent approval of the two prototypes, and secondly, through their perfect control of the geometric and dimension requirements of nuclear-quality welded stainless steel components.

The paper outlines the design objectives of the FCC container, and includes a description of its primary safety improvements. It continues with a presentation of the industrial process and the associated quality program, which guarantees, at each step of the process, conformity to the approved prototype design and with the safety issues described in the Safety Report. The entire manufacturing program will be tracked by the French Safety Authorities, with particular emphasis on the safety components (including the neutron-poisoning resin), which play a major role in maintaining the sub-criticality status of the package.