Duke Oconee Nuclear Station Annual Assessment Meeting
Reactor Oversight Program – 2009
Nuclear Regulatory Commission – Region II

On April 8, 2010, a public meeting was conducted by the NRC to conduct a forum for discussion of the licensee's 2009 performance and to address the performance issues identified in the annual assessment letter. This is the first time in recent history that FOLKS attended this annual meeting. Among the interesting things learned:

- there are four NRC inspectors on site at ONC
- 104 nuclear reactors supply about 20% of the US electricity

The NRC Mission is to license and regulate the nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment. They assure nuclear plant safety by:

- Requiring "defense-in-depth"
- Requiring long-term maintenance of equipment
- Requiring continual training of operators, and
- Verifying compliance with regulations

The NRC regulates:

- Nuclear reactors – commercial power reactors, research and test reactors, new reactor designs'

- Nuclear materials – nuclear reactor fuel, radioactive materials for medical, industrial and academic use,

- Nuclear waste –transportation, storage and disposal of nuclear material and waste, decommissioning of nuclear facilities,

- Nuclear security – physical security of nuclear facilities and materials from sabotage or attacks.

The NRC requires:

- Well-armed and well-trained security forces,
- Surveillance and perimeter patrols,
- State-of-the-art site access equipment and controls,
- Physical barriers and detections zones, and
- Intrusion detection systems and alarm stations.

There is a very well defined monitoring process for performance indicators (self reporting to NRC) and inspection findings which triggers more and aggressive NRC inspection efforts and which can eventually lead to regulatory actions.

In the ONC 2009 "Report Card" for Units 2 and 3 Duke was in the "Licensee Response Column" (i.e. any minor excursions were self reported for all 4 quarters. Unit 1 was carried over in the first three quarters in "Regulatory Response Column" due to a 4th quarter 2008 "White Finding" related to maintenance on the generator voltage regulator. That "White Finding" was closed in Q4 2009 based on completing the necessary remediation and follow-up inspection.

Overall, the presentation and follow up questions were done in a professional and open manner. The working relationship between the NRC and Duke Energy appeared to be very good.

The one area that elicited the most post-presentation discussion was the recent report of Duke Energy finding of tritium in two (2) of the sixty-four (64) on-site monitoring wells. (Levels were 24,400 and 35,400 picocuries per liter). A tritium fact sheet was presented:

- Tritium is a radioactive form of hydrogen.
- It occurs naturally in air and water.
- It can be produced by nuclear weapons testing and nuclear reactor operation.
- It can be found in exit signs, aircraft dials, gauges, luminous paints and wristwatches.
- Tritium is relatively harmless because it emits very weak radiation and leaves the body relatively quickly.
- The EPA drinking water limit is 4 millirem/year. This equates to drinking 2 liters/day for 1 year of 20,000 picocuries/liter.
- In 2008, no measurable tritium was found offsite of ONC according to SC DHEC.

ONC continues to monitor existing wells and drilling additional wells to ascertain the source(s) of the tritium and the NRC has implemented a new Groundwater Contamination Task Force (GCTF). For more information, please go to the NRC tritium information website:

http://www.nrc.gov/reactors/operating/ops-experience/grndwtr-contam-tritium.html