

GC-859 Pilot Program Update

**NEI Used Fuel Management
Conference**

**Kurt Espiritu
May 8, 2013**

History of the Form GC-859

- **Nuclear Waste Policy Act of 1982 required that all owners and generators of spent nuclear fuel and/or high-level waste (SNF/HLW) enter into a Standard Contract with DOE by June 1983.**
- **Article IV, Section A.1.(a) of Standard Contract requires the submission of Appendix B annually**
- **Appendix B “Discharge Forecast” of the Standard Contract was used to report information on spent fuel discharges and projected discharges in 1983**
- **The Form RW-859 Nuclear Fuel Data Survey was first collected for the 1984 survey year**
- **Letter to Contract Holders in 1988 stated that timely completion of the Form RW-859 (now GC-859) would satisfy the annual filing of Appendix B**
- **Data collection is needed as the strategy/program for SNF/HLW develops and for contract administration**

History (continued)

- **The Form RW-859 Survey was administered by the DOE Energy Information Administration (EIA), in support of the DOE Office of Civilian Radioactive Waste Management (OCRWM).**
 - Annual survey from 1983 - 1995
 - Survey in 1999 collected data from 1996 – 1998
 - Survey in 2003 collected data from 1999 – 2002
- **Latest data available as of December 31, 2002.**
- **A supplemental survey (Form RW-859S) was also collected for 1995. Form RW-859S collected data on:**
 - reactor characteristics
 - storage site configurations
 - site handling and access capabilities
 - transportation infrastructure
 - canister contents
 - nonfuel components

2013 Form GC-859 - Timeline

- **Started development of an updated Form GC-859 in September 2011**
- **With feedback (Late 2011 – Early 2012) from NEI and industry, the Form GC-859 was revised to collect only essential SNF/HLW data and reduce respondent's burden (Originally included detailed fuel characteristics)**
- **Continued development of GC-859 Software (2012)**
- **In Oct/Nov 2012, GC-859 Pilot Program was launched with participation from Constellation, Dominion and PSEG**
- **Overall the pilot utilities provided excellent feedback on areas for improvement and simplifying sections of the data collection**

Form GC-859 Redesign

- **Collect all discharged fuel data in a single survey section**
 - Consolidate the collection of basic fuel data
 - Enrichment
 - Initial Loading Weight
 - Burnup
 - Discharge date
 - Cycle Information
 - Manufacturer and Lattice
 - Collect specific data on special fuel forms
 - Canisters and their contents
 - Failed and non-standard fuel
 - Fuel rods and pieces, etc.
- **Data on special fuel forms (consolidated fuel, fuel in canisters, fuel rods, fuel pieces) now supplements the basic fuel data, rather than being collected in separate sections as in previous surveys.**

Form GC-859 Redesign (continued)

- **Instructions have been moved into the schedules. Instructions were previously detailed in an Appendix to the survey form.**
- **The Glossary has been revised and expanded.**
- **Respondents are no longer required to report assembly type codes for every discharged assembly. Respondents are now required to only report manufacturer and lattice (array) type.**
- **The fuel section now includes a requirement to collect complete fuel cycle history for every discharged assembly. Previously collected fuel data (through 1995) included fresh fuel assembly insertions and spent fuel discharges, will be provided to respondents**

Form GC-859 Redesign (continued)

- **Data collection for pool storage and dry storage has been combined from two sections. Previous requirements to supply information on individual assemblies stored at all storage sites have been replaced by the addition of a column for storage site identifier in the fuel data section. A section to report assemblies in multi-canister dry storage modules has been added.**
- **Non-fuel components data collection moved to a separate schedule. Data will be collected by storage location: components that are an integral part of an assembly, components stored in a single-element canister or container, and components stored separate from an assembly and uncanistered in the storage pool.**
- **Addition of Schedule F for Greater-than-Class C (GTCC) Waste. This schedule will collect both packaged and projected inventory information for activated metals and process waste.**
- **Approximately 20 questions, tables, or sections have been deleted.**

Survey Form Comparison

2002 Survey Form

- **Section 1- Facility Data**
- **Section 2- Reactor and Fuel Cycle Data**
- **Section 3- Data on Permanently Discharged Fuel**
- **Section 4- Pool Storage Data**
- **Section 5- Dry Storage Data**
- **Section 6- Projected Assembly Discharges**
- **Section 7- Comments**

2013 Survey Form

- **Schedule A- Site Operator Data**
- **Schedule B- Reactor Data**
- **Schedule C- Fuel Data**
- **Schedule D- Storage Facility Data**
- **Schedule E- Non-Fuel Data**
- **Schedule F- Greater-Than-Class-C Waste**
- **Schedule G- Comments**

Survey Form Comparison (continued)

2002 Form RW-859 Survey	2013 Form GC-859 Survey
1. Facility Data Reactors	A. Site Operator Data Reactors Storage Facilities
2. Reactor Data License Data Cycle Data	B. Reactor Data License Data Cycle Data
3. Permanently Discharged Fuel Data	C. Fuel Data Permanently Discharged Fuel Fuel Cycle History Projected Assembly Discharge Special Fuel Forms Canisters Uncanistered Rods/Pieces Consolidated, Reconstituted/Reconstructed Assemblies Failed Assemblies Reprocessing
4. Pool Storage Capacity Inventory Reinserted Fuel Data Shipments of Discharged Fuel Canistered Fuel and Non-Fuel Uncanistered Fuel and Non-Fuel Consolidated/Reconstituted/Reconstructed Assemblies or Uncanistered Intact Fuel Rods Uncanistered Non-Fuel Components Not Integral to an Assembly	D. Storage Facility Data Pool Storage Capacity Inventory Dry Storage Capacity Inventory Loading Diagrams
5. Dry Storage Inventory	E. Non-Fuel Data Integral to Assembly Canistered Uncanistered
6. Projected Assembly Discharges	F. GTCC Waste Activated Metals Packaged Projected Process/Other Waste Packaged Projected
7. Comments	G. Comments

GC-859 Software



- **Software uses Microsoft Access but has a similar interface as Microsoft Excel**
- **Compatible with Microsoft Office 2000/2003/2007/2010**
- **Includes drop-down menus for easier navigation and input**
- **Includes Systems Installation, Operations, and Data Entry Manual with step-by-step instructions and screenshots to use the software**
- **Save and back-up capabilities**

GC-859 Software Improvements

- **Three versions of the Form GC-859 software were developed. Versions 2 and 3 were developed in response to the comments and suggestions received from the pilot utilities.**
- **The second version (tested by 2 utilities) focused on the performance issues identified. The issues corrected include the time to open and close various schedules, the addition of more Excel-like data entry screens to facilitate data manipulation between schedules, installation of the software on multiple machines and ease of navigation between schedules**
- **The third version (tested by 1 utility) mainly allowed for the inclusion of alternate data entry options for the convenience of the user.**
 - Columns for Assembly ID or ANSI ID in C.1.1
 - Nonfuel components columns added in C.1.1
 - Fuel cycle number columns or check boxes in C.1.2
- **Experiences from the pilot utilities will be provided in the next presentation**

GC-859 - Going Forward



- **Form GC-859, Software and Instructions/Manual will be sent by certified mail to the Point of Contact for the Standard Contract by the end of May 2013**
- **The Form will collect data reflecting SNF/HLW conditions as of June 30, 2013**
- **Historical data from previous surveys will be provided for review and status updates, as needed**
- **Due date will be September 30, 2013**
- **Periodic surveys in the future (next survey in 5 years)**

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