



April 7, 2010
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VIA OVERNIGHT DELIVERY SERVICE

Document Control Desk
ATTN: Mr. James C. Shephard, Project Manager
Directorate of Decommissioning and Uranium Recovery Licensing
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Two White Flint North 7 E18
11545 Rockville Pike
Rockville, Maryland 20852-2738

**Subject: Docket No. 50-89, Facility License R-38, and
Docket No. 50-163, Facility License R-67;
Submittal of General Atomics' TRIGA[®] Mark I and Mark F Annual
Reports for Calendar Year 2009 (3 Copies each)**

Dear Mr. Shephard:

Enclosed are the annual reports required by the applicable Technical Specifications of General Atomics' (GA's) Mark I (License R-38) and Mark F (License R-67) TRIGA[®] research reactors. These reports cover operations for the calendar year 2009. The sections of these reports are numbered consistent with the items of information referred to in Section 7.6d of the Technical Specifications for the Mark I TRIGA[®] reactor and in 8.6d of the Technical Specifications for the Mark F TRIGA[®] reactor.

Should you desire additional information concerning the above, please contact me at (858) 455-2823, or Mr. John Greenwood at (858) 455-4526.

Very truly yours,

A handwritten signature in black ink that reads "Keith E. Asmussen".

Dr. Keith E. Asmussen, Director
Licensing, Safety and Nuclear Compliance

Enclosures: "TRIGA[®] Mark I Reactor / Annual Report / Calendar Year 2009," dated April, 2010 (3 Copies), and
"TRIGA[®] Mark F Reactor / Annual Report / Calendar Year 2009," dated April, 2010 (3 Copies)

cc: Mr. Alexander Adams, Jr.

A020



TRIGA[®] Mark I Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-38
Docket No. 50-89

APRIL 2010

**GENERAL ATOMICS TRIGA REACTORS FACILITY
TRIGA Mark I Reactor
ANNUAL REPORT
Calendar Year 2009**

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Introduction

This report documents operation of the General Atomics (GA) TRIGA® Mark I Non-Power Reactor for the period January 1, 2009 through December 31, 2009. The TRIGA Mark I Reactor, possessed by GA at its San Diego, California facilities, was not operated for the duration of the reporting period. The TRIGA Mark I Reactor is possessed by GA under License No. R-38 (Amendment No. 36) granted by the U.S. Nuclear Regulatory Commission (Docket No. 50-89).

This report is being prepared and submitted to satisfy the requirements of Section 7.6(d) of the R-38 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark I Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark I Reactor fuel has been removed from the reactor and placed into secure storage.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

1.2.2.2 On September 23, 2009, the SROs were evaluated as Satisfactory in all areas as part of GA's USNRC-approved Operator Requalification Program.

1.2.3 On February 25, 2009, and again on April 23, 2009, representatives of GA met with representatives of the USNRC and/or others to discuss, among other things, the potential options for future storage and protection of the GA TRIGA fuel.

1.2.4 On July 8, 2009, USNRC Commissioner K. Svinicki along with her chief-of-staff J. Sharkey visited GA. Ms. Svinicki expressed her satisfaction with the current security situation for protection of the stored spent TRIGA fuel at GA.

1.2.5 On December 30, 2009, the Criticality and Radiation Safety Working Group (C&RSWG) completed its annual inspection of the TRIGA Reactor Facility. No problems were noted. A report is currently being prepared.

1.3 Decommissioning Schedule

All major task items in the Decommissioning Plan for the TRIGA Mark I Reactor have been completed to the extent feasible with the reactor's fuel in its secure storage location. Any further decommissioning tasks may jeopardize fuel storage activities, and will be conducted at some yet to be determined time in the future when there is no fuel at the facility.

1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

2. Maintenance Operations

All maintenance activities, performed during the reporting period, generally fall into three categories: (i) routine preventive maintenance, (ii) routine calibration activities, and (iii) activities associated with replacement of older components and systems due to age. All maintenance activities are recorded in the TRIGA Reactor Facility Decommissioning Logbook. Facility Maintenance Checklists are completed on a regular schedule, at weekly, quarterly, and annual frequencies. All maintenance operations performed on the TRIGA Mark I Reactor Facility were minor in nature. There were no major maintenance operations performed during the reporting period.

3. 10CFR50.59 Facility Modifications and Special Experiments

There were no applications for Facility Modification under the provisions of 10CFR50.59, submitted for the R-38 Facility during the CY2009 reporting period. There were no Special Experiments submitted for the R-38 Facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark I Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

- o Five (5) emergency air samplers, situated on the Facility roof and around the TRIGA Reactor Facility perimeter.
- o Six (6) environmental air samplers, situated adjacent to, and near the GA site perimeter, in accordance with the GA Special Nuclear Material License (SNM-696).
- o Daily liquid effluent monitoring from the GA Main Sewerage Outfall Pump House, for gross alpha and beta radioactivity concentrations.
- o External radiation monitoring of the TRIGA Reactor Facility using five (5) passive area dosimeters, as well as radiation meter surveys conducted periodically.

- o Since there were no planned decommissioning activities and the fuel is in secure storage, the use of the Continuous Air Monitor (CAM) was still discontinued. It will be placed in use any time in the future when there are decommissioning activities.

6. Summary of Radiation Exposures and Radiological Surveys

The following data summarizes measured personnel occupational radiation exposures and radiological surveys of the TRIGA Reactors Facility during CY2009. Personnel who are listed on the TRIGA Reactors Facility Work Authorization (WA #3370) and specific Radiological Work Permits (RWPs) were monitored for radiation exposure; these individuals included 35 General Atomics Staff and 16 Non-General Atomics Staff employees.

6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
High Exposure:	0.074 REM
Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark I Reactor Facility

High Wipe:	7.3	dpm/100 cm ²
Low Wipe:	< 1.00	dpm/100 cm ²
Average Wipe:	1.00	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA sub-contractor personnel who were granted periodic access to the TRIGA Reactor Facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities

6.4 Routine Radiation Measurements of Mark I Reactor Facility

High Measurement:	0.8	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	< 0.2	mR/hr



TRIGA[®] Mark F Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-67
Docket No. 50-163

APRIL 2010

**GENERAL ATOMICS TRIGA REACTORS FACILITY
TRIGA Mark F Reactor
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Introduction

This report documents operation of the General Atomics (GA) TRIGA® Mark F Non-power Reactor for the period January 1, 2009 through December 31, 2009. The TRIGA Mark F Reactor, possessed by GA at its San Diego, California facilities, was not operated for the duration of the reporting period. The TRIGA Mark F Reactor is possessed by GA under License No. R-67 (Amendment No. 45) granted by the U.S. Nuclear Regulatory Commission (Docket No. 50-163).

This report is being prepared and submitted to satisfy the requirements of Section 8.6(d) of the R-67 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark F Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark F Reactor fuel remains in the Fuel Storage Canal portion of the TRIGA Mark F Reactor Pool.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

1.2.2.2 On September 23, 2009, the SROs were evaluated as Satisfactory in all areas as part of GA's USNRC-approved Operator Requalification Program.

1.2.3 On February 25, 2009, and again on April 23, 2009, representatives of GA met with representatives of the USNRC and/or others to discuss, among other things, the potential options for future storage and protection of the GA TRIGA fuel.

1.2.4 On July 8, 2009, USNRC Commissioner K. Svinicki along with her chief-of-staff J. Sharkey visited GA. Ms. Svinicki expressed her satisfaction with the current security situation for protection of the stored spent TRIGA fuel at GA.

1.2.5 On December 30, 2009, the Criticality and Radiation Safety Working Group (C&RSWG) completed its annual inspection of the TRIGA Reactor Facility. No problems were noted. A report is currently being prepared.

1.3 Decommissioning Schedule

All major task items in the Decommissioning Plan for the TRIGA Mark F Reactor have been completed to the extent feasible with the reactor's fuel in its secure storage location. Any further decommissioning tasks may jeopardize fuel storage activities, and will be conducted at some yet to be determined time in the future when there is no fuel at the facility.

1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

2. Maintenance Operations

All maintenance activities, performed during the reporting period, generally fall into three categories: (i) routine preventive maintenance, (ii) routine calibration activities, and (iii) activities associated with replacement of older components and systems due to age. All maintenance activities are recorded in the TRIGA Reactor Facility Decommissioning Logbook. Facility Maintenance Checklists are completed on a regular schedule at weekly, quarterly, and annual frequencies. All maintenance operations performed on the TRIGA Mark F Reactor Facility were minor in nature. There were no major maintenance operations performed during the reporting period.

3. 10CFR50.59 Facility Modifications and Special Experiments

There were two applications for Facility Modification under the provisions of 10CFR50.59 submitted for the R-67 facility during the CY2009 reporting period. The first application was approved on October 29, 2009, and allowed a security related facility modification. The second application for Facility Modification was approved on December 18, 2009, and addressed a modified security measure.

There were no Special Experiments submitted for the R-67 facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark F Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

- o Five (5) emergency air samplers, situated on the Facility roof and around the TRIGA Reactor Facility perimeter.
- o Six (6) environmental air samplers, situated adjacent to, and near the GA site perimeter, in accordance with the GA Special Nuclear Material License (SNM-696).
- o Daily liquid effluent monitoring from the GA Main Sewerage Outfall Pump House, for gross alpha and beta radioactivity concentrations.

- o External radiation monitoring of the TRIGA Reactor Facility using five (5) passive area dosimeters, as well as radiation meter surveys conducted periodically.
- o A Continuous Air Monitor (CAM), situated in the Mark F Reactor Room (21/107), continuously samples room air for airborne radioactivity. CAM air filters are collected each week and analyzed for radioactivity.

6. Summary of Radiation Exposures and Radiological Surveys

The following data summarizes measured personnel occupational radiation exposures and radiological surveys of the TRIGA Reactors Facility during CY 2009. Personnel who are listed on the TRIGA Reactors Facility Work Authorization (WA #3370) and specific Radiological Work Permits (RWPs) were monitored for radiation exposure; these individuals included 35 General Atomics Staff and 16 Non-General Atomics Staff employees.

6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
High Exposure:	0.074 REM
Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark F Reactor Facility

High Wipe:	11.5	dpm/100 cm ²
Low Wipe:	< 1.0	dpm/100 cm ²
Average Wipe:	1.9	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA personnel who were granted periodic access to the facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

6.4 Routine Radiation Measurements of Mark F Reactor Facility

High Measurement:	40	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	2.2	mR/hr



TRIGA[®] Mark I Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-38
Docket No. 50-89

APRIL 2010

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Introduction

This report documents operation of the General Atomics (GA) TRIGA® Mark I Non-Power Reactor for the period January 1, 2009 through December 31, 2009. The TRIGA Mark I Reactor, possessed by GA at its San Diego, California facilities, was not operated for the duration of the reporting period. The TRIGA Mark I Reactor is possessed by GA under License No. R-38 (Amendment No. 36) granted by the U.S. Nuclear Regulatory Commission (Docket No. 50-89).

This report is being prepared and submitted to satisfy the requirements of Section 7.6(d) of the R-38 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark I Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark I Reactor fuel has been removed from the reactor and placed into secure storage.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

1.2.2.2 On September 23, 2009, the SROs were evaluated as Satisfactory in all areas as part of GA's USNRC-approved Operator Requalification Program.

1.2.3 On February 25, 2009, and again on April 23, 2009, representatives of GA met with representatives of the USNRC and/or others to discuss, among other things, the potential options for future storage and protection of the GA TRIGA fuel.

1.2.4 On July 8, 2009, USNRC Commissioner K. Svinicki along with her chief-of-staff J. Sharkey visited GA. Ms. Svinicki expressed her satisfaction with the current security situation for protection of the stored spent TRIGA fuel at GA.

1.2.5 On December 30, 2009, the Criticality and Radiation Safety Working Group (C&RSWG) completed its annual inspection of the TRIGA Reactor Facility. No problems were noted. A report is currently being prepared.

1.3 Decommissioning Schedule

All major task items in the Decommissioning Plan for the TRIGA Mark I Reactor have been completed to the extent feasible with the reactor's fuel in its secure storage location. Any further decommissioning tasks may jeopardize fuel storage activities, and will be conducted at some yet to be determined time in the future when there is no fuel at the facility.

1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

2. Maintenance Operations

All maintenance activities, performed during the reporting period, generally fall into three categories: (i) routine preventive maintenance, (ii) routine calibration activities, and (iii) activities associated with replacement of older components and systems due to age. All maintenance activities are recorded in the TRIGA Reactor Facility Decommissioning Logbook. Facility Maintenance Checklists are completed on a regular schedule, at weekly, quarterly, and annual frequencies. All maintenance operations performed on the TRIGA Mark I Reactor Facility were minor in nature. There were no major maintenance operations performed during the reporting period.

3. 10CFR50.59 Facility Modifications and Special Experiments

There were no applications for Facility Modification under the provisions of 10CFR50.59, submitted for the R-38 Facility during the CY2009 reporting period. There were no Special Experiments submitted for the R-38 Facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark I Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

- o Five (5) emergency air samplers, situated on the Facility roof and around the TRIGA Reactor Facility perimeter.
- o Six (6) environmental air samplers, situated adjacent to, and near the GA site perimeter, in accordance with the GA Special Nuclear Material License (SNM-696).
- o Daily liquid effluent monitoring from the GA Main Sewerage Outfall Pump House, for gross alpha and beta radioactivity concentrations.
- o External radiation monitoring of the TRIGA Reactor Facility using five (5) passive area dosimeters, as well as radiation meter surveys conducted periodically.

- o Since there were no planned decommissioning activities and the fuel is in secure storage, the use of the Continuous Air Monitor (CAM) was still discontinued. It will be placed in use any time in the future when there are decommissioning activities.

6. Summary of Radiation Exposures and Radiological Surveys

The following data summarizes measured personnel occupational radiation exposures and radiological surveys of the TRIGA Reactors Facility during CY2009. Personnel who are listed on the TRIGA Reactors Facility Work Authorization (WA #3370) and specific Radiological Work Permits (RWPs) were monitored for radiation exposure; these individuals included 35 General Atomics Staff and 16 Non-General Atomics Staff employees.

6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
High Exposure:	0.074 REM
Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark I Reactor Facility

High Wipe:	7.3	dpm/100 cm ²
Low Wipe:	< 1.00	dpm/100 cm ²
Average Wipe:	1.00	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA sub-contractor personnel who were granted periodic access to the TRIGA Reactor Facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities

6.4 Routine Radiation Measurements of Mark I Reactor Facility

High Measurement:	0.8	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	< 0.2	mR/hr



TRIGA[®] Mark F Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-67
Docket No. 50-163

APRIL 2010

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Introduction

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This report is being prepared and submitted to satisfy the requirements of Section 8.6(d) of the R-67 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark F Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark F Reactor fuel remains in the Fuel Storage Canal portion of the TRIGA Mark F Reactor Pool.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

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1.3 Decommissioning Schedule

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1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

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3. 10CFR50.59 Facility Modifications and Special Experiments

There were two applications for Facility Modification under the provisions of 10CFR50.59 submitted for the R-67 facility during the CY2009 reporting period. The first application was approved on October 29, 2009, and allowed a security related facility modification. The second application for Facility Modification was approved on December 18, 2009, and addressed a modified security measure.

There were no Special Experiments submitted for the R-67 facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark F Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

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6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
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Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark F Reactor Facility

High Wipe:	11.5	dpm/100 cm ²
Low Wipe:	< 1.0	dpm/100 cm ²
Average Wipe:	1.9	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA personnel who were granted periodic access to the facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

6.4 Routine Radiation Measurements of Mark F Reactor Facility

High Measurement:	40	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	2.2	mR/hr



TRIGA[®] Mark I Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-38
Docket No. 50-89

APRIL 2010

GENERAL ATOMICS TRIGA REACTORS FACILITY
TRIGA Mark I Reactor
ANNUAL REPORT
Calendar Year 2009

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Introduction

This report documents operation of the General Atomics (GA) TRIGA® Mark I Non-Power Reactor for the period January 1, 2009 through December 31, 2009. The TRIGA Mark I Reactor, possessed by GA at its San Diego, California facilities, was not operated for the duration of the reporting period. The TRIGA Mark I Reactor is possessed by GA under License No. R-38 (Amendment No. 36) granted by the U.S. Nuclear Regulatory Commission (Docket No. 50-89).

This report is being prepared and submitted to satisfy the requirements of Section 7.6(d) of the R-38 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark I Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark I Reactor fuel has been removed from the reactor and placed into secure storage.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

1.2.2.2 On September 23, 2009, the SROs were evaluated as Satisfactory in all areas as part of GA's USNRC-approved Operator Requalification Program.

1.2.3 On February 25, 2009, and again on April 23, 2009, representatives of GA met with representatives of the USNRC and/or others to discuss, among other things, the potential options for future storage and protection of the GA TRIGA fuel.

1.2.4 On July 8, 2009, USNRC Commissioner K. Svinicki along with her chief-of-staff J. Sharkey visited GA. Ms. Svinicki expressed her satisfaction with the current security situation for protection of the stored spent TRIGA fuel at GA.

1.2.5 On December 30, 2009, the Criticality and Radiation Safety Working Group (C&RSWG) completed its annual inspection of the TRIGA Reactor Facility. No problems were noted. A report is currently being prepared.

1.3 Decommissioning Schedule

All major task items in the Decommissioning Plan for the TRIGA Mark I Reactor have been completed to the extent feasible with the reactor's fuel in its secure storage location. Any further decommissioning tasks may jeopardize fuel storage activities, and will be conducted at some yet to be determined time in the future when there is no fuel at the facility.

1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

2. Maintenance Operations

All maintenance activities, performed during the reporting period, generally fall into three categories: (i) routine preventive maintenance, (ii) routine calibration activities, and (iii) activities associated with replacement of older components and systems due to age. All maintenance activities are recorded in the TRIGA Reactor Facility Decommissioning Logbook. Facility Maintenance Checklists are completed on a regular schedule, at weekly, quarterly, and annual frequencies. All maintenance operations performed on the TRIGA Mark I Reactor Facility were minor in nature. There were no major maintenance operations performed during the reporting period.

3. 10CFR50.59 Facility Modifications and Special Experiments

There were no applications for Facility Modification under the provisions of 10CFR50.59, submitted for the R-38 Facility during the CY2009 reporting period. There were no Special Experiments submitted for the R-38 Facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark I Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

- o Five (5) emergency air samplers, situated on the Facility roof and around the TRIGA Reactor Facility perimeter.
- o Six (6) environmental air samplers, situated adjacent to, and near the GA site perimeter, in accordance with the GA Special Nuclear Material License (SNM-696).
- o Daily liquid effluent monitoring from the GA Main Sewerage Outfall Pump House, for gross alpha and beta radioactivity concentrations.
- o External radiation monitoring of the TRIGA Reactor Facility using five (5) passive area dosimeters, as well as radiation meter surveys conducted periodically.

- o Since there were no planned decommissioning activities and the fuel is in secure storage, the use of the Continuous Air Monitor (CAM) was still discontinued. It will be placed in use any time in the future when there are decommissioning activities.

6. Summary of Radiation Exposures and Radiological Surveys

The following data summarizes measured personnel occupational radiation exposures and radiological surveys of the TRIGA Reactors Facility during CY2009. Personnel who are listed on the TRIGA Reactors Facility Work Authorization (WA #3370) and specific Radiological Work Permits (RWPs) were monitored for radiation exposure; these individuals included 35 General Atomics Staff and 16 Non-General Atomics Staff employees.

6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
High Exposure:	0.074 REM
Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark I Reactor Facility

High Wipe:	7.3	dpm/100 cm ²
Low Wipe:	< 1.00	dpm/100 cm ²
Average Wipe:	1.00	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA sub-contractor personnel who were granted periodic access to the TRIGA Reactor Facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities

6.4 Routine Radiation Measurements of Mark I Reactor Facility

High Measurement:	0.8	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	< 0.2	mR/hr



TRIGA[®] Mark F Reactor

ANNUAL REPORT

CALENDAR YEAR 2009

prepared to satisfy the requirements of
U.S. Nuclear Regulatory Commission
Facility License R-67
Docket No. 50-163

APRIL 2010

**GENERAL ATOMICS TRIGA REACTORS FACILITY
TRIGA Mark F Reactor
ANNUAL REPORT
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Introduction

This report documents operation of the General Atomics (GA) TRIGA[®] Mark F Non-power Reactor for the period January 1, 2009 through December 31, 2009. The TRIGA Mark F Reactor, possessed by GA at its San Diego, California facilities, was not operated for the duration of the reporting period. The TRIGA Mark F Reactor is possessed by GA under License No. R-67 (Amendment No. 45) granted by the U.S. Nuclear Regulatory Commission (Docket No. 50-163).

This report is being prepared and submitted to satisfy the requirements of Section 8.6(d) of the R-67 Technical Specifications, as amended. This report is presented in six parts, consistent with the information required by the applicable Technical Specifications.

1 Summary of Facility Activities

1.1 Decommissioning Activities

During Calendar Year (CY) 2009, the TRIGA Mark F Reactor has been in Decommissioning status. There were no decommissioning activities performed during this period.

1.2 Facility Status

1.2.1 All TRIGA Mark F Reactor fuel remains in the Fuel Storage Canal portion of the TRIGA Mark F Reactor Pool.

1.2.2 The GA Senior Reactor Operators (SROs) have all completed the requirements necessary to maintain their licenses current.

1.2.2.1 The SROs completed the required biennial medical physical examination by August 17, 2009. Exam results for all Operators indicated "No Restrictions" in the execution of their duties.

1.2.2.2 On September 23, 2009, the SROs were evaluated as Satisfactory in all areas as part of GA's USNRC-approved Operator Requalification Program.

1.2.3 On February 25, 2009, and again on April 23, 2009, representatives of GA met with representatives of the USNRC and/or others to discuss, among other things, the potential options for future storage and protection of the GA TRIGA fuel.

1.2.4 On July 8, 2009, USNRC Commissioner K. Svinicki along with her chief-of-staff J. Sharkey visited GA. Ms. Svinicki expressed her satisfaction with the current security situation for protection of the stored spent TRIGA fuel at GA.

1.2.5 On December 30, 2009, the Criticality and Radiation Safety Working Group (C&RSWG) completed its annual inspection of the TRIGA Reactor Facility. No problems were noted. A report is currently being prepared.

1.3 Decommissioning Schedule

All major task items in the Decommissioning Plan for the TRIGA Mark F Reactor have been completed to the extent feasible with the reactor's fuel in its secure storage location. Any further decommissioning tasks may jeopardize fuel storage activities, and will be conducted at some yet to be determined time in the future when there is no fuel at the facility.

1.4 Radioactive Material Shipments

No radioactive material was shipped from the TRIGA Reactor Facility during this reporting period.

2. Maintenance Operations

All maintenance activities, performed during the reporting period, generally fall into three categories: (i) routine preventive maintenance, (ii) routine calibration activities, and (iii) activities associated with replacement of older components and systems due to age. All maintenance activities are recorded in the TRIGA Reactor Facility Decommissioning Logbook. Facility Maintenance Checklists are completed on a regular schedule at weekly, quarterly, and annual frequencies. All maintenance operations performed on the TRIGA Mark F Reactor Facility were minor in nature. There were no major maintenance operations performed during the reporting period.

3. 10CFR50.59 Facility Modifications and Special Experiments

There were two applications for Facility Modification under the provisions of 10CFR50.59 submitted for the R-67 facility during the CY2009 reporting period. The first application was approved on October 29, 2009, and allowed a security related facility modification. The second application for Facility Modification was approved on December 18, 2009, and addressed a modified security measure.

There were no Special Experiments submitted for the R-67 facility during CY2009.

4. Radioactive Effluents Released to the Environs

During CY2009, 0.00 millicuries of Argon-41 were discharged from the TRIGA Mark F Reactor Facility ventilation stack to the atmosphere.

5. Environmental Surveys

During CY2009, the Environmental Monitoring Program (EMP) for the TRIGA Reactors Facility remained essentially unchanged from the prior year. The applicable EMP includes the following monitoring equipment and actions:

- o Five (5) emergency air samplers, situated on the Facility roof and around the TRIGA Reactor Facility perimeter.
- o Six (6) environmental air samplers, situated adjacent to, and near the GA site perimeter, in accordance with the GA Special Nuclear Material License (SNM-696).
- o Daily liquid effluent monitoring from the GA Main Sewerage Outfall Pump House, for gross alpha and beta radioactivity concentrations.

- o External radiation monitoring of the TRIGA Reactor Facility using five (5) passive area dosimeters, as well as radiation meter surveys conducted periodically.
- o A Continuous Air Monitor (CAM), situated in the Mark F Reactor Room (21/107), continuously samples room air for airborne radioactivity. CAM air filters are collected each week and analyzed for radioactivity.

6. Summary of Radiation Exposures and Radiological Surveys

The following data summarizes measured personnel occupational radiation exposures and radiological surveys of the TRIGA Reactors Facility during CY 2009. Personnel who are listed on the TRIGA Reactors Facility Work Authorization (WA #3370) and specific Radiological Work Permits (RWPs) were monitored for radiation exposure; these individuals included 35 General Atomics Staff and 16 Non-General Atomics Staff employees.

6.1 General Atomics Staff Whole Body Exposures¹

Number of individuals monitored:	35
High Exposure:	0.074 REM
Low Exposure:	0.000 REM
Average Exposure:	0.006 REM

6.2 Non-General Atomics Staff Whole Body Exposures²

Number of individuals monitored:	16
High Exposure:	0.000 REM
Low Exposure:	0.000 REM
Average Exposure:	0.000 REM

6.3 Routine Wipe Surveys of Mark F Reactor Facility

High Wipe:	11.5	dpm/100 cm ²
Low Wipe:	< 1.0	dpm/100 cm ²
Average Wipe:	1.9	dpm/100 cm ²

¹ Includes reactor facility staff and facility support staff authorized to work at the TRIGA Reactor Facility. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

² Includes non-GA personnel who were granted periodic access to the facility for the performance of work. These personnel may also work routinely at other GA radiation facilities; therefore, this dose represents *cumulative* exposure at all GA facilities.

6.4 Routine Radiation Measurements of Mark F Reactor Facility

High Measurement:	40	mR/hr
Low Measurement:	< 0.2	mR/hr
Average Level:	2.2	mR/hr