

AGS OPERATIONS PROCEDURE MANUAL

ATTACHMENT

10. 1. b Categorization Of Reportable Occurrences

AGS OPM Procedures in which this Attachment is used.

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Approved: _____
AGS Department Chair Date

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CATEGORIZATION OF REPORTABLE OCCURRENCES.

Occurrences are arranged into 10 groups related to DOE operations. These groupings are used solely for ease of reference and consistency in data base structures.

Note that some occurrences may fit in more than one group. Note that the term 'on-site' means any building or outdoor area under the purview of Department supervisors or building managers.

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GROUP 1 - FACILITY CONDITION

Fires/Explosions

Unusual Occurrence

None

Off-Normal

1. Fire Which Threatens Failure or Performance Degradation Of:
 - Access Control System or Particle Accelerator Security System (PASS)
 - Hydrogen or Flammable Gas Monitors
 - Halon Fire Protection Systems For Experiments
 - Accountable Key Systems (Kirk Key)
2. Any fire or explosion that activates a fire suppression system (e.g. halon discharge, sprinkler heads activating) or disrupts normal facility operations.
3. An unplanned fire that takes longer than 10 minutes to extinguish following the arrival of fire protection personnel; this does not include incipient fires.

Safety Status Is Seriously Degraded

Unusual Occurrence

1. Any violation or noncompliance of the Accelerator Safety Envelope.
2. Discovery of an incorrectly derived Accelerator Safety Envelope.
3. Any operation outside the Accelerator Safety Envelope excluding planned studies.
4. Any occurrence that would prevent immediate emergency response capabilities.
5. Discovery of an actual Unreviewed Safety Question which reveals a currently existing inadequacy in the Accelerator Safety Envelope.

Off-Normal

1. Discovery of a condition that leads the accelerator complex to limit facility operations, either self-imposed or due to the identification of a potential degradation of the Accelerator Safety Envelope. This includes the discovery of analytical errors, omissions, or inadequacies that present the potential for an Unreviewed Safety Question and that leads the accelerator complex to limit operations.
2. Discovery of a potential Unreviewed Safety Question that could affect the present or future operation of the accelerator complex.

Loss of Control of Radioactive Material/Spread of Radioactive Contamination

Unusual Occurrence

1. Identification of radioactive contamination off-site in excess of 100 times the surface contamination levels specified in the following table that has not been previously identified and formally documented. Refer to DOE 5400.5, Figure IV-1 for details.

Off-Site Surface Contamination Guides (From DOE 5400.5, Figure IV-1)
Allowable Total Residual Surface Contamination (dpm/100 cm²)

Radi onucl ides	Average	Maxi mum	Removabl e
Beta-gamma emitters except Sr-90	5,000	15,000	1,000
Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay product, alpha emitters	5,000	15,000	1,000

2. Loss of accountability of a sealed or unsealed radioactive source that exceeds 100 times the quantities specified in the following table.

Values For Exemption Of Sealed Sources From Inventory

Less than 300 µCi

H-3 Be-7 C-14 S-35 Ca-41 Ca-45 V-49 Mn-53 Fe-55 Ni-59 Ni-63 As-73 Se-79 Rb-87 Tc-99 Pd-107 Cd-113 In-115 Te-123 Cs-135 Ce-141 Gd-152 Tb-157 Tm-171 Ta-180 W-181 W-185 W-188 Re-187 Tl-204

Less than 30 µCi

Cl-36 K-40 Fe-59 Co-57 Se-75 Rb-84 Sr-85 Sr-89 Y-91 Zr-95 Nb-93m Nb-95 Tc-97m Ru-103 Ag-105 In-114m Sn-113 Sn-119m Sn-121m Sn-123 Te-123m Te-125m Te-127m Te-129m I-125 La-137 Ce-139 Pm-143 Pm-145 Pm-147 Sm-145 Sm-151 Eu-149 Eu-155 Gd-151 Gd-153 Dy-159 Tm-170 Yb-169 Lu-173 Lu-174 Lu-174m Hf-175 Hf-181 Ta-179 Re-184 Re-186m Ir-192 Pt-193 Au-195 Hg-203 Pb-205 Np-235 Pu-237

Less than 3 µCi

Be-10 Na-22 Al-26 Si-32 Sc-46 Ti-44 Ni-54 Fe-60 Co-56 Co-58 Co-60 Zn-65 Ge-68 Rb-83 Y-88 Zr-88 Zr-93 Nb-94 Mo-93 Tc-95m Tc-97 Tc-98 Ru-106 Rh-101 Rh-102 Rh-102m Ag-108m Ag-110m Cd-109 Sn-126 Sb-124 Sb-125 Te-121m I-129 Cs-134 Cs-137 Ba-133 Ce-144 Pm-144 Pm-146 Pm-148m Eu-148 Eu-150 Eu-152 Eu-154 Gd-146 Tb-158 Tb-160 Ho-166m Lu-176 Lu-177m Hf-172 Ta-182 Re-184m Os-185 Os-194 Ir-192m Ir-194m Hg-194 Pb-202 Bi-207 Bi-210m Cm-241

Less than 0.3 µCi

Sr-90 Cd-113m La-138 Hf-178m Hf-182 Po-210 Ra-226 Ra-228 Pu-241 Bk-249 Es-254

Less than 0.03 µCi

Sm-146 Sm-147 Pb-210 Np-236 Cm-242 Cf-248 Fm-257 Md-258

Less than 0.003µCi

Gd-148 Th-228 Th-230 U-232 U-233 U-234 U-235 U-236 U-238 Np-237 Pu-236 Pu-238 Pu-239 Pu-240 Pu-242 Pu-244 Am-241 Am-242m Am-243 Cm-243 Cm-244 Cm-245 Cm-246 Cm-247 Bk-247 Cf-249 Cf-250 Cf-251 Cf-252 Cf-254

Less than 0.0003 µCi

Ac-227 Th-229 Th-232 Pa-231 Cm-248 Cm-250

Loss of depleted uranium block.

Off - Normal

Any unplanned spill of liquids in excess of one gallon contaminated with radioactive material in concentrations greater than five times the Derived Concentration Guide (DCG) values listed in DOE 5400.5, Figure III-1.

NOTE:

The DCG from DOE 5400.5, Figure III-1 for tritium, H³, is 2x10⁻³ μCi/cm³ for ingested water. The most activated water systems at AGS are LESS THAN this DCG for tritium. Other radioactive materials in the water systems at AGS are also well below the DCGs for triggering an occurrence report if the water is released inadvertently to the ground. However, the AGS management has a trigger of 100 gallons of water spilled regardless of radioactivity level in the water, and OPM-ATT 10.1.d must be completed even if an occurrence is not declared.

Identification of radioactive contamination outside a radiological area established for contamination control, but within a Controlled Area, in excess of 10 times the total surface contamination levels listed in the following table:

On-Site Surface Contamination Levels (From Table 2-2 of the BNL Radiological Control Manual)

NUCLIDE	REMOVABLE (dpm/100 cm ²)	TOTAL (FIXED + REMOVABLE) (dpm/100 cm ²)
U-natural, U-235, U-238 and associated decay products	1,000 alpha	5,000 alpha
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	20	500
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	200	1,000
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above. Includes mixed fission products containing Sr-90.	1,000 beta-gamma	5,000 beta-gamma
Tritium organic compounds, surfaces contaminated by HT, HTO and metal tritide aerosols	10,000	10,000

1. Identification of radioactive contamination on-site that is not located within a Controlled Area, Fixed Contamination Area, or Soil Contamination Area, and is in excess of two times the surface contamination levels in the preceding table.

2. Identification of radioactive contamination off-site in excess of the surface contamination levels in the following table, that has not been previously identified and formally documented.

Off-Site Surface Contamination Guides (See DOE 5400.5, Figure IV-1 for Details)

Allowable Total Residual Surface Contamination (dpm/100 cm²)

Radionuclides	Average	Maximum	Removable
Beta-gamma emitters except Sr-90	5,000	15,000	1,000
Th-Natural, Sr-90, I-126, I-131, I-133, Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay product, alpha emitters	5,000	15,000	1,000

1. Loss of accountability of a sealed or unsealed radioactive source that exceeds ten times and is less than or equal to 100 times the quantities specified in the preceding table "Values For Exemption Of Sealed Sources From Inventory."

Structure, System, or Component Vital to Safety or Program Performance Does Not Perform

Unusual Occurrence

None.

Off-Normal

1. Events or conditions indicative of failure to fail safely. This applies to the following systems designed, installed, and operated for the protection of the accelerator complex or co-located workers when the system is required to be operable or in operation:

Magnet System

- Protective devices used to de-energize the system

Radiation Process Equipment / Monitors

- Loss of entire radiation monitor system
- Primary beam collimator

- Radiation process monitor such as an NMC or other beam intensity monitors used by the Radiation Safety Committee

Lasers

- Protective interlock or barrier

Vacuum System

- Protective system which prevents exposure to electrical, mechanical or high-temperature hazards

Gas System During Operations

- Failure of regulator for flammable gas
- Failure of delivery lines or chambers for flammable gas

Access Control System (Including Barriers)

- Linac
- Booster
- AGS Ring
- Primary extraction beam lines including transfer lines such as AtR; however, failure of the PASS to fail safety shall be an Occurrence that is reported by the RHIC Project management.
- Beam stops
- Secondary beam lines in experimental areas including g-2 beam lines and muon storage ring

Ventilation Systems:

- Building 912 roof fan system
- AGS Ring emergency ventilation system

Electrical Safety Lockout

- Accountable key systems (e.g., Kirk Key); however, failure of the RHIC/AtR accountable key systems to fail safety shall be an Occurrence that is reported by the RHIC Project management.

Explosion Hazard Interlock During Operations

- Failure of gas alarm to turn off electric power when required.

Violation of Procedures

Unusual Occurrence

None.

Off-Normal

1. Any violation resulting in actual equipment damage in excess of \$10,000.
2. Use of inadequate procedures or deviations from written procedures that result in adverse effects on performance, safety, or reliability of the:
 - Access Control System
 - Hydrogen or Flammable Gas Monitors
 - Halon Fire Protection Systems For Experiments
 - Accountable Key Systems (Kirk Key)
1. Incorrect maintenance, including calibration, on or unauthorized modifications to the following when required to be operable or in operation.
 - Access Control System
 - Hydrogen or Flammable Gas Monitors
 - Halon Fire Protection Systems For Experiments
 - Accountable Key Systems (Kirk Key)
 - Incorrect maintenance on the PASS shall be an Occurrence that is reported by the RHIC Project management

Unsatisfactory Surveillance/Inspections and Appraisal Findings. _

Unusual Occurrence

None

Off-Normal

1. Any surveillance/inspection reporting unsatisfactory operation, testing, maintenance, or modification of the following when required to be operable or in operation.
 - Access Control System
 - Hydrogen or Flammable Gas Monitors
 - Halon Fire Protection Systems For Experiments
 - Accountable Key Systems (Kirk Key)
 - Unsatisfactory surveillance/inspection reporting on the PASS shall be an Occurrence that is reported by the RHIC Project management
1. Inspection or appraisal findings indicating that the following which is required to be operational is not operating within

approved requirements.

- Access Control System
- Hydrogen or Flammable Gas Monitors
- Halon Fire Protection Systems For Experiments
- Accountable Key Systems (Kirk Key)
- Unsatisfactory appraisal findings on the PASS shall be an Occurrence that is reported by the RHIC Project management

Operations

Unusual Occurrence

1. Weather conditions/natural phenomenon that disrupt the accelerator schedule for greater than one week.
2. Any unplanned evacuation, excluding office space, in response to an actual occurrence, not including a precautionary evacuation for an event that can be controlled and mitigated.

Off-Normal

1. Any unplanned and unexpected event that requires termination of a yellow OPM safety-related procedure.
2. Any unplanned electrical outages or unexpected consequences from a planned outage which disrupt the accelerator schedule greater than one week.
3. Any unplanned outages of service systems (i.e., cooling water, steam, phones, communication systems, etc.) or unexpected consequences from a planned outage which disrupts the schedule for more than one week and which adversely affects safety, security, environment or health protection performance.

GROUP 2 - ENVIRONMENTAL

Radi onucl i de Rel eases

NOTE:

A release IS NOT reportable as an environmental release if it is within the workplace. Typically, we report those releases that directly go into the soil or ground water. Contact the Facility Manager for a determination of Reportable Quantities of materials or consult 40 CFR 302. A copy of 40 CFR 302 is located in Building 911 Room A-135.

Unusual Occurrence

1. Release of a radioactive material that violates environmental requirements in Federal permits, Federal regulations, or DOE standards.
2. Any release that is not an Emergency as defined in DOE 5500 series Orders but requires immediate reporting, less than 4 hours, to Federal regulatory authorities.
3. Release of a radioactive material that exceeds a federally permitted release by the amount of a Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity (RQ) or, where no federally permitted release exists, the release exceeds the reportable quantity or triggers specific action levels for an outside Federal agency. For example:

Radi onucl i de	RQ, Curi es	Radi onucl i de	RQ, Curi es
³ H	100	⁴¹ Ar	10
⁷ Be	100	⁶⁰ Co	10
¹¹ C	1000	¹⁸⁵ Os	10
²² Na	10		

Off-Normal

1. Any release of radioactive material to controlled or uncontrolled areas that is not part of normal monitored release and exceeds 50% of a Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity specified for such material per 40 CFR 302.
2. Any controlled release of radioactive material that occurs as a monitored part of normal operations that exceeds what historical data and/or analysis show is expected as a result of normal operations.

3. Any monitored site boundary where exposure or concentration exceed what historical data and/or analysis show is expected as a result of normal operations.
4. Any detection of a radionuclide in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected.
5. Any controlled, uncontrolled, or accidental release not classified as an Unusual Occurrence but will be reported in writing to State/Local agencies in a format other than routine periodic reports.

Release of Hazardous Substances/Regulated Pollutants/Oil

NOTE:

A release IS NOT reportable as an environmental release if it is within the workplace. Typically, we report those releases that directly go into the soil or ground water. Contact the Facility Manager for a determination of Reportable Quantities of materials or consult 40 CFR 302. A copy of 40 CFR 302 is located in Building 911 Room A-135.

Unusual Occurrence

1. Release of a hazardous substance or regulated pollutant that exceeds a Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity (RQ) per 40 CFR 302 and 40 CFR 355 for chemicals and extremely hazardous substances or exceeds a federally permitted release by a reportable quantity. For example:

Material	RQ, Pounds	Material	RQ, Pounds
PCB Oil	1	Toluene	1000
Chlorine	10	Waste From A Cleaning Process	1
Benzene	1	Ethylene Glycol (Antifreeze)	1
Mercury	1	Lead	1

1. Any release that is not an Emergency as defined by DOE 5500 series Orders but requires immediate, less than 4 hours, reporting to Federal regulatory agencies or triggers specification action levels for an outside Federal agency.
2. Any release of 100 gallons or more of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Off-Normal

1. Release of a hazardous substance or regulated pollutant to controlled or

uncontrolled areas that is not part of a normal, monitored release and exceeds 50% of a Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity as specified for such material per 40 CFR 302.

2. Any release of greater than 42 gallons of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil outside of a permitted containment area.
3. Any detection of a toxic or hazardous substance in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected to be found considering the current detection method and historical detection method used.
4. Any controlled, uncontrolled, or accidental release not classified as an Unusual Occurrence but will be reported in writing to State/local agencies in a format other than routine periodic reports.
5. Any controlled release of hazardous/regulated material that occurs as a monitored part of normal operation but exceeds what historical data and/or analysis shows is expected as a result of normal operations.
6. Any general environmental monitoring where concentration increases to a level which exceeds what historical data and/or analysis shows is expected as a result of normal operations.

Discovery Of Hazardous Material Contamination Due To Operations

Unusual Occurrence

1. Discovery of on-site or off-site contamination due to accelerator operations that does not represent an immediate threat to the public but exceeds a Reportable Quantity for such material per 40 CFR 302.
2. Any discovery of groundwater contamination due to accelerator operations that is not part of an existing plume previously identified in either an annual report or in any Comprehensive Environmental Response, Compensation and Liability Act/Resource Conservation and Recovery Act activity or report.

Off-Normal

1. Discovery of on-site contamination due to accelerator operations that exceeds 50% of a Reportable Quantity for such material per 40 CFR 302.

Ecological Resources

Unusual Occurrence

1. Any occurrence causing significant impact to any ecological resource for which the DOE is a trustee (i.e., destruction of a critical habitat, damage to a historic/archeological site, damage to wetlands, etc.).

Agreement/Compliance Activities

Unusual Occurrence

1. Any occurrence under any agreement or compliance area that requires notification of an outside regulatory agency within 4 hours or less, or triggers any Federal or State regulatory agency action level, or otherwise indicates specific interest/concern from such agencies.

Off-Normal

1. Any agreement, compliance, remediation or permit-mandated activity for which formal notification of enforcement has been received from the relevant State or Federal regulatory agency that the accelerator complex is considered to be in noncompliance with a schedule or requirement (e.g., Notice of Violation, Notice of Deficiency, Notice of Intent to Sue and other types of enforcement actions).
2. Any occurrence under any agreement or compliance area that will be reported to a State or Federal agency in a format other than routine periodic reports.

GROUP 3 - PERSONNEL SAFETY

Occupational Illness/Injuries

Unusual Occurrence

1. Any occurrence due to accelerator operations resulting in a fatality or terminal injury or illness.
2. Any one occurrence resulting in 3 or more lost workday cases as defined by 29 CFR 1904.12. Lost workdays are defined as the number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of his normal assignment during all or any part of the workday or shift, because of the occupational injury or illness.
3. Any occurrence requiring in-patient hospitalization of 3 or more personnel or has a high probability of resulting in a permanent disability.
4. Personnel exposures to sufficient levels of hazardous substances or hazards

such as noise or non-ionizing radiation that require the administration of medical treatment on the same work day as the exposure and are above limits established by the Occupational Safety and Health Administration (refer to 29 CFR 1910, subpart z) or American Conference of Governmental Industrial Hygienists (ACGIH), whichever is lower.

Off-Normal

1. Any occupational illness or injury that results in inpatient hospitalization.
2. Series of occupational illnesses from one event involving 3 or more people where at least one is a lost work day case.
3. Repeat or willful personnel exposures to hazardous substances or hazards such as noise or non-ionizing radiation in excess of limits as established by the Occupational Safety and Health Administration (refer to 29 CFR 1910, subpart z) or American Conference of Governmental Industrial Hygienists (ACGIH), whichever is lower.
4. Two (2) times the limits of personnel exposure in a single event to hazardous substances or hazards such as noise or non-ionizing radiation in excess of limits, as established by the Occupational Safety and Health Administration (refer to 29 CFR 1910, subpart z) or American Conference of Governmental Industrial Hygienists (ACGIH), whichever is lower.

Vehicular/Transportation Accident

This section covers vehicular transportation incidents, including DOE or BNL/AUI operated aircraft. Group 6 should also be considered in categorization for reporting.

Unusual Occurrence

1. Any vehicular incident resulting in fatality(s), injury(s), or illness if the vehicle is involved in the course of AGS business.
2. Any vehicular incident involving DOE property with a fatality(s) to a person(s) other than DOE personnel or BNL/AUI personnel if the vehicle is involved in the course of AGS business.

Off-Normal

1. Any vehicular incident with injury(s) involving DOE property resulting in a lost workday case if the vehicle is involved in the course of AGS business.
2. Any vehicular incident involving DOE property with injury(s) to a person(s) other than DOE personnel or BNL/AUI personnel if the vehicle is involved in the course of AGS business.

Safety Concerns

Off-Normal

1. Unapproved use of flammable, toxic, explosive, corrosive, or other unsafe or dangerous processes, chemicals, materials, or methods not in accordance with approved procedures or work plans.
2. Any shutdown of a work activity taken as a result of an Occupational Safety and Health Administration violation (e. g., trenching without adequate shoring or working at levels without fall protection, when required).

GROUP 4 - PERSONNEL RADIATION PROTECTION

Radiation Exposure

Unless specified otherwise, all doses specified in the following requirements are calculated as the total effective dose equivalent, which is the sum of the committed effective dose equivalent due to radionuclides taken into the body (internal exposure) and the dose equivalent due to external exposure.

Unusual Occurrence

1. Determination of a dose that exceeds the limits specified below for on-site exposure or off-site exposures to a member of the public as follows:

TYPE OF EXPOSURE	ANNUAL LIMIT
Radiological Worker: Whole Body (internal + external)	5 rem
Radiological Worker: Lens of Eye	15 rem
Radiological Worker: Extremity (hands and arms below elbow; feet and legs below knees)	50 rem
Radiological Worker: Any organ or tissue (other than lens of eye) and skin	50 rem
Declared Pregnant Worker: Embryo/Fetus	0.5 rem in 9 months
On-site Minors and Students (under age 18): Whole body (internal + external)	0.1 rem
On-Site Visitors And Public: Whole Body (internal + external)	0.1 rem
Off-site Public Dose Limit: The exposure of members of the public to radiation sources as a consequence of all routine accelerator activities shall not cause, in a year, an effective dose equivalent greater than 100 mrem	0.1 rem
Temporary Increases of Off-site Public Dose Limit: If avoidance of the higher exposures is impracticable, the DOE ER Operations Office may request, from EH-1, specific authorization for a temporary public dose limit higher than 100 mrem, but not to exceed 500 mrem, for the year	0.5 rem

Off-Normal

1. Any single occupational exposure that exceeds an expected exposure by 100 mrem.
2. A single unplanned exposure on-site to a minor or member of the public that exceeds 50 mrem.

- Determination of a dose that exceeds 10 mrem for off-site exposures to a member of the public.

Personnel Contamination

Unusual Occurrence

- Any single occurrence resulting in the contamination of five or more personnel or clothing, excluding protective clothing, at a level exceeding the values for total contamination limits given in the following table. The contamination level shall be based on direct measurement and not averaged over 100 cm².
- Any measurement of personnel or clothing contamination off-site, measured in accordance with the BNL Radiological Control Manual, Article 338, prior to washing or decontamination, at a level exceeding the limits given in the following table for removable contamination. The contamination level shall be based upon direct measurement and not averaged over 100 cm².

Any occurrence requiring off-site medical assistance for contaminated personnel.

Summary of Personnel Contamination Limits For Occurrence Reporting

NUCLIDE	REMOVABLE (dpm/100 cm ²)	TOTAL (FIXED + REMOVABLE) (dpm/100 cm ²)
U-natural, U-235, U-238 and associated decay products	1,000 alpha	5,000 alpha
Transuramics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	20	500
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	200	1,000
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others noted above. Includes mixed fission products containing Sr-90.	1,000 beta-gamma	5,000 beta-gamma
Tritium organic compounds, surfaces contaminated by HT, HTO and metal tritide aerosols	10,000	10,000

Off-Normal

- Any measurement of personnel or clothing contamination, excluding protective clothing, at a level equal to or exceeding the total personnel contamination limits, measured in accordance with Article 338, prior to washing or decontamination. The contamination level shall be based upon direct measurement and not averaged over 100 cm².

GROUP 5 - SAFEGUARDS AND SECURITY

Initial notification of events in this section shall follow normal occurrence reporting timelines. Full reporting may be delayed until completion of criminal investigations, if the reports would jeopardize the investigation.

Criminal Acts

Unusual Occurrence.

- Violent assault/battery, murder, or unjustified use of deadly force while on DOE property.
- Theft/diversion/intentional destruction of Government property valued greater than \$1,000,000.
- Racketeering or other organized criminal activity on-site.

Off-Normal

- Location of a suspicious device or non-credible bomb threat.

2. Non-credible terrorist threat.
3. credible sabotage threat.
4. Theft/diversion/intentional destruction of government property valued between \$10,000 and \$1,000,000.
5. site felony conspiracies (i.e., blackmail, fraud, embezzlement, extortion and forgery) not involving classified information.

Substance Abuse

Off-Normal

1. Discovery of the prohibited use, possession or involvement of illegal drugs or alcohol by personnel within the accelerator complex that may affect accelerator operations.
2. Any reportable occurrence under this procedure at least partially attributable to the use of alcohol or illegal drugs.
3. A detection of personnel not fit for duty attributable to the use of alcohol or illegal drugs.

Intelligence Activities

Unusual Occurrence

1. Extortion/blackmail directed at accelerator personnel with intent of obtaining classified information/systems, detailed information concerning plant processes/configurations, or aiding in sabotage or terrorist acts.
2. Espionage, intelligence activities, treason, or subversive activities by or directed at accelerator personnel.

Off-Normal

1. When illegal or unauthorized access is sought to classified or sensitive information / technology.
2. Accelerator personnel believe that they may be the target of an attempted exploitation by an inimical interest, foreign or domestic.

Security Computer Equipment/Systems

Unusual Occurrence

1. Actual /attempted unauthorized access to classified or controlled data.
2. Discovery of a security computer incident (virus, hacker, sniffer, abuse, fraud, etc.) that causes an alteration to security features, disruption of service, or loss of the confidentiality, integrity or availability of information, and results in an estimated \$20,000 or more in damages or cost of restoring services.

Off-Normal

1. Discovery of a security computer incident (virus, hacker, sniffer, abuse, fraud, etc.) that causes an alteration to security features, disruption of service, or loss of the confidentiality, integrity or availability of information, and results in an estimated \$10,000 or more in damages or cost of restoring services.

Demonstrations/Protests

Unusual Occurrence

1. Disruptive activities impeding vehicular or employees access/egress.
2. Attempted or actual trespass.
3. Malvolent activities causing property damage or bodily harm.

Off-Normal

1. Lawful activities warranting deployment of additional protective measures.

Firearms

Unusual Occurrence

1. Unauthorized firearms discharge resulting in personnel injury.

Off-Normal

1. Unauthorized firearms discharge resulting in no personnel injury.

Other Security Concerns

Unusual Occurrence

1. Unauthorized use, possession, alteration, or theft of a security badge, credentials, shield, or other form of official identification (to include blank badge stock/forms) to gain access to a protected area or limited area.

Off-Normal

1. site death of security-cleared accelerator personnel by unnatural causes (e. g. , suicide, drug overdose).
2. On-site malicious mischief, disorderly conduct, or vandalism which disrupts accelerator activity or causes damage between \$10,000 and \$100,000.

Material Control and Accountability

Unusual Occurrence

1. Loss of uranium shield blocks.
2. Evidence that uranium shield block material balance data has been manipulated or falsified to mask a diversion or theft or to alter loss detection sensitivity.

Off-Normal

None

GROUP 6 - TRANSPORTATION

Transportation of DOE Hazardous Materials

NOTE:

Reportable events are complicated and will be determined by the Facility Manager in consultation with S&EP. In lieu of a complex scheme outlined here, report any transportation events to the Facility Manager.

The accelerator complex does not directly ship radioactive or hazardous materials off-site. Shipments of these materials, if any, are performed by the S&EP Hazardous Waste Management Group or the SSD Isotope and Special Materials Group.

Unusual Occurrence

1. Any shipment or on-site transfer of radioactive material or hazardous waste that arrives at its destination with an unaccounted for package or an irreconcilable shipping paper, waste manifest, or on-site transfer authorization.

Off-Normal

1. Any packaging or transportation activity involving the on-site release of radioactive materials, etiologic agents, hazardous substances, hazardous waste, or marine pollutants.

GROUP 7 - VALUE BASIS REPORTING

Value basis reporting includes items based on cost or the identification of defective items, materials, or services. Costs used for reporting should be reasonable initial estimates.

Cost Basis Occurrence

Unusual Occurrence

1. Estimated loss or damage to property amounting to \$1,000,000 or more, or estimated costs of \$1,000,000 or more required for cleaning including decontamination, renovating, replacing, or rehabilitating structures, equipment, or property.

Off-Normal

1. Estimated loss or damage to property amounting to between \$10,000 and \$1,000,000 or estimated costs within these limits required for cleaning including decontamination, renovating, replacing or rehabilitating structures, equipment, or property. For vehicle/aircraft, the lower limit is \$5,000.

Defective Item, Material, or Service

Off-Normal

1. Discovery of any actual or potential defective item, material, or service in any application whose failure could result in a substantial safety hazard. Examples include the identification of counterfeit components found in:

cranes and elevators - items used in the load bearing path of the crane or elevator;

1. vehicles - items used in engines, brakes or steering mechanisms.

Identification of a pattern of defective items, materials, or services.

GROUP 8 - FACILITY STATUS

Performance goals are operating objectives necessary to accomplish an approved facility, process, or activity, mission on a periodic basis. The duration of the goal may be short or long term, but should not exceed the goals of the annual operating plan.

Significantly Curtailing Operations That May Affect Approved Performance Goals

Off-Normal

1. Any unscheduled shutdown of a facility, process, or operation that resulted or may result in the failure to meet approved performance goals.

Shutdown Extension That May Affect Performance Goals

Off-Normal

1. Any increase in an approved shutdown schedule of 1 month or greater or that resulted or may result in the failure to meet approved performance goals.

Start-up Being Delayed Which May Affect Performance Goals

Off-Normal

1. Any delay in an approved start-up schedule of 1 month or greater and which resulted or may result in the failure to meet approved performance goals.

GROUP 9 - NUCLEAR EXPLOSIVE SAFETY

Not Applicable

GROUP 10 - CROSS-CATEGORY ITEMS

A Series Of Related Events

Unusual Occurrence

1. Events determined by the Facility Manager that individually do not warrant reporting under preceding criteria but which collectively are considered important enough to warrant reporting.

Off-Normal

1. Events determined by the Facility Manager that individually do not warrant reporting under preceding criteria but which collectively are considered important enough to warrant reporting.

A Near Miss

Unusual Occurrence

1. An occurrence where the conditions necessary to cause an Unusual Occurrence existed (i.e., all barriers to event initiation were compromised).

Off-Normal

1. An occurrence where the conditions necessary to cause a reportable occurrence were prevented from existing by one remaining barrier after other barriers had been compromised (i.e., one additional independent failure/degradation was necessary for event initiation to be possible).

Identification Of Potential Issues That Are Deemed To Be Worthy Of Reporting

Unusual Occurrence

1. An occurrence that may result in a significant concern, particularly in the off-site transportation and radiological areas, by the press or general population or could damage the credibility of the DOE.
2. Other events determined by the Facility Manager.

Off-Normal

1. Any event resulting in the initiation of a Type A or B investigation as defined by DOE 5484.1, Environmental Protection, Safety, And Health Protection Information Reporting Requirements.
2. Other events determined by the Facility Manager.