

| GUIDELINE  | PERFORMANCE  | EXCEPTIONS & DEVIATIONS  |
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| <p>1. Status Reports</p> <ul style="list-style-type: none"> <li>Notify Supervisor of changes in facility status, and all abnormalities and unexpected situations.</li> </ul>   | <p>1. Status Reports</p> <ul style="list-style-type: none"> <li>Operators and supervisors follow <a href="#">OPM 2.D</a>, “SNS Occurrence Reporting Procedure” Events that do not meet the criteria of <a href="#">OPM 2.D</a> are reported under the ASD Trouble Report System, see <a href="#">OPM 6.K-1</a> The Operator's Log documents day-to-day changes in facility status and is reviewed each day by ASD management.</li> </ul>   | <p>1. Status Reports</p> <ul style="list-style-type: none"> <li>None.</li> </ul>   |
| <p>2. Safety Practices</p> <ul style="list-style-type: none"> <li>Adhere to ORNL safety program, including the use of protective equipment.</li> </ul>   | <p>2. Safety Practices</p> <ul style="list-style-type: none"> <li><a href="#">OPM 6.A-2</a> requires operations crews to adhere to procedures and to sound operating practices. All operators are trained in appropriate safety courses such as electrical safety, radiation safety, and hazardous materials handling. Areas and/or equipment are posted with requirements for protective equipment such as safety glasses, hearing protection, and hard hats.</li> </ul>  | <p>2. Safety Practices</p> <ul style="list-style-type: none"> <li>None.</li> </ul> |
| <p>3. Inspection Tours</p> <ul style="list-style-type: none"> <li>Perform inspection tours to ensure the status of equipment is known.</li> <li>Use tours to become familiar with the facility condition.</li> <li>Tour activities should include:</li> <li>Reviewing equipment status</li> <li>Looking for unexpected conditions</li> <li>Checking panel &amp; annunciator operation</li> </ul> | <p>3. Inspection Tours</p> <ul style="list-style-type: none"> <li>The on-duty Chief Operator visits, each shift, accelerator areas.</li> <li>Tour activities are covered in <a href="#">OPM 6.A-2</a> “Operating Practices.” Shift personnel perform a tour of the accelerator areas and perform surveillance activities according to their procedures. Tour activities include:</li> <li>Reviewing equipment status including recording radiation levels, particle fluence rates, system pressures and temperatures. Sweeps are also used to ensure personnel are out of primary and secondary areas before beam is enabled.</li> <li>Operators are trained to look for unexpected conditions such as water leaks, to check local panels and to check local alarm operation when on tour. The operators are also trained to inspect for area-specific abnormal conditions.</li> <li>Local annunciators alert the person on tour to abnormal conditions. For inaccessible areas, panel annunciators and the EPICS Alarm Handler are</li> </ul> | <p>3. Inspection Tours</p> <ul style="list-style-type: none"> <li>None.</li> </ul> |

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| <ul style="list-style-type: none"> <li>• Notation of any deficiencies found</li> </ul>  | <p>used to alert the operator in the Central Control Room (CCR). Primary areas are inaccessible during operations periods. Inaccessible areas use various sensors for smoke, water, pressure, ground faults and radiation which annunciate in the Central Control Room and/or at the Target Control Room when appropriate.</p> <ul style="list-style-type: none"> <li>• Deficiencies are noted in Trouble Reports or the Logbooks of the various touring groups or, if necessary, reported back up the supervisory chain for action.</li> </ul>   |   |
| <p>4. Round Tours</p> <ul style="list-style-type: none"> <li>• Use approved Round Tour Inspection Sheets</li> <li>• Record key parameters to analyze performance of systems and equipment and to facilitate shift turnover.</li> <li>• Round sheets should have the maximum and minimum values and operational safety limits highlighted to facilitate comparison with noted values.</li> <li>• Review recorded values for trends.</li> </ul> | <p>4. Round Tours</p> <ul style="list-style-type: none"> <li>• The RCTs, and ASD Support Staff perform tours and record their findings. Approved inspection sheets are used; for example, area-specific sweep checklists, RCT survey forms, and Hazardous Gas Check Lists.</li> <li>• Key parameters for equipment and systems are monitored and recorded in the Central Control Room and at remote locations. Set points are monitored in the Central Control Room. Shift records are maintained and reviewed during an overlap period in the shift change.</li> <li>• The maximum and minimum values are in the controls database for parameters monitored from the Central Control Room. Operational safety limits are listed in procedures. Maximum radiation levels are denoted by standard radiological area classifications. Cryogenic systems have parameter ranges written on their checklists.</li> <li>• Radiation surveys and area monitoring data are routinely reviewed to estimate potential future exposure of workers and experimenters. Equipment operations are continually monitored from the Central Control Room and undesirable trends are determined in advance of equipment failures. For example, the radiation monitoring system detects beam losses well before serious radiation events occur. Operators respond to this alert by reducing the beam power level and retuning the beam by changing the magnet current settings. Radiation alarms are automatically recorded. Radiation data are summarized in hourly averages along with beam-intensity data and these values are reviewed periodically by supervisors and management, and by the Health Physics staff. The ES&amp;H Staff reviews the long-term trend of radiation levels. In</li> </ul> | <p>4. Round Tours</p> <ul style="list-style-type: none"> <li>• None.</li> </ul> |

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|   | <p>the event of machine interruption, summaries of operator actions are recorded in the Operations Logbook, and the Logbook is reviewed each day. Various categories of machine downtime are recorded and long-term trends are examined. The Head of the Cryogenics Group periodically reviews the cryogenic system performance and checklists for trends.</p>  |   |
| <p>5. Personnel Protection</p> <ul style="list-style-type: none"> <li>• Conform to DOE Order 5480.11 (ALARA).</li> <li>• Assure proper use of Work Permits.</li> <li>• Supervisors should review exposure trends of workers.</li> </ul> | <p>5. Personnel Protection</p> <ul style="list-style-type: none"> <li>• Operators are trained in ALARA practices during: a) Rad Worker I training, b) Ring and Tunnel Access which is the ASD site-specific. Some will be Rad Worker II trained which is High Radiation Area training and Contamination Worker training.</li> <li>• Work Permits (<a href="#">OPM 6.B-1</a>) or Radiation Work Permits (<a href="#">OPM 2.H-4.6</a>) are required for specific jobs. Proper use of these permits is reviewed via ASD self-assessments or via quality assurance audits.</li> <li>• Supervisors review exposure trends weekly by reviewing dosimeter data, and monthly by reviewing TLD results. Managers and supervisors review quarterly dose records via the ORNL Radiological Support Services <a href="#">Performance Indicator Program</a>. From time-to-time, special ad hoc committees made up of supervisors and managers can be set up to review overall exposure trends at ASD.</li> </ul> | <p>5. Personnel Protection</p> <ul style="list-style-type: none"> <li>• None.</li> </ul>    |
| <p>6. Response to Indications</p> <ul style="list-style-type: none"> <li>• Identify and correct faulty instruments.</li> <li>• Believe instrument readings unless proven unreliable.</li> </ul>   | <p>6. Response to Indications</p> <ul style="list-style-type: none"> <li>• Prompt action is taken to investigate abnormal or unexpected indication, see, for example, <a href="#">OPM 2.H-18.10</a>, "Responding to Chipmunk Alarms or Interlock Trips". Operations Logbooks and reporting are described in <a href="#">OPM 1.B-2</a> "Logbook Keeping".</li> <li>• Operators are instructed to believe instrument readings and treat them as accurate unless proven otherwise, see <a href="#">OPM 6.A-2</a>, "Operating Practices". See the ORNL SBMS subject matter area. "<a href="#">OPM 2.H-2.10. ORNL SBMS Radiological Instrumentation and Calibration</a>".</li> </ul>   | <p>6. Response to Indications</p> <ul style="list-style-type: none"> <li>• None.</li> </ul> |
| <p>7. Resetting Protective Devices</p>  | <p>7. Resetting Protective Devices</p>  | <p>7. Resetting Protective Devices</p>  |

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| <ul style="list-style-type: none"> <li>Understand current conditions prior to resetting protective devices.</li> </ul>  | <ul style="list-style-type: none"> <li>When a protective device trips, the accelerator is shut down to a safe state. A trip would occur if unexpectedly high levels of radiation were seen by an area-radiation monitor. In this case, operators undertake to understand the trip before the device is reset. The formality of this undertaking is written into procedures. See for example, <a href="#">OPM 2.H-18.10</a>, "Responding to Chipmunk Alarms or Interlock Trips".</li> </ul>  | <ul style="list-style-type: none"> <li>None.</li> </ul>   |
| <p>8. Load Changes</p> <ul style="list-style-type: none"> <li>Supervisor must approve any changes.</li> </ul>   | <p>8. Load Changes</p> <ul style="list-style-type: none"> <li>The Chief Operator approves all power or process rate changes. See <a href="#">OPM 6.A-2</a>, "Operating Practices".</li> </ul>   | <p>8. Load Changes</p> <ul style="list-style-type: none"> <li>None.</li> </ul>                      |
| <p>9. Authority to Operate</p> <ul style="list-style-type: none"> <li>Operators should understand their authority to operate and that of the Supervisor.</li> </ul> | <p>9. Authority to Operate</p> <ul style="list-style-type: none"> <li>Trained and qualified personnel operate ASD equipment. Responsibilities for all operation personnel are discussed in (<a href="#">OPM 6-A.1</a>) "SNS Organization and Operating Practices".</li> </ul>   | <p>9. Authority to Operate</p> <ul style="list-style-type: none"> <li>None.</li> </ul>              |
| <p>10. Shift Operating Bases</p> <ul style="list-style-type: none"> <li>Establish places for administration, communications, and shift turnover.</li> </ul>         | <p>10. Shift Operating Bases</p> <ul style="list-style-type: none"> <li>The SNS Central Control Room serves as the operating base for accelerator systems. It is the center of accelerator control activities including shift turnover. It is equipped with office equipment needed to conduct duties, including communications equipment. Other operating bases include the Front End Control Room, CHL Control Room, Target Control Room (CLO) and the Target Control Room (Target Building). These areas are also equipped with appropriate control equipment and communications.</li> </ul> | <p>10. Shift Operating Bases</p> <ul style="list-style-type: none"> <li>None.</li> </ul>            |
| <p>11. Potentially Distractive Material</p> <ul style="list-style-type: none"> <li>Should be prohibited or controlled.</li> </ul>                                   | <p>11. Potentially Distractive Material</p> <ul style="list-style-type: none"> <li>Written material, computer use not pertinent to operations and entertainment devices are generally prohibited from use by on-duty personnel. Decisions on these materials will be made by the Operations Coordinator, see (<a href="#">OPM 6.A-3</a>) "Activities in the Control Room".</li> </ul>   | <p>11. Potentially Distractive Material</p> <ul style="list-style-type: none"> <li>None.</li> </ul> |

**FACILITY: SNS ACCELERATOR SYSTEMS DIVISION**  
**CHAPTER: II "SHIFT ROUTINES & OPERATING PRACTICES"**

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**GUIDELINE**

**PERFORMANCE**

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