

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

Environmental Management System Model		GENERAL REQUIREMENTS		
ELEMENT:	4.1	TITLE:	General Requirements	
ISO 14001 STANDARD:				
		NO	PARTIAL	YES
The organization shall establish and maintain an environmental management system, the requirements of which are described in International Standard ISO 14001-1996		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD:				
The C-A Department underwent formal registration by NSF in August 2000. The system has been established for almost one year. It is modeled around the Lab-wide SBMS subject areas and supplemented with internal Operating Procedures. The C-A OPM 1.10.2, Environmental Management Program Description, with associated attachments describes the program and points to related procedures and individuals responsible for carrying out EMS tasks. Certificates of registration are posted in the chairman's office and the lobbies of Building 911 and 1005. The program is being routinely maintained. The significant aspects have been reviewed as well as the processes assessments, Environmental Management Program forms and Operational Control Forms.				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
COMMENTS: There is a policy plaque in the Chairman's office, the Lobby of 911, and in the lobby of 1005. EMS policy commitment cards were available. EMS program posters are placed in common areas.				
EVALUATION:				
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
Has a program been established? How long has the program been established? Is it being maintained the requirements of International Standard ISO 14001-1996?				

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		ENVIRONMENTAL POLICY	
ELEMENT:	4.2	TITLE:	Environmental Policy
ISO 14001 STANDARD:			
		NO	PARTIAL
		YES	
Top Management shall define the organization's environmental policy and ensure that it: <ul style="list-style-type: none"> a) is appropriate to the nature, scale and environmental impacts of its activities, products, or services; b) includes a commitment to continual improvement and prevention of pollution; c) includes a commitment to comply with relevant environmental legislation and regulations, and with other requirements to which the organization subscribes; d) provides the framework for setting and receiving environmental objectives and targets; e) is documented, implemented, maintained and communicated to all employees; f) is available to the public. 		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD:			
The C-A department has a well documented EMS program that is designed around the ISO14001-1996 specification and the BNL Environmental Management System and Policy as stated in the Standards Based Management System.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
OPM 1.10 – C-A Environmental, Safety and Health Policy, OPM 1.10.2 – Environmental Management Program Description			
COMMENTS:			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	MAJOR NONCONFORMANCE
<input type="checkbox"/>			
AUDIT QUESTIONS:			
Is the policy defined and is it appropriate to the type, size, and environmental impacts of the Collider-Accelerator activities?			
Does the policy include a commitment to continual improvement and evidence of such in the organization's operations?			
Does the policy include a commitment to pollution prevention and evidence of such in the organization's operations?			
Does the policy include a commitment to compliance to legal requirements and is there evidence indicating intent to comply?			
Does the policy include a mechanism for setting and reviewing environmental objectives and targets?			
Is the policy documented, implemented, maintained and communicated to all employees?			
Is the policy available to the public?			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		PLANNING	
ELEMENT:	4.3.1	TITLE:	Environmental Aspects
ISO 14001 STANDARD:			
		NO	PARTIAL
<p>The organization shall establish and maintain (a) procedure(s) to identify the environmental aspects of its activities, products, or services that it can control and over which it can be expected to have an influence, in order to determine those which have or can have significant impacts on the environment. The organization shall ensure that the aspects related to those significant impacts are considered in setting its environmental objectives.</p> <p>The organization shall keep the information up-to-date.</p>		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD:			
<p>The mechanism used to document Significant Aspects is the SBMS Subjects Area, Identification of Significant Environmental Aspects and Impacts. The C-A Department identifies environmental aspects during the planning phase of its operations using the Work Planning Systems, and Safety Review Systems. The work planning system has a section that addresses EMS for work done by C-A employees, BNL employees performing work in the C-A complex as well as external contractors performing work within the C-A complex.</p>			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
<p>OPM 2.28, C-A Procedure For Enhanced Work Planning OPM 2.29, C-A Procedure For Enhanced Work Planning For Experimenters OPM 9.1.12, Review of C-A Shielding Design OPM 9.1.15, Guideline For Review Criteria For C-A Experiments OPM 9.2.1, Reviewing Conventional Safety Aspects of an Experiment OPM 9.3.1, Reviewing Conventional Safety Aspects of an Accelerator System Phase II Process Evaluations Environmental Aspects Matrix OPM 1.10.2 EMS Task List 2001</p>			
COMMENTS: Aspects are appropriately covered, review and update is well managed.			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
<p>Is there a documented and maintained procedure to review and update aspects? What mechanism is used to initiate aspect review/revision when operations change? Is there knowledge and use of significance criteria? Are there records showing that analysis to select significant aspects was done? Was there effort to include aspects over which there is influence? Are there any obvious aspects which should have been considered and were not? If not, why not?</p>			

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		PLANNING	
ELEMENT:	4.3.2	TITLE:	Legal and Other Requirements
ISO 14001 STANDARD:			
		NO	PARTIAL
		YES	
The organization shall establish and maintain a procedure to identify and have access to legal and other requirements to which the organization subscribes, that are applicable to the environmental aspects of its activities, products or services.		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD:			
Legal requirements come from external agencies to Laboratory level personnel. These requirements are communicated through the generation of subject areas. The C-A Department actively participates in the development of the subject areas. The Chairman of the Department sits on the SBMS steering committee which reviews all subject areas. Cognizant C-A personnel have subscribed to the SBMS subscription Service which notifies users of new and updated subject areas. The C-A Department ECR also, as part of his job function, makes sure that the department is made aware of new requirement and works to assure department compliance to these requirements. The C-A EMP's list legal & other requirements as applicable. The ECR coordinates process evaluations with Subject Matter Experts.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
OPM 1.10.2			
COMMENTS:			
A BNL Nonradioactive Emission Source Inventory Form for a hooded area in the Vacuum Lab was dated 03/01/99 that the equipment/operation was put into service and the form stated that the anticipated length of time the emission source would be in operation was one year. The source is still in operation, the form has not been updated and there is no evidence of a determination of if the hood requires permitting or not.			
EVALUATION:			
<input type="checkbox"/>	MEETS REQUIREMENT	<input type="checkbox"/>	MAJOR NONCONFORMANCE
		<input type="checkbox"/>	MINOR NONCONFORMANCE
AUDIT QUESTIONS:			
Is there a documented procedure for the organization to identify and have access to all applicable legal requirements?			
Is someone (or more than one) designated to keep unit current on requirements?			
What are that persons resources, references, methods to keep current?			
How is applicability of new requirements determined?			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		PLANNING	
ELEMENT:	4.3.3	TITLE:	Objectives and Targets
ISO 14001 STANDARD:			
		NO	PARTIAL
		YES	
<p>The organization shall establish and maintain documented environmental objectives and targets, at each relevant function and level within the organization.</p> <p>When establishing and reviewing its objectives, an organization shall consider the legal and other requirements, its significant environmental aspects, its technological options and its financial, operational and business requirements, and the views of interested parties.</p> <p>The objectives and targets shall be consistent with the environmental policy, including the commitment to pollution prevention.</p>		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD:			
<p>C-A objectives and targets are built around the Laboratory's Critical Outcomes. The C-A application of the Laboratory's Critical Outcomes can be found in the C-A Self-Assessment Program. The C-A objectives and Targets are documented on an Environmental Management Program form which is linked to a Process Evaluation and the significant aspects of that process. Additionally the EMP documents the performance indicators, a description of the program, the potential environmental impacts, legal and other requirements, budget required, the tasks, person responsible for completing the tasks and completion dates. It also points a link to the operational controls</p>			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
<p>Environmental Management Program Forms Identification of Significant Environmental Aspects and Impacts C-A Department Environmental Management Matrix of Objectives and Targets for Significant Aspects Form C-A Self-Assessment BNL FY01 Critical Outcomes OPM 1.10.2</p>			
COMMENTS:			
<p>In an effort to eliminate duplication the tasks, person responsible, and completion date blocks on the EMP point to the appropriate tracking database that is updated by the C-A Department ECR. These are the Phase II tracking databases under control of the Environmental Services Division.</p>			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
<p>Has the organization established and maintained objectives and targets all significant aspects? Have the documented objectives and targets considered legal and other requirements? Are objectives and targets reasonable and measurable? Is there a documented and maintained procedure for periodically reviewing objectives and targets? Are objectives and targets communicated to the employees that are supposed to achieve them? Do objectives and targets reflect a commitment to pollution prevention?</p>			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		PLANNING		
ELEMENT:	4.3.4	TITLE:	Environmental Management Programme(s)	
ISO 14001 STANDARD:		NO	PARTIAL	YES
<p>The organization shall establish and maintain (a) programme(s) for achieving its objectives and targets. It shall include:</p> <ul style="list-style-type: none"> a) designation of responsibility for achieving objectives and targets at each relevant function and level of the organization; b) the means and time-frame by which they are to be achieved. <p>If a project relates to new developments and new or modified activities, products or services, programme(s) shall be amended where relevant to ensure that environmental management applies to such projects.</p>		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD:				
<p>The EMP documents the performance indicators, a description of the program, the potential environmental impacts, legal and other requirements, budget required, the tasks, person responsible for completing the tasks and completion dates. It also points a link to the operational controls and is integrally tied to associated process evaluations with their respective aspects.</p>				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
<p>C-A Environmental Management Programs Phase II Corrective Action Tracking Database Phase II P2 Tracking Database Phase II APC Tracking Database</p>				
COMMENTS: In an effort to eliminate duplication the tasks, person responsible, and completion date blocks on the EMP point to the appropriate tracking database that is updated by the C-A Department ECR. These are the Phase II tracking databases under control of the Environmental Services Division.				
EVALUATION:				
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
<p>Are there programs to achieve all the identified objectives and targets? Do the programs include schedules for completion and resources necessary to achieve the objectives and targets? Do the programs assign responsibilities for completion of tasks in achieving objectives and targets? Do the programs specify performance indicators and methods in performing monitoring and measurement? Are all procedures that supplement the EMP's available to the appropriate personnel and current? Are operational controls in place and working as expected? Are records of operational controls and performance indicators managed and retained per plans?</p>				

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.1	TITLE:	Structure and Responsibility
ISO 14001 STANDARD:		NO	PARTIAL
<p>Roles, responsibility and authority shall be defined, documented and communicated in order to facilitate effective environmental management.</p> <p>Management shall provide resources essential to the implementation and control of the environmental management system. Resources include human resources and specialized skills, technology and financial resources.</p> <p>The organization's top management shall appoint (a) specific management representative(s) who, irrespective of other responsibilities, shall have defined roles, responsibilities and authority for</p> <ul style="list-style-type: none"> a) ensuring that environmental management system requirements are established, implemented and maintained in accordance with this International Standard; b) reporting on the performance of the environmental management system to the top management for review and as a basis for improvement of the environmental management system. 		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD: Management has committed the appropriate resources and is accountable for those actions during the monthly Department Chairman's meeting and the annual Management Review. General and/or specific EMS responsibilities are documented on departmental personnels' R2A2.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
R2A2's (Top Management, C-A EMS representative and EMS team)			
OPM 1.10			
OPM 1.10.2			
COMMENTS:			
None			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/> MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
Are roles and responsibility, and authorities defined, documented and communicated?			
Has management provided the necessary resources (people, technology, money) to accomplish this EMS?			
Has top management appointed an environmental management representative?			
Does the R2A2 of the environmental management representative document sufficient authority to accomplish a & b above?			

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.2	TITLE:	Training, Awareness and Competence
ISO 14001 STANDARD:			
		NO	PARTIAL
<p>The organization shall identify training needs. It shall require that all personnel whose work may create a significant impact upon the environment, have received appropriate training.</p> <p>It shall establish and maintain procedures to make its employees or members at each relevant function and level aware of</p> <ul style="list-style-type: none"> a) the importance of conformance with the environmental policy and procedures with the requirements of the environmental management system; b) the significant environmental impacts, actual or potential, of their work activities and the environmental benefits of improved personal performance; c) their roles and responsibilities in achieving conformance with the environmental policy and procedures with the requirements of the environmental management system, including emergency preparedness and response requirements; d) the potential consequences of departure from specified operating procedures. <p>Personnel performing the tasks which can cause significant environmental impacts shall be competent on the basis of appropriate education, training and/or experience.</p>		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD:			
<p>The C-A department has developed job specific training for each of the process evaluations. This training deals with each one of the items (a-d) listed above. The Job Training Assessment (JTA) for each employee lists if this training is a requirement for them to perform their job. In addition to this training, 99% of C-A personnel have completed the BNL General Environmental Training Course. The C-A department has also conducted EMS awareness forums with those individuals whose work has a potential to impact the environment.</p>			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
OPM 1.12, C-A JTA's, BTMS, C-A EMS job specific training procedures, BNL General Environmental Training Course			
COMMENTS:			
<p>The following recommendations were noted: While worker knowledge of the application and importance of environmental controls in their area is strong, there is still a need for a better understanding of the EMS program and terminology and it is recommended that C-A conduct refresher forums which highlight the EMS program. The EMS Job Specific Training needs clarification as to when review and update are performed as well as training upon update it is recommended that these clarifications be made in OPM 1.10.2 and 1.12 as required.</p>			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	MAJOR NONCONFORMANCE
		<input type="checkbox"/>	
AUDIT QUESTIONS:			
Have training needs been identified for those whose work can have a significant impact on the environment?			
Has the appropriate training been done and, where required, by qualified trainers?			
Are procedures established and maintained to make employees aware of a – d above?			
Are there specific, documented minimum requirements for each person performing a task that can cause significant environmental impact?			

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.3	TITLE:	Communication
ISO 14001 STANDARD:		NO	PARTIAL
<p>With regard to its environmental aspects and environmental management system, the organization shall establish and maintain procedures for:</p> <ul style="list-style-type: none"> a) internal communication between the various levels and functions of the organization; b) receiving, documenting and responding to relevant communication from external interested parties. <p>The organization shall consider processes from external communication on its significant environmental aspects and record its decision.</p>		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD: Internal communication is done through various ways but much of this is grounded in the work planning process which follows planned weekly meetings throughout the department. It is at these meeting where relevant information regarding EMS and information specific to a particular job or process is communicated. OPM 2.28 has an attachment that details weekly meeting. Additionally, internal communications come in the form of formal memos, e-mail, ATS notifications and responses and web postings. External communications are channeled through the BNL public affairs (SIGPA), other community action committees (BER, CAC), and are documented through the CCTS where applicable.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST): OPM 2.12 C-A Web site CCTS OPM 1.10.2			
COMMENTS: None			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/> MAJOR NONCONFORMANCE
AUDIT QUESTIONS: Are there procedures and records that are maintained for communications and activities regarding the company's environmental aspects and its overall EMS? How are internal communications between different levels and different functions documented? How are the receiving, documenting and responding to relevant questions from interested parties documented?			

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.4	TITLE:	Environmental Management System Documentation
ISO 14001 STANDARD:		NO	PARTIAL
<p>The organization shall establish and maintain information, in paper or electronic form, to:</p> <ul style="list-style-type: none"> a) describe the core elements of the management system and their interaction; b) provide direction to related documentation. 		<input type="checkbox"/>	<input type="checkbox"/>
<p>FACILITY IMPLEMENTATION OF STANDARD: The C-A Environmental Management Program Description details how the C-A EMS program is implemented through use of the BNL SBMS and the C-A Operational Procedures Manual. The Contacts and Responsibilities attachment gives pertinent information regarding individuals responsible at the department as well as the laboratory level. The Document Flow-down matrix gives a detail of the various documents of the C-A EMS.</p>			
<p>EXISTING PROCEDURES AND DOCUMENTATION (LIST):</p> <ul style="list-style-type: none"> OPM 1.10.2 – Environmental Management Program Description OPM 1.10.2.a – C-A Organization Chart OPM 1.10.2.b – C-A EMS Contacts and Responsibilities OPM 1.10.2.c – C-A EMS Flow-down Document Matrix OPM 1.10.2.d – C-A Environmental Management Matrix of Objective and Targets for Significant Aspects Form BNL ISO 14001 “Plus” EMS Manual 			
<p>COMMENTS: None</p>			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/> MAJOR NONCONFORMANCE
<p>AUDIT QUESTIONS:</p> <ul style="list-style-type: none"> How is the department’s EMS documented and maintained? Does the EMS documentation address all ISO 14001 clauses? Is there organizational flow and continuity between all EMS documentation? Does the system document how the related documentation [regulations, permits, forms, etc.] is to be used? 			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.5	TITLE:	Document Control
ISO 14001 STANDARD:			
<p>The organization shall establish and maintain procedures for controlling all documents required by this International Standard to ensure that:</p> <ul style="list-style-type: none"> a) they can be located; b) they are periodically reviewed, revised as necessary, and approved for adequacy by authorized personnel; c) the current versions of relevant documents are available at all locations where operations essential to the effective functioning of the environmental management system are performed; d) obsolete documents are promptly removed from all points of issue and points of use, or otherwise assured against unintended use; e) any obsolete documents retained for legal and/or knowledge preservation purposes are suitably identified. <p>Documentation shall be legible, dated (with dates of revision) and readily identifiable, maintained in an orderly manner and retained for a specific period. Procedures and responsibilities shall be established and maintained concerning the creation and modification of the various types of document.</p>		NO <input type="checkbox"/>	PARTIAL <input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD: All C-A documents are on the Web and OPM 1.1, 1.2, 1.4, 1.43, 1.47, 13.4 detail how procedures are generated, reviewed, and maintained. The internal C-A procedures supplement the SBMS Internal Controlled Documents Subject Area and details items that are unique to the C-A Department.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST): OPM 1.1, OPM 1.2, OPM 1.4, OPM 1.4.3, OPM 1.4.7, OPM 13.4, OPM 13.4			
COMMENTS: Minor nonconformances noted are: Two errors on document numbers in the footers of EMS program documents, OPM 2.19 was omitted from the Operational Control Form for the Cooling Water System, OPM 1.4.7 does not clarify the procedure for designating additional signatures and the cover sheet used for EMS documentation is currently only specified for use with QA documents.			
EVALUATION:			
<input type="checkbox"/> MEETS REQUIREMENT	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
<p>Are there procedures for controlling and maintaining all documents required by this standard? Are the documents accessible?</p> <p>Are the documents periodically reviewed, revised and approved for adequacy by authorized personnel?</p> <p>Are latest versions of documents available in all areas and by all personnel that perform tasks essential to the effective functioning of the EMS?</p> <p>Are obsolete documents removed from use and assured from unintended use? Are historical copies maintained & labeled?</p> <p>Are those obsolete documents that are retained for legal or knowledge reasons clearly identified?</p> <p>Are documents dated with the latest revision, orderly, legible and retained for a specified period?</p> <p>Are there procedures that define the who and how of creating or modifying documents?</p>			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION	
ELEMENT:	4.4.6	TITLE:	Operational Control
ISO 14001 STANDARD:		NO	PARTIAL
<p>The organization shall identify those operations and activities that are associated with the identified significant environmental aspects in line with its policy, objectives, and targets. The organization shall plan these activities, including maintenance, in order to ensure that they are carried out under specified conditions by:</p> <ul style="list-style-type: none"> a) establishing and maintaining documented procedures to cover situations where their absence could lead to deviations from the environmental policy and the objectives and targets; b) stipulating operating criteria in the procedures; c) establishing and maintaining procedures related to the identifiable significant environmental aspects of goods and services used by the organization and communicating relevant procedures and requirements to the suppliers and contractors. 		<input type="checkbox"/>	<input type="checkbox"/>
FACILITY IMPLEMENTATION OF STANDARD: Operational Control Forms are prepared in accordance with the SBMS Identification of Significant Aspects and Impacts SA and OPM 1.10.2. The OCF documents the operation, the activity/aspect(s) of the operation, the operational controls (C-A OPM's and other controls), necessary maintenance plans, actions to take if a control fails, records involved with the OCF, responsible individuals and training required for the operation.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST): OPM 1.10.2, OPM 2.28, OPM 2.5, OPM 6.1.10, OPM 9.1.15, OPM 9.2.1, OPM 9.3.1, OPM 8.32, OPM 2.19, OPM 8.20 Identification of Significant Aspects and Impacts, C-A Operational Control Forms, Cap Inspections, Experimental Safety Reviews			
COMMENTS: The following minor nonconformance was noted during the filed portion of the audit: a review of completed Water System Make-up Checklists found a checklist where actions for closure were not documented. The following recommendations were noted: the OCF for the cooling water system only references certain attachments rather than all the forms it is recommended that the OCF list the procedure and attachments as the OPM 8.31 series. Beam separators stored in 912 have leaked epoxy, recommend cleaning of area and implementation of further preventative measures. Electronics shops are using 60/40 Lead-Tin solder, recommend review for a substitute and that C-A obtain a listing of available solders from BNL stock.			
EVALUATION:			
<input type="checkbox"/> MEETS REQUIREMENT	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
<p>Have the operations and activities been identified that are associated with the significant environmental aspects? Are the identified operations and activities consistent with the company's policy, objectives and targets? Is there a maintenance plan for the above identified operations and activities? Have procedures been established and maintained for the above operations that, if they are not followed for these situations, could lead to deviations from the environmental policy and the objectives and targets? Are operating criteria clearly established and documented in the procedures for the operations and activities identified above? Have the significant environmental aspects of raw materials, supplies and services used in the above operations and activities been identified? Are there procedures for handling raw materials, supplies and services used in the activities associated with significant impacts? Are relevant procedures and requirements communicated to the appropriate suppliers and contractors?</p>			

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		IMPLEMENTATION AND OPERATION		
ELEMENT:	4.4.7	TITLE:	Emergency Preparedness and Response	
ISO 14001 STANDARD:				
		NO	PARTIAL	YES
<p>The organization shall establish and maintain procedures to identify potential for and respond to accidents and emergency situations, and for preventing and mitigating the environmental impacts that may be associated with them.</p> <p>The organization shall review and revise, where necessary, its emergency preparedness and response procedures, in particular, after the occurrence of accidents or emergency situations.</p> <p>The organization shall also periodically test such procedures where practicable.</p>		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD: The emergency preparedness and response procedures for C-A are documented in Chapter 3 of the Operations Procedure Manual. There was a recent oil spill in building 912 for which a Critique was written. The emergency preparedness procedure was reviewed and the critique, as well as an e-mail, document this and the fact that in this case there was not an awareness of where the spill equipment was located. Actions items listed in the critique are being tracked through the C-A ATS. C-A conducted its own test drill in July 2000. The ESH coordinator in charge documented a critique of the drill in a memo.				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
OPM 3.0				
COMMENTS: The drill was well received by C-A personnel and was considered beneficial especially by the Main Control Room. It is recommended that the C-A Department continue to perform its own drill on a scheduled basis.				
EVALUATION:				
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
<p>Are there maintained procedures to identify potential for accidents and emergency situations?</p> <p>Are there maintained procedures to respond to accidents and emergency situations?</p> <p>Are there maintained procedures to prevent and minimize the environmental impacts that may be associated with the identified accidents and emergency situations?</p> <p>Are there reviews and revisions of the emergency preparedness and response procedures, particularly after an incident?</p> <p>Are there periodical tests of the above procedures?</p>				

ColliderAccelerator EMS Assessment

ISO 14001

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Environmental Management System Model		CHECKING AND CORRECTIVE ACTION		
ELEMENT:	4.5.1	TITLE:	Monitoring and Measurement	
ISO 14001 STANDARD:		NO	PARTIAL	YES
<p>The organization shall establish and maintain documented procedures to monitor and measure, on a regular basis, the key characteristics of its operations and activities that can have a significant impact on the environment. This shall include the recording of information to track performance, relevant operational controls and conformance with the organization's environmental objectives and targets.</p> <p>Monitoring equipment shall be calibrated and maintained and records of this process shall be retained according to the organization's procedures.</p> <p>The organization shall establish and maintain a documented procedure for periodically evaluating compliance with relevant environmental legislation and regulations.</p>		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD: Environmental performance monitoring is specified in C-A-QAP-1001. The C-A Environmental Compliance Representative is required to specify areas where compliance monitoring is required. The C-A QA is required to audit to assure that the compliance monitoring is accomplished. Other monitoring and measurement is performed as specified in the Operational Control Forms and associated Operational Procedures. With the exception of confirmatory air sampling performed by the C-A Radiological Control Technician there is no other equipment in the C-A EMS requiring calibration. Equipment used by Drew Chemical Corp. in the C-A Water System is calibrated by Drew and they have provided us with a copy of their ISO9001 certification and a copy of their calibration procedure.				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
FS-CAD-360 OPM 1.14, OPM 1.15, OPM 8.20, OPM 8.32, OPM 2.19				
COMMENTS: The following recommendation was noted: The CMS tracking system jeopardizes accurate tracking of those chemicals which are truly hazardous and critical because the volume of non-hazardous items being tracked makes the system unmanageable. There are items, such as kapton tape, lock-tite and others which could possibly be eliminated. It is recommended that a request be made through the appropriate channels to streamline tracking to those items which are truly hazardous.				
EVALUATION:				
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
Are procedures documented and maintained to monitor and measure operations that can have a significant impact on the environment? Is there a calibration system for monitoring equipment? Does the company have a documented procedure for periodically evaluating compliance with environmental legislation and regulations?				

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

Environmental Management System Model		CHECKING AND CORRECTIVE ACTION		
ELEMENT:	4.5.2	TITLE:	Nonconformance and Corrective and Preventive Action	
ISO 14001 STANDARD:		NO	PARTIAL	YES
<p>The organization shall establish and maintain procedures for defining responsibility and authority for handling and investigating nonconformance, taking action to mitigate any impacts caused and for initiating and completing corrective and preventive action.</p> <p>Any corrective or preventive action taken to eliminate the causes of actual and potential nonconformances shall be appropriate to the magnitude of problems and commensurate with the environmental impact encountered.</p> <p>The organization shall implement and record any changes in the documented procedures resulting from corrective and preventive action.</p>		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD: EMS nonconformances are documented by three mechanisms: Occurrence Reporting and Processing System (ORPS), Critiques, and through the SBMS Nonconformance & Corrective and Preventive Action subject area. Critiques and NCR's are tracked for closure and corrective action through the C-A ATS. ORPS reportable incidents are tracked to closure through a higher level Laboratory &DOE tracking system. Copies of Critiques and NCR's with supporting documentation were available and for review in the QA group. ORPS can be found through the C-A web site. Critiques and NCR's were noted as in the C-A ATS system. There were no ORPS reportable incidents since the last EMS audit.				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
OPM 1.10.2 OPM 10.0 series SBMS Critiques SA SBMS Occurrence Reporting and Processing System SA SBMS Nonconformance & Corrective and Preventive Action SA C-A ATS				
COMMENTS: None				
EVALUATION:				
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/>	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
Are procedures documented and maintained for defining responsibility and authority for handling, investigating and taking action to minimize impacts of nonconformances? Are procedures documented and maintained for initiating and completing corrective and preventive action? Are appropriate corrective and preventive actions taken? Are the results of the corrective and preventive actions implemented and recorded?				

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

Environmental Management System Model		CHECKING AND CORRECTIVE ACTION		
ELEMENT:	4.5.3	TITLE:	Records	
ISO 14001 STANDARD:				
		NO	PARTIAL	YES
<p>The organization shall establish and maintain procedures for the identification, maintenance and disposition of environmental records. These records shall include training records and the results of audits and reviews.</p> <p>Environmental records shall be legible, identifiable, and traceable to the activity, product or service involved. Environmental records shall be stored and maintained in such a way that they are readily retrievable and protected against damage, deterioration or loss. Their retention times shall be established and recorded.</p> <p>Records shall be maintained, as appropriate to the system and to the organization, to demonstrate conformance to the requirements of this International Standard.</p>		<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD: Records are maintained in accordance with the SBMS Records Management subject area which is supplemented by C-A-QAP-402 – Records Management, and C-A-OPM1.2.1 – Records Index. The Records Index has a specific attachment detailing the EMS Records with the C-A Department. This index lists the name of the record, the record custodian, the record schedule and the retention. Currently the EMS records are being inventoried and enter into the BNL Record Management’s Inform database. This effort is 95% complete and will be finished by the onsite NSF audit in June 2001. The List of Environmental Records attachment is also being revised and will be completed at that point.				
EXISTING PROCEDURES AND DOCUMENTATION (LIST):				
SBMS Records Management SA C-A-QAP-402 C-A-OPM-1.2.1				
COMMENTS: None				
EVALUATION:				
MEETS REQUIREMENT		<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/> MAJOR NONCONFORMANCE
AUDIT QUESTIONS:				
<p>Are procedures documented and maintained for the identification, maintenance and disposition of environmental records?</p> <p>Are the records legible, identifiable and traceable to the activity, product or service involved?</p> <p>Are the records stored and maintained such that they are readily retrievable and protected against damage, deterioration or loss?</p> <p>Are there documented specified retention times for all of the records identified?</p> <p>Are the records maintained in a manner to demonstrate accordance with the standard and appropriate to the system and the organization?</p>				

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

Environmental Management System Model	CHECKING AND CORRECTIVE ACTION		
ELEMENT: 4.5.4	TITLE:	Environmental Management System Audit	
ISO 14001 STANDARD:			
	NO	PARTIAL	YES
<p>The organization shall establish and maintain (a) programme(s) and procedures for periodic environmental management system audits to be carried out, in order to:</p> <ul style="list-style-type: none"> a) determine whether or not the environmental management system <ul style="list-style-type: none"> 1) conforms to planned arrangements for environmental management, including the requirements of this International Standard; and 2) has been properly implemented and maintained; and b) provide information on the results of audits to management. <p>The organization's audit programme, including any schedule, shall be based on the environmental importance of the activity concerned and the results of the previous audits. In order to be comprehensive, the audit procedures shall cover the audit scope, frequency and methodologies, as well as the responsibilities and requirements for conducting audits and reporting results.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
FACILITY IMPLEMENTATION OF STANDARD: The EMS audit is scheduled and performed in accordance with the C-A Department FY2001 Self-Assessment Program. The C-A QA group maintains a database of audit schedules as well as audits and audit reports. Audits are conducted in accordance with the SBMS Environmental Assessments subject area and OPM 1.10.2. An Audit Plan was generated as well as an Audit Schedule and Audit Notification.			
EXISTING PROCEDURES AND DOCUMENTATION (LIST): OPM 1.10.2 SBMS Environmental Assessments SA C-A-QAP-1001 Independent Assessment C-A Department FY 2001 Self-Assessment Program			
COMMENTS: None			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	<input type="checkbox"/> MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
Are procedures documented and maintained for periodic EMS audits?			
Does the procedure for EMS audits include the scope of the audit, frequency, methodologies used, responsibilities, requirements, and method of reporting results.			
Does the EMS audit determine whether their EMS has been implemented and maintained and conforms to this standard?			
Does the EMS audit provide results of the audits to management?			

ColliderAccelerator EMS Assessment

ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

Environmental Management System Model		MANAGEMENT REVIEW	
ELEMENT:	4.6	TITLE:	Management Review
ISO 14001 STANDARD:			
		NO	PARTIAL
		YES	
<p>The organization's top management, shall at intervals that it determines, review the environmental management system, to ensure its continuing suitability, adequacy, and effectiveness. The management review process shall ensure that the necessary information is collected to allow management to carry out this evaluation. The review shall be documented.</p> <p>The management review shall address the possible need for changes to policy, objectives and other elements of the environmental management system, in the light environmental management system audit results, changing circumstances and the commitment to continual improvement.</p>		<input type="checkbox"/>	<input type="checkbox"/>
<p>FACILITY IMPLEMENTATION OF STANDARD: The management review was found to be very comprehensive. It specifically addressed each of the areas listed above as part of a question and answer session during the review. Additionally, on an as needed basis issues are addressed or brought to top management's attention at the monthly Department Chairman's meetings.</p>			
EXISTING PROCEDURES AND DOCUMENTATION (LIST):			
<p>OPM 1.10.2 SBMS Environmental Assessments SA C-A Management Review Agenda (2000) C-A Management Review (2000) C-A Management Review Minutes (2000) C-A Record of Decision (2000)</p>			
<p>COMMENTS: The 2001 EMS Management Review is scheduled for August 2001.</p>			
EVALUATION:			
MEETS REQUIREMENT	<input type="checkbox"/>	MINOR NONCONFORMANCE	MAJOR NONCONFORMANCE
AUDIT QUESTIONS:			
<p>Has the top management performed a documented review of the EMS on a periodic basis? Does the review address the system's continued suitability, the system's adequacy, the system's effectiveness, the system's possible need to change its policy, the system's possible need to change its objectives and other elements of the EMS in light of the audit results, continual improvement, etc., the system audit as required in 4.5.4, and the Nonconformances and Corrective and Preventive Action? Is there a record of decision which outlines actions for the coming year?</p>			

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M.Van Essendelft

CRITERIA	Activity 1: Water Systems Group	Activity 2: LINAC & TDVG	Activity 3: TDVG	Activity 4: Electronic Assy	Activity 5: Mechanical Services
Knowledge of EMS policy <i>This area is one which is weak among all personnel. Groups know there is an EMS and that they have responsibilities and they know what to do in their jobs. There is a disconnect in the knowledge of terms(aspect, object, target, OCF, EMP,etc) Some people knew the policy but some others did not.</i>	ON MIN MAJ COM OBS Footnote: _____	CON MIN MAJ COM OBS Footnote: _____	CON MIN MAJ COM OBS Footnote: _____	CON MIN MAJ COM OBS Footnote: _____	CON MIN MAJ COM OBS Footnote: _____
Knowledge of existence of EMS	CON MIN MAJ COM OBS Footnote: _____				
Environmental aspects of personal task	CON MIN MAJ COM OBS Footnote: _____				
Awareness of how to avoid environmental degradation	CON MIN MAJ COM OBS Footnote: _____				
Awareness of how to contribute to unit's programs (e.g., recycling)	CON MIN MAJ COM OBS Footnote: _____				
Awareness of emergency response/actions	CON MIN MAJ COM OBS Footnote: _____				

ColliderAccelerator EMS Assessment ISO 14001

Date: May 2 & 3, 2001

Lead Auditor: M. Van Essendelft

How have affected employees been made aware of new requirements	CON MIN MAJ COM OBS Footnote: _____				
How are objectives and targets known to the employees that are supposed to achieve them <i>Through Operational Procedures.</i>	CON MIN MAJ COM OBS Footnote: _____				
Do affected employees know their roles, authorities and responsibilities	CON MIN MAJ COM OBS Footnote: _____				
Are operational controls in place and working as specified in OCF	CON MIN MAJ COM OBS Footnote: _____				
Are records on operational controls managed and retained per plans	CON MIN MAJ COM OBS Footnote: _____				
Are employees aware and ready to execute emergency procedures for such	CON MIN MAJ COM OBS Footnote: _____				
Have contractors been informed on any relevant operational controls	CON MIN MAJ COM OBS Footnote: _____				