



ACCELERATOR SAFETY ORDER REVISION

DOE ACCELERATOR SAFETY WORKSHOP

Michael Epps, Office of Science, IPT Co-Chair October 4, 2021





- DOE Directives
- Directive Development Process
- Accelerator Safety Order Revision
- Opportunities for Improvement
- Proposed Changes
- Next Steps
- Implementation





- Document in which DOE sets, communicates, and institutionalizes policies, requirements, responsibilities and procedures for Departmental elements and contractors.
- Facilitate achievement of DOE strategic and operational goals.
- Ensure safe, secure, efficient, cost-effective operations and compliance with applicable legal requirements.
- Promote operational consistency throughout the DOE complex
- Include Policies, Orders, Notices, Manuals, and Guides.
 - Manuals are currently being phased out.





- DOE Order 251.1D, *Departmental Directives Program*, 11-8-2019 provides requirements to create or revise directives.
 Provides the template and process to create or revise directives.
- Integrated Project Team (IPT). A group of DOE Federal and contractor employees – including, but not limited to,
 - Office of Primary Interest (OPI) representatives;
 - Senior-level program and National Laboratory executives;
 - Subject Matter Experts (SMEs); and
 - DOE general oversight representatives.
- Must adhere to the Principles for Directives Development



IPT DIRECTIVE DEVELOPMENT



Directives Prioritization Office of Primary Interest (OPI) proposes actions to the Directives Review Board (DRB) for either the Integrated Project Team (IPT) or Fast Track process. IPT Member Selection Following the established schedule, OPI management works with relevant community and DRB to identify IPT members. The OPI will provide an IPT Co-Chair. Proposed Revision Plan IPT reviews directive (if existing), and develops proposed revision plan, including policy updates and expected timeline and milestones. IPT Co-Chairs present proposed revision plan to DRB. Draft Development IPT creates initial draft, following the DRB-approved proposed revision plan. IPT Co-Chairs report any changes to the plan, delays, or any other issues to the DRB through regular updates.

Review and Comment IPT members circulate initial draft for SME review. This review usually takes place via the Review and Comment System (RevCom), but may take place via email, as appropriate.

Comment Resolution IPT members review submitted comments and resolve issues. Significant issues may be presented to DRB for resolution.

DRB Review IPT and OPI create a final draft directive for DRB review and approval. DRB comments are adjudicated.

Final Approval DRB-approved final draft directive sent to Deputy Secretary for final review, approval, and issuance.





- Establish Line Organization Need
 - Need must be affirmed by the responsible line organization(s).
- Empower Field Offices
 - Federal requirements should assign decision authorities and responsibilities at the lowest, appropriate level.
- Promote Inclusiveness
 - The IPT responsible for development must include participation by impacted entities.
- Avoid Unnecessary Duplication
 - Shall not duplicate or be inconsistent with laws or regulations.
 - Should be consistent with or incorporate widely accepted national standards.





- <u>Reflect Improved Planning And Coordination</u>
 - Written and developed by IPTs that consists of SMEs, responsible line organization personnel, and impacted DOE and laboratory personnel.
- <u>Contain Performance-based Contract Requirements</u>
 - Specify performance goals and outcome-based requirements.
 - Avoid mandating process or approach for meeting goals or requirements.
 - For higher risk areas consider developing a DOE technical standard.
- <u>Be Tailorable</u>
 - Reflect a tailored approach based on risk.
- Incorporate A Risk Management Strategy
 - Consider implementation costs, impacts, and the overall risk mitigation strategy.
 - Requirements should be necessary for mission accomplishment.
 - Integrated with other related laws, regulations, Directives, etc.



ACCELERATOR SAFETY ORDER IPT



Member	Organization	Member	Organization
Co-Chair - Mike Epps	SC	Barry Sullivan	FES
Co-Chair – Pat Moss	NNSA	LK Len	HEP
Andy Delapaz	AU	Mike Furlanetto	LANL
Scott Wenholz	EA	Jim Sowinski	NP
Jocelyn Gutierrez	GC-51	Dave Freeman	ORNL
Kathleen Oprea	GC-72	Arne Freyberger	SC-24.3
Kermit Bunde	NE	Van Nguyen	BES
James Piatek	ASO	Tracy Estes	PSO
Salma El-Safwany	BASO	Donny Brady	NA-SN
Joe Cracco	BHSO	Steve Neilson	TJSO
Rachel Madiar	FSO	lan Evans	SLAC
Ivan Trujillo	NA-511	Reed Bickmore	MA; Directives
Mike Herr	OSO	Rachel Mack	MA; Directives

Additional Members

John Houck, ASO Bill Gentile, NA-LA Bob Waxman, GC-72





Member	Organization	Member	Organization
Chair - Dave Freeman	ORNL	Bob May	JLAB
lan Evans	SLAC	Mark Gulley	LANL
Chuck Schaefer	BNL	David Kestell	LBNL
John Quintana	ANL	Craig Fish	LLNL
Matt Quinn	FNAL	Todd Culp	SNL
Patrick Bragg	INL	Tim Stevenson	PPPL

- Includes Additional Subject Matter Experts from multiple Laboratories.
- Provides feedback to the IPT throughout the revision process.





- Regulatory Address identified regulatory gaps in 10 CFR, Part 830, 10 CFR, Part 835, and the current Accelerator Safety Order (ASO), Identify an upper boundary for regulation under the ASO.
- Exemptions Clarify expectations for accelerators and accelerator devices that may be considered for exemptions or equivalencies, – Update approval authorities to reflect the current delegation.
- Modifications Establish requirements for reclassification of nonaccelerators and modifications to existing accelerators, – Including changes in mission, scope, and purpose.
- **Definitions** Ensure the interpretation and application matches the intent,
 - Identify definitions for inclusion or removal.





- Support a single regulatory approach for DOE operations, including accelerators,
 - That use, produce, or contain special nuclear material,
 - That have the potential for criticality based on the configuration of the materials,
 - Where intentional physical or chemical extraction of radioactive isotopes from radioactive material is performed.
- Maintain operational flexibility, minimize impact if possible.
- Support the current and future accelerator-based Isotope Program.
- Support new or emerging accelerator missions and applications.





- Can be performed at an accelerator but will not be regulated under the ASO;
 - Activities and operations that have the potential for criticality,
 - Activities that use, produce, or contain special nuclear material,
 - Activities and operations that involve the intentional physical or chemical extraction of radioactive isotopes from radioactive material (isotope processing) and storage of processed radioactive material.
- May be regulated under the ASO
 - Production of radioactive material, including isotopes, during target irradiation if the target area is not also used for isotope processing or storage.
- New requirements and revised definitions
 - Facility modifications, approval authority for exemptions and USI process, accelerator operations





- IPT
 - Revise draft based on comments received via DOE Review and Comment system (RevCom).
 - Develop final draft for DRB review.
 - Developing an implementation strategy with key milestones,
 - Continued engagement with stakeholders during review, comment resolution, and final draft development,
 - Document topics to address in the ASO Guide revision.
 - Provide feedback and insight on the revision process.
- DRB
 - Review final draft and submit to RevCom for concurrence.
 - Recommend final review and approval by Deputy Secretary.
- DOE Operations Committee Chair
 - Forward approval package to Deputy Secretary for decision.





- Implementation
 - Requirements for Federal employees must be fully implemented within twelve months of issuance.
 - The contractor can assess the effect of incorporating the CRD.
 - Contractor activities to meet requirements must be accomplished in a timely manner and in accordance with the timelines established in Department of Energy Acquisition Regulation 970.5204-2, *Laws, Regulations, and DOE Directives*.