OAK RIDGE National Laboratory

FY20 ORNL IPD7 – Howard Dyer Library Preservation Task – Status Report

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Nuclear Criticality, Radiation Transport, and Safety
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2021 NCSP Technical Program Review

Commander
Howard R. Dyer
(1941-2018)

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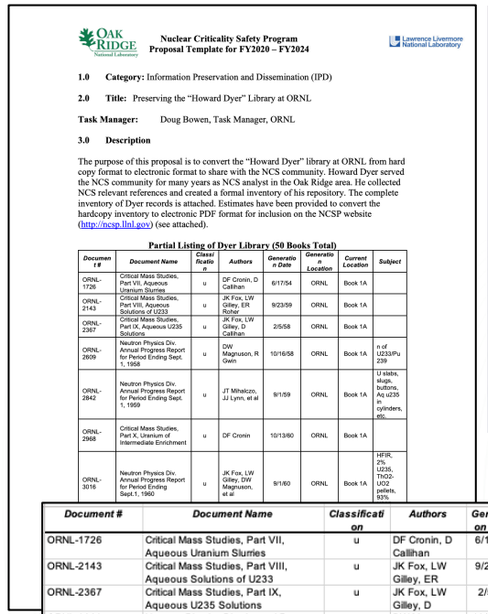
U.S. DEPARTMENT OF ENERGY

Task Description and Progress

- The purpose of this proposal is to convert the “Howard Dyer” library at ORNL from hard copy format to electronic format to share with the NCS community
- Over 1,300 hard copy reports, articles, and journals reside in the hardcopy library of over 50 “books”
- The task involves
  - Recovering the “books” from storage and sending them for scanning to PDF format
  - Documents undergo a quality assurance check and are then archived
    - NCSP website hosted by LLNL was originally chosen as the repository for these records – this proposal was reconsidered based on a 2020 TPR meeting
    - Alternative repository ideas were explored
      - For now, all NCSP documents, including the Dyer library, are being archived at ORNL
- Scanning task was completed on schedule and under budget



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Nuclear Criticality Safety Program
Proposal Template for FY2020 – FY2024

Lawrence Livermore National Laboratory

1.0 Category: Information Preservation and Dissemination (IPD)

2.0 Title: Preserving the “Howard Dyer” Library at ORNL

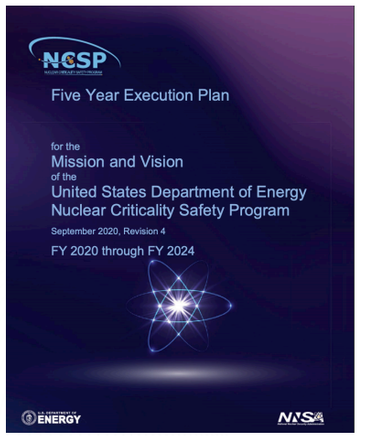
Task Manager: Doug Bowen, Task Manager, ORNL

3.0 Description

The purpose of this proposal is to convert the “Howard Dyer” library at ORNL from hard copy format to electronic format to share with the NCS community. Howard Dyer served the NCS community for many years as NCS analyst in the Oak Ridge area. He collected NCS relevant references and created a formal inventory of his repository. The complete inventory of Dyer records is attached. Estimates have been provided to convert the hardcopy inventory to electronic PDF format for inclusion on the NCSP website (http://ncsp.llnl.gov) (see attached).

Partial Listing of Dyer Library (50 Books Total)

Document #	Document Name	Classification	Authors	Generation Date	Generation Location	Current Location	Subject
ORNL-1726	Critical Mass Studies, Part VII, Aqueous Uranium Slurries	u	DF Cronin, D Callihan	6/17/54	ORNL	Book 1A	
ORNL-2143	Critical Mass Studies, Part VIII, Aqueous Solutions of U233	u	JK Fox, LW Gilley, ER Rohrer	9/23/59	ORNL	Book 1A	
ORNL-2367	Critical Mass Studies, Part IX, Aqueous U235 Solutions	u	JK Fox, LW Gilley, D Callihan	2/5/58	ORNL	Book 1A	
ORNL-2609	Neutron Physics Div. Annual Progress Report for Period Ending Sept. 1, 1958	u	DW Magnuson, R Gwin	10/16/58	ORNL	Book 1A	n of U233/Pu 239
ORNL-2842	Neutron Physics Div. Annual Progress Report for Period Ending Sept. 1, 1959	u	JT Mihalczo, JJ Lynn, et al	9/1/59	ORNL	Book 1A	U slabs, slugs, buttons, Aq u235 in cylinders, etc.
ORNL-2968	Critical Mass Studies, Part X, Uranium of Intermediate Enrichment	u	DF Cronin	10/13/60	ORNL	Book 1A	
ORNL-3016	Neutron Physics Div. Annual Progress Report for Period Ending Sept.1, 1960	u	JK Fox, LW Gilley, DW Magnuson, et al	9/1/60	ORNL	Book 1A	HFIR, 2% U235, ThO2-UO2 pellets, 93%



NCSP

Five Year Execution Plan

for the
Mission and Vision
of the
United States Department of Energy
Nuclear Criticality Safety Program

September 2020, Revision 4

FY 2020 through FY 2024

DEPARTMENT OF ENERGY

NNSA

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ORNL-2367	Critical Mass Studies, Part IX, Aqueous U235 Solutions	u	JK Fox, LW Gilley, D	2/5/58	ORNL	Book 1A	
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ORNL-2842	Neutron Physics Div. Annual Progress Report for Period Ending Sept. 1, 1959	u	JT Mihalczo, JJ Lynn, et al	9/1/59	ORNL	Book 1A	U slabs, slugs, buttons, Aq u235 in cylinders,
ORNL-2968	Critical Mass Studies, Part X, Uranium of Intermediate Enrichment	u	DF Cronin	10/13/60	ORNL	Book 1A	
ORNL-3016	Neutron Physics Div. Annual Progress Report for Period Ending Sept.1,	u	JK Fox, LW Gilley, DW	9/1/60	ORNL	Book 1A	HFIR, 2% U235, ThO2-
ORNL-3193	Neutron Physics Div. Annual Progress Report for Period Ending Sept. 1,	u	JT Mihalczo, JJ Lynn, et al	9/1/61	ORNL	Book 1A	HFIR Fuel ,split table,etc
ORNL-3248	Health Physics Research Reactor Hazards Summary	u	MI Lundin	8/24/62	ORNL	Book 1A	
ORNL-3309	Soluble Neutron Poisons as a Primary Criticality Control in Shielded and	u	JP Nichols	7/12/62	ORNL	Book 1A	
ORNL-3360	Neutron Physics Div. Annual Progress Report for Period Ending Sept. 1,	u	JK Fox, JT Thomas, et al	9/1/62	ORNL	Book 1A	Uranyl Nitrate and Raschig
ORNL-3499	Neutron Physics Div. Annual Progress Report for Period Ending 8/1/63	u	JT Mihalczo, et al	8/1/63	ORNL	Book 1A	3% U235, Raschig rings,
ORNL-3714	Neutron Physics Div. Annual Progress Report for Period Ending Aug. 1,	u	JT Thomas, EB Johnson, et al	8/1/64	ORNL	Book 1B	93%U235 Metal, Aq.
ORNL-3858	Neutron Physics Div. Annual Progress Report for Period Ending Aug. 1,	u	JW Webster, JT Mihalczo, et	8/1/65	ORNL	Book 1B	U Metal, Aq. 5% U235,
ORNL-3973	Neutron Physics Div. Annual Progress Report for Period Ending May 31,	u	EB Johnson, JW Webster, et	5/31/66	ORNL	Book 1B	Aq 5% U235, U metal
ORNL-4143	Neutron Physics Div. Annual Progress Report for Period Ending May 31,	u	SJ Rafferty, JW Webster, et al	5/31/67	ORNL	Book 1B	MCNP, 2% U, 5% U metal
ORNL-4280	Neutron Physics Div. Annual Progress Report for Period Ending May 31,	u	JT Mihalczo, JF Ellis, et al	5/31/68	ORNL	Book 1B	SORA, APR, U metal cylinders,

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Repository Proposal

- FY22 proposal was submitted at the request of the NCSP Manager for a dedicated NCSP repository for all NCSP documents – to include the Howard Dyer library
  - Problem
    - Not all NCSP deliverables get properly archived, long-term
  - Goal
    - NCSP documents and legacy NCS reports and references to be provided to OSTI for long term storage and easy retrieval
    - OSTI would develop a stand-alone repository for NCSP reports and NCS community documents that have been approved for unlimited distribution
    - ORNL will collect NCSP documentation each quarter and OSTI will add the documents to the repository based on NCSP metadata
  - Justification
    - This proposal is aligned with the NCSP Mission and Vision document for Information Preservation and Dissemination to maintain web-based repositories of information relevant to the NCS community

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