NUCLEAR CRITICALITY SAFETY PROGRAM (NCSP)

FY2025 3rd QUARTER REPORTS

APPENDIX E: International Collaboration with the Autorité de Sûreté Nucléaire et de Radioprotection (ASNR) for FY2025

ASNR has an active and growing program of collaboration with the NCSP that aims to underpin and enhance ASNR's nuclear criticality safety. ASNR will provide its expertise and capabilities to support the NCSP's mission and vision so that the collaboration is mutually beneficial to both organizations.

Technical Program Element	ASNR Reference	IER #	IER Priority	Task Title	DOE Reference	ASNR Contribution	ASNR Technical POC	DOE Technical POC	DOE Lab
AM	IRSN-AM5			Update of the slide rule	ORNL-AM6 LLNL-AM3	Complete Pu configurations, IRSN leading	J. HERTH	A. LANG D. HEINRICHS	ORNL LLNL

Q1 status

Pu configurations (phase 6) calculations on track: completed ASNR computations expected end of February. LLNL results received early-January. No ORNL results received yet. Comparison of ASNR/LLNL/ORNL results expected in March.

Q2 status

Phase 1 to 5 report published.

All ASNR calculations for phase 6 have been sent. LLNL results received. Awaiting ORNL results to proceed with intercomparison. NCSD25 paper has been written based on the results currently available.

Q3 status

Still waiting for ORNL calculations.

NCSD paper accepted. Presentation to be done by Aurélie Bardelay.

Updated Web application available online.

Technical Program Element	ASNR Reference	IER #	IER Priority	Task Title	DOE Reference	ASNR Contribution	ASNR Technical POC	DOE Technical POC	DOE Lab
AM	IRSN-AM8			Analytical Methods Working Group	N/A ORNL-AM2	IRSN participation in NCSP Analytical Methods Working Group and TPR meeting	S. PIGNET	J. ALWIN A. LANG	LANL ORNL

Q1 status

Participation to AMWG Friday December 6th. Exchanges on intercomparison study.

Q2 status

In-house CALINS software, written in python, for sensitivities and uncertainties analysis has been intensively used for ARIES-MOX study. On-going internal discussions to release the software as opensource.

Q3 status

No update

AM	IRSN-AM9			Cross sections processing validation	ORNL-AM3	User experience on AMPX.	V. JAISWAL	A. LANG	ORNL

Q1 status

No update

Q2 status

No update

Q3 status

No update

AM	IRSN-AM13			Benchmark intercomparison study	ORNL-AM10 Y12-AM1 LANL-AM5 LLNL-AM5	End of shielding benchmarks comparison started in FY2024. IRSN leading.	J. BEZ	D. BOWEN K. REYNOLDS B. LITTLE D. HEINRICHS	ORNL Y12 LANL LLNL

Q1 status

Last meeting on January 17th.

All results received (oct-nov). Nevertheless, LLNL have found a source of discrepancies (due to the tally considered) and is re-running its own calculations. 1/6 received mid-January. 5/6 expected before February.

Flux comparison show discrepancies between all labs, up to 20% in a low energy range (10^{-8} to 10^{-6} MeV). Additional calculations from all labs to be started to find potential explanation on discrepancies, based on a very simplified benchmark case.

Q2 status

LLNL, ORNL and LANL confirmed they will provide the 2025 additional calculations. ASNR calculation in progress. Still waiting answers from Y-12 and LLNL (for Mercury code).

Q3 status

ASNR Serpent results obtained on simplified benchmark. Results received and processed from ORNL and LLNL, analysis on going. Awaiting for other participants results.

Report in progress.

AM	IRSN-AM19			Intercomparison of nuclear data processing	LLNL-AM5 ORNL-AM10 LANL-AM5	Intercomparison based on numerical simplified benchmark in FY2025, IRSN leading, propose the numerical benchmark and processes ND library with GAIA.	V. JAISWAL	D. HEINRICHS D. BOWEN B. LITTLE & Wim HAECK	LLNL ORNL LANL

Q1 status

ASNR preliminary work: First comparison of GAIA (ASNR processing software) and NJOY on a series of ICSBEP benchmarks (MORET computations) launched. This work will be followed by some tests to be performed by ASNR with FUDGE in Q3.

Q2 status

Internal ASNR preliminary calculations to prepare the future exercise in progress. Preliminary results obtained on criticality benchmarks using GAIA and NJOY show a spread of approximately 200 pcm. A comparison with Fudge is planned for Q3.

Q3 status

No update. Fudge comparison delayed to Q4 (under processed)

IE	IRSN-IE60		High	Fukushima Fuel Debris Removal	LANL-IE35	Participation to analysis of existing data on FKS and participation to simulation framework	W. MONANGE	J. HUTCHINSON	LANL

Q1 status

Bibliography on available data on cores degradation states (wikidebris, NEA FACE project). Start of monthly meetings with LANL.

Q2 status

Discussions about experimental needs and potential experiments at both US facilities (i.e. NCERC) and European facilities. On the simulation side, ASNR efforts are focused on the corium modelling. ASNR participation to the FACE OECD meeting in May.

Q3 status

On the exp**erimental side**: planning underway with SKB for spent fuel pool measurements (Sweden), meeting in August. ASNR started collaboration with EPFL for experiments at CROCUS for noise related experiments and detector testing. AMU (universite d'Aix Marseille) will provide 3 SiCs for testing at CROCUS/ASNR. CEA provided a micromegas for testing at CROCUS and NCERC (TEX-MOX).

On the simulation side: ASNR shared results on corium parametric study and possible scenarios. LANL shared the latest corium data presented at the FACE meeting (**M**ay). The next step: explore feasibility of analog simulations of neutron noise under Fukushima-like configurations and conditions.

IE	IRSN-IE25	296	High	TEX-MOX	LANL-IE33 LLNL-IE1	Last optimization. CED3A Review. Participation to experiment.	J. BEZ	J. GODA C. PERCHER	LANL LLNL

Q1 status

Technical meetings every 2-3 weeks to discuss about the very last details (position of hoses, the fans…)

ASNR is providing some additional equipment (Fiber Optics sensors, connectors…) for TEXMOX thermal measurements.

Q2 status

Comparison of similarity indicators for TEX-MOX experiments for the common journal paper (LANL-ASNR-Orano) is ongoing.

Discussion ongoing with LANL to add some activation foils during the experiments (what type, what measurement device after irradiation…). Rhodium foils to be purchased by ASNR. New temperature measurement devices (FBG) received in Cadarache (France), to be shipped as soon as administrative logistic procedure are cleared.

Q3 status

Rhodium foils were purchased by ASNR, some testing is planned during the summer.

IE	IRSN-IE41	499	High	Thermal/Epithermal Experiments (TEX) with Chlorine	LLNL-IE1	Participation to CED4B review in ICSBEP TRG	R. VUIART	C. PERCHER	LLNL

Q1 status

ASNR has performed MCNP6.3 sensitivity calculations based on inputs provided in TEX-Cl CED-2. Chlorine isotope sensitivities have been compared to those of experiments included in the DICE database, CWS experiments and ASNR proprietary experiments (PF, HTC, MIRTE and LAST). MORET6 modelling of TEX-Cl experiments are planned for June 2025.

Q2 status

No update

Q3 status

Review within ICSBEP TRG committee.

IE	IRSN-IE46	518	High	High Multiplication Subcritical (Multiplicity) Benchmark Experiments	LLNL-IE1	Participation of CED4A: External review of benchmark	Belen MONTEAGUDO GODOY	C. PERCHER	LLNL

Q1 status

No ICSBEP benchmark draft provided by LLNL. External review not feasible in the short ICSBEP time frame, benchmark postponed to next year?

Q2 status

A draft of ICSBEP benchmark section 3 was received in February. A review of the benchmark, its modelling using MORET6, and a reanalysis of the experimental data were completed in a very short time. Most of the ASNR comments were incorporated into the final draft ahead of the TRG meeting. A document summarizing the ASNR simulation results was sent and will be included in the final draft.

Q3 status

Presented and discussed during TRG meeting. Subgroup review in progress. Another draft was sent on July 17 (not final) to subgroup, the deadline to send the final draft is August 1st. ASNR reviewer on vacation…

IE	IRSN-IE51	479	High	TEX HEU with poly at very low temperatures	LLNL-IE1 LANL-IE33	Participation to the experiment	J. BEZ	C. PERCHER J. GODA	LLNL LANL

Q1 status

<table>
<tr><td colspan="10">No update
Q2 status
ASNR is now included in the monthly updates meetings.
Q3 status
No update</td></tr>
<tr><td>IE</td><td>IRSN-IE52</td><td>602</td><td>High</td><td>Dosimetry collaboration with Armed Forces Radiobiology Research Institute (AFRRI)</td><td>LLNL-IE1</td><td>Review of CED4a</td><td>F. TROMPIER</td><td>D. HEINRICHS</td><td>LLNL</td></tr>
<tr><td colspan="10">Q1 status
No update.
CED3B is coming.
Q2 status
No update
Q3 status
No update</td></tr>
<tr><td>IE</td><td>IRSN-IE34</td><td>567</td><td>Medium</td><td>MUSIC subcritical configurations He-3 detectors</td><td>LANL-IE3</td><td>Participation of CED4A : External review of benchmark</td><td>J-B CLAVEL</td><td>J. HUTCHINSON</td><td>LANL</td></tr>
<tr><td colspan="10">Q1 status
Benchmark postponed to TRG 2026
Q2 status
No update
Q3 status
No update</td></tr>
<tr><td>IE</td><td>IRSN-IE62</td><td>620</td><td>Medium</td><td>PNDA experiments on oils</td><td>LLNL-IE1</td><td>Participation to CED Team, review of CED2</td><td>V. JAISWAL</td><td>C. PERCHER</td><td>LLNL</td></tr>
</table>

Q1 status

No update

Q2 status

No update

Q3 status

No update

IE	IRSN-IE59	519	Medium	TEX-Fe Experiment, TEX Hanford	LLNL-IE1	participation to the experiment	M. BROVCHENKO	C. PERCHER	LLNL

Q1 status

No budget for IRSN participation to this experiment, prioritization for TEX-MOX.

Q2 status

No update

Q3 status

No update

IE	IRSN-IE61		Medium	ARIES-MOX rods	LANL-IE3	CED0	V. JAISWAL	N. THOMPSON	LANL

Q1 status

In-depth analysis of the ICSBEP database from DICE 2021 have been conducted, with a comparison to TEX-MOX, TEX-PU and French industrial application cases. The findings reveal interesting insights that supports development of ARIES experiments. Report expected in Q2.

Q2 status

The final report on the findings regarding the sensitivity of U and Pu isotopes has been reviewed by ASNR. The results are promising and support the need for conducting new experiments in connection with the PLUME project. It will be shared with NCSP very soon.

Q3 status

Internal ASNR review on state of the arts and needs completed. Publication to send to Nic Thompson and Jesson Hutchinson.

IE	IRSN-IE56	578	Low	Jupiter ZPPR high 240 plates benchmark report	LANL-IE3	CED4B review in ICSBEP TRG	M. BROVCHENKO	J. GODA	LANL

Q1 status

The benchmark description (Section 3 of ICSBEP format) was received, and will be reviewed in Q2 before the ICSBEP TRG meeting

Q2 status

Review of the benchmark and its modelling was performed with MORET, results will be shared during the ICSBEP TRG meeting.

Q3 status

Feedback and MORET input files shared within ICSBEP TRG committee.

IE	IRSN-IE42	121	Low	Neptunium Subcritical Observations (NeSO) experiment	LANL-IE3	Participation of CED4A : External review of benchmark	W. MONANGE	J. HUTCHINSON	LANL

Q1 status

No update, scheduled for ICSBEP TRG 2026 ?

Q2 status

No update

Q3 status

No update

IPD	IRSN-IPD1			ICSBEP reviewing	LLNL-IPD1	IRSN ICSBEP reviewing tasks are reported in the IE tasks	S. PIGNET	C. PERCHER	LLNL

ASNR ICSBEP reviewing tasks are reported in the IE tasks

IPD	IRSN-IPD2			LFE Database	ORNL-IPD4	Sharing experience on French LFE database	A. BARDELAY	D. BOWEN	ORNL

Q1 status

French meeting organized with utilities on LFE (2024-11-6), including remote talk from D. Hill to present LFE Database. Submission of a French event by ORANO following the meeting.

Participation to NCSP monthly meetings.

Q2 status

Participation to NCSP monthly meetings except in March.

Q3 status

No update, participation to regular meeting

TE	IRSN-TE1			Hands-on criticality safety training	LANL-TE3 LLNL-TE1 ORNL-TE1 SNL-TE1	IRSN attendance to NCSP classes Possible lectures by IRSN working with NCSP training and education coordinator	S. PIGNET	J. GODA C. PERCHER D. BOWEN D. AMES	LANL LLNL ORNL

Q1 status

2 people from ASNR staff will participate to August session.

Q2 status

2 people registered : François-Xavier LE DAUPHIN, Romain VUIART

Q3 status

No update

STATUS REPORT
on the
International Collaboration with the Atomic Weapons Establishment (AWE)

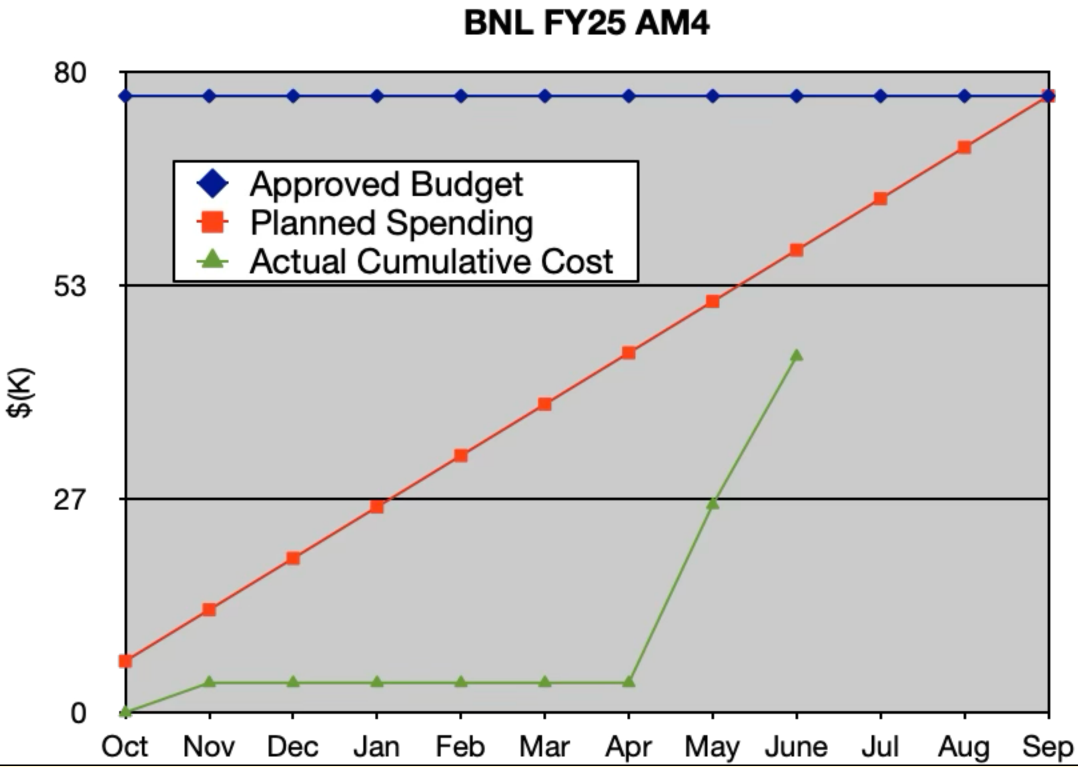
Reference			AWE Contributions and POCs			
AWE Reference	**Task Description**	**NCSP Reference**	**FY2023 AWE Contribution**	**AWE Technical POC**	**Collaborator POC**	**DOE Lab**
INTEGRAL EXPERIMENTS						
AWE-IE2	Development of Passive Neutron Spectrometer (PNS)	LLNL-IE1	Fully commission TLD version of the PNS; Perform validation irradiations at NPL; develop unfolding tools for directionality.	P. ANGUS	P. MAGGI	LLNL
Passive Neutron Spectrometer has been developed and deployed alongside LLNL sphere et al at the Godiva intercomparison in both gold and TLD configurations. Discussions have been held regarding the SPECTRA-UF unfolding code and access for international labs.						
AWE-IE3 **IER 406**	Cf-252 CAAS benchmark	LLNL-IE1	Perform/support PNS(TLD) measurements with a shadow cone.	P. ANGUS	D. HEINRICHS F. TROMPIER	LLNL IRSN
Dependent on completion of IE2.						
AWE-IE5	Correction factor for dosimetry linked to orientation of the victim	LLNL-IE1	Participate in experiment design; use PNS data to determine directional components of neutron fields (Godiva, Flattop, LLNL RCL).	P. ANGUS	P. MAGGI F. TROMPIER	LLNL IRSN
Dependent on completion of IE2 (unfolding tools for directionality). Linked with IE11 (International inter-comparison)						
AWE-IE6	ICSBEP shielding benchmark for shipping containers	Proposal FY20-25 (Low priority Experiment for FY2022)	Participate in experiment design; PNS(TLD) could be deployed as primary measurement device. AWE to do some preliminary design.	P. ANGUS	S. KIM	LLNL
Not started due to long lead time and dependence on PNS availability (see IE2). Scope definition required.						
AWE-IE7 **IER 153**	Measure fission neutron spectrum shape using threshold activation detectors	LANL-IE3	Provide input into foil selection; use AWE unfolding codes to provide independent analysis.	P. ANGUS	T. CUTLER	LANL
Discussions being held with UKAEA to set up a session to discuss the code and our applications. US will share measurement data with the UK, enabling analysis using UK unfolding tools and comparison with US codes.						
AWE-IE9	AWE/LLNL NCT 5 year measurement campaign	LLNL-IE1	Participate in experiment design, measurements and reporting. Continue loan of LEMC to LLNL. Determine viability for transport of previously identified materials to the US.	N. KELSALL	W. ZYWIEC	LLNL
The LEMC has been returned to the UK for fault diagnosis and repair. Measurement campaign at the DAF (27th February to 6th March 2025) undertaken successfully and all equipment returned to UK. Next campaign at DAF provisionally scheduled for November/December 2025.						

Reference			AWE Contributions and POCs			
AWE Reference	**Task Description**	**NCSP Reference**	**FY2023 AWE Contribution**	**AWE Technical POC**	**Collaborator POC**	**DOE Lab**
AWE-IE10	NAD Research & Development	LLNL-IE1	Develop prototypes, participate in design, execution and reporting of dosimetry experiments	P. ANGUS	F. TROMPIER	LLNL
No progress to date. Potentially use IE11 as an opportunity to compare & test any new instrumentation.						
AWE-IE11 **(IER 538)**	NAD Exercise	LLNL-IE1	Produce experiment design; participate in exercise; produce final report. Repeat even years.	P. ANGUS	P. MAGGI	LLNL
Latest international inter-comparison completed in June 2024. Next anticipated inter-comparison is scheduled for spring/summer 2026.						
AWE-IE12	CIDAAS testing	Proposal FY19-20	Deploy AWE CIDAAS for test irradiation. Repeat odd years as needed	T. BIRKETT S. GARBETT	D. HEINRICHS P. MAGGI J. GODA	LLNL LLNL LANL
The delayed test (originally planned for March 2024) went ahead in September 2024, using Godiva. Next test using Godiva is scheduled for Jan 2026.						
AWE-IE13	Characterization of AFRRI TRIGA reactor radiation field AWE will provide onsite measurement	LLNL-IE1 SNL-IE1ST2	Provide support to experiment design	P. ANGUS	A. ROMANYUKHA	LLNL SNL
AFRRI visit undertaken in February 2023 to discuss experimental plan with participants. UK involvement in the characterization (August 2023) was cancelled at very late notice due to UK/US clearance issues. However, US will share their measurement data with the UK, enabling analysis using UK unfolding tools and comparison with US codes.						
TRAINING AND EDUCATION						
AWE-TE1	Hands-on criticality safety training	ORNL-TE1	AWE personnel to attend training course	C. HODKINSON	D. BOWEN B. MYERS D. HEINRICHS	ORNL LANL LLNL SNL
Two assessors attended course held during Q2 of last financial year. It is anticipated that in future a larger cohort of AWE assessors will attend on a biennial basis. To this end six assessors are expected to attend course planned for December 2025.						

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM4 **M&O Contractor Name**: BNL **Point of Contact Name:** Gustavo Nobre **Point of Contact Phone:** 631-344-5205	**Reference:** DP0909010 **Date of Report:** August 11, 2025

BUDGET



1. Carryover into FY 2025 = $ 1,995
2. Approved FY 2025 Budget = $ 75,000
3. Total FY 2025 Budget w/Carryover: $ 76,995
4. Actual spending for 1st Quarter FY 2025 = $ 3,708
5. Actual spending for 2nd Quarter FY 2025 = $ 0
6. Actual spending for 3rd Quarter FY 2025 = $ 40,787
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $ 58

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report on generating a draft document defining the TNSL code or software interface in the NCSP Quarterly Progress Report. (AM4)		Due at the end of FY25

ACCOMPLISHMENTS

- AM4 - Thermal Scattering and Self-Shielding in GNDS/FUDGE
  - BNL and LLNL are developing an approach to calculating the full temperature dependent joint cross-section probability distribution to replace the unresolved resonance probability tables.
  - To encode such a complex, multidimensional joint distribution, we are developing a copula-based approach with a wildly different sampling scheme from the traditional probability tables.
  - A status report, "Tests of the probability table method for unresolved resonances", was presented at the ND2025 conference in Madrid where it was well received.
  - It is unlikely we will complete the project by the end of the FY, due to its complex and unorthodox approach. We are investigating other funding avenues to continue this work.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

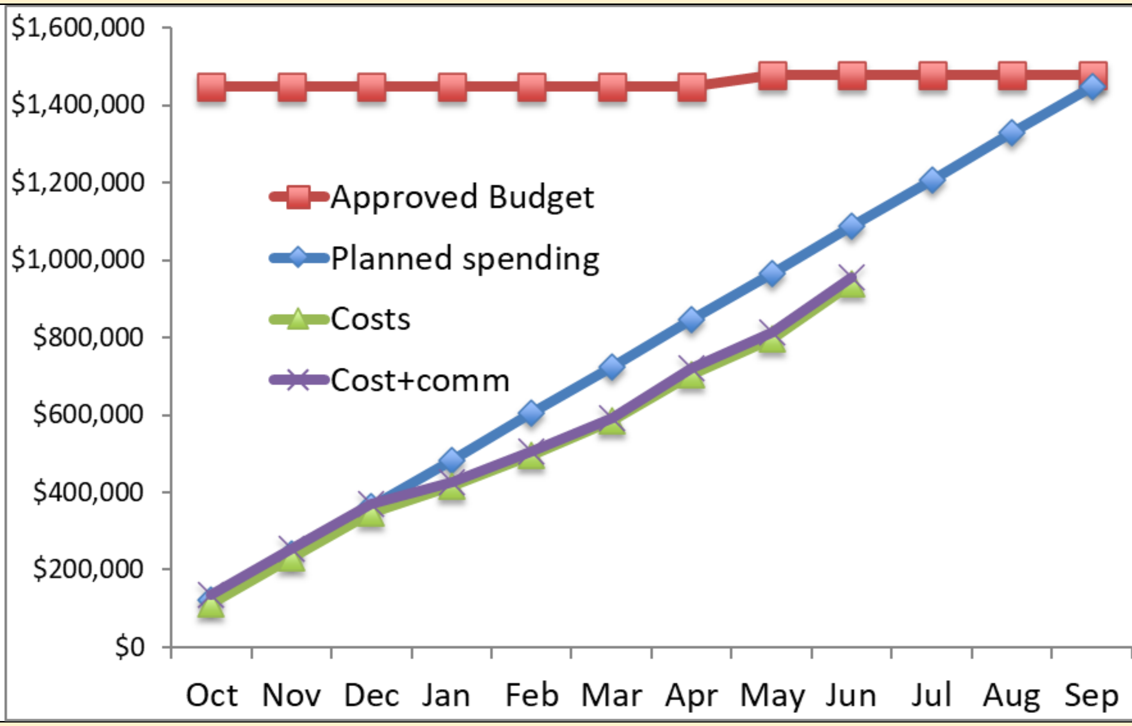
Should be submitted to Doug Bowen, bowendg@ornl.gov with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM1, 2, 5 **M&O Contractor Name**: LANL **Point of Contact Name:** Joetta Goda/Bob Little/Jen Alwin **Point of Contact Phone:** 505-667-2812/505-665-3487/667-7252	**Reference:** DP0909010 **Date of Report:** July 11, 2025

BUDGET



1. Carryover into FY 2025 = $30K
2. Approved FY 2025 Budget = $1,450K
3. Total FY 2025 Budget w/Carryover = $1,480K
4. Actual spending for 1st Quarter FY 2025 = $346.5K
5. Actual spending for 2nd Quarter FY 2025 = $237.4K
6. Actual spending for 3rd Quarter FY 2025 = $356.4K
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2025 = $

   NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report on MCNP6 user support in NCSP Quarterly Progress Reports. (AM1)		See **MCNP Support and Maintenance** section for updates.
All 4 Quarters	Provide status reports on LANL participation in US and International analytical methods collaborations in NCSP Quarterly Progress Reports. (AM1)		See **R&D** section for updates.

All 4 Quarters	Provide a status report on NJOY maintenance and user support in the NCSP Quarterly Progress Reports (AM2)		See **NJOY** section for updates.
All 4 Quarters	Provide status reports on LANL participation in US and International analytical methods collaborations in the NCSP Quarterly Progress Reports (AM2)		See **NJOY** section for updates.
All 4 Quarters	Provide status on LANL AM5 activities in NCSP Quarterly Progress Reports. (AM5)		See **Intercomparison Study** section for updates.
Q1	Provide reports on summer intern work accomplished. (AM1)		See **R&D** section for updates.
Q2	Provide the status of all MCNP6 and Whisper progress at the NCSP Technical Program Review. (AM1)		See **R&D** and **Publications** sections for updates.
Q2	Provide additional reports on Whisper 2.0 updates. (AM1)		See **R&D** section for updates.
Q3	Provide MCNP6 Criticality training course. (AM1)		See **Education** section for updates.
Q3	Provide a report including new analytic k-effective and k-effective sensitivity benchmarks developed and integrated into the MCNP V&V testing system. (AM1)		See **R&D** section for updates.
Q4	Provide a report on validating the MCNP fixed-source sensitivity capability for criticality accident alarm system analyses. (AM1)		See **R&D** section for updates.
Q4	Process and test ENDF/B-VIII.1 (including covariances) into ACE format for MCNP and release via the LANL nuclear data website. (AM1)		See **R&D** section for updates.
Q4	Initiate a format-agnostic data interface for evaluated and processed data so that we can load ENDF and GNDS data into the same application. (AM2)		See **NJOY** section for updates.
Q4	Implement evaluated covariance data formats in the format-agnostic interface and implement its use in the modernized covariance processing component. Expand the covariance processing component to reconstruct the covariance matrices from the evaluated data (excluding resonance parameter covariances for now). (AM2)		See **NJOY** section for updates.

ACCOMPLISHMENTS

AM1 - MCNP® Maintenance and Support, Uncertainty Analysis Development, and Modernization

- **Education (AM1)**
  - Ongoing mentorship of Rowan Johnson (NEN-2), a PhD student at Texas A&M, to use continuous-energy Monte Carlo transport simulations to calculate the forward-adjoint flux for subcritical assemblies and estimate quantities that are relevant to stochastic neutron transport problems.
  - Ongoing mentorship of Matthew Lazaric, a PhD student at University of New Mexico, to integrate on-the-fly temperature treatment through the Windowed Multipole formalism into MCNP6. Successful integration is undergoing validation testing against standard criticality safety benchmarks.
  - Mentoring of new staff, postdoc, and students within the Monte Carlo Codes group.
  - Seven MCNP6 classes were taught; three at LANL, two at OECD/NEA, and two online. See separate summary of MCNP classes for full breakdown of classes and attendance information.
  - Worked with PNNL criticality safety group to plan a MCNP criticality class at PNNL in FY25 Q4, July 14-18, 2025
  - Worked on updating some of the criticality class slides and content for the upcoming criticality classes.

- **R&D Work (AM1)**
  - Completed the MCNP6.3.1 release. Work completed in this quarter related to the release includes:
    - The MCNP6.3.1 release notes report was completed and published. See the LA-UR-25-23548 in the publications, reports, and presentations section.
    - The final updates to the release package were completed and sent to RSICC in May 2025.
  - Presented a paper describing an analytical sensitivity coefficient benchmark at the International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2025), April 27-30, 2025. See the LA-UR-25-23861 in the publications, reports, and presentations section.
  - Presented a workshop entitled "MCNP6® New Features, Algorithms, and Workflows" at the International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2025), April 27-30, 2025. See the LA-UR-25-23947 in the publications, reports, and presentations section.
  - Presented on challenges in software development at a panel session at the International Conference on Mathematics and Computational Methods Applied to Nuclear Science and Engineering (M&C 2025), April 27-30, 2025. See the LA-UR-25-24091 in the publications, reports, and presentations section.
  - Presented on ENDF/B-VIII-based nuclear data covariances at the 16th Nuclear Data for Science and Technology Conference (ND2025), June 22-27, 2025. See the LA-UR-25-26047 in the publications, reports, and presentations section.
    - This work is ongoing as we continue to analyze and fix existing issues in the ENDF/B-VIII-based nuclear data covariances. For example, the processed and formatted versions of the ENDF/B-VIII.0 nuclear data covariances are unusable by Whisper and must be fixed prior to their inclusion in NCS applications. This is an essential component of the next version of Whisper.
  - Prepared presentations for the 2025 MCNP® User Symposium. See the LA-UR-25-26174 in the publications, reports, and presentations section.
  - Prepared 2025 second quarter MCNP site support newsletter. See the LA-UR-25-26231 in the publications, reports, and presentations section.
  - Developing a simplified example and report validating the MCNP tally and fixed-source sensitivity capability for criticality accident alarm system analyses. This work is ongoing and is related to both the LANL efforts on CAAS and the AM5 intercomparison studies.

- Developed a semi-analytic benchmark for one-speed transport in one-dimensional cylindrical geometry. See the LA-UR-25-25643 in the publications, reports, and presentations section.
- Developing a new MCNP input card (FADJ) for calculating the forward-adjoint flux using continuous-energy nuclear data.
- Developed an analytic adjoint transport benchmark to verify a technique that uses the FADJ methodology to calculate Feynman-Y values with the MCNP software.
- Adding a spherical mesh option to FMESH.
- Developing Python-based PTRAC post-processing tools for visualizing KCODE histories, reconstructing the transport geometry with a transport-informed unstructured mesh, performing sensitivity calculations, etc.
- Developing a Metropolis-Hastings-based Bayesian inference Python tool that enables prior uncertainty on system parameters to be propagated through MCNP simulations.
- The Whisper open-source release is pending LANL Feynman Center for Innovation (FCI) approval. FCI has raised some concerns on licensing Whisper as open-source after having been released alongside MCNP6 through RSICC. We are iterating with FCI to find the best path forward; once approved the code will be made available on GitHub.
  - Update: There are no further updates from FCI since the FY23 Q4 report.

- **MCNP Support and Maintenance**
  - Continuous MCNP public website updates posted online.
  - Continued to support help requests sent in through the mcnp_help@lanl.gov help service desk.
  - Continued to support the new MCNP forum discussions, questions, and bug reports.

- **MCNP Data (AM1)**
  - Processing and testing of the ENDF/B-VIII.1 release is ongoing.
  - Testing of processed ENDF/B-VIII.0-based nuclear data covariance matrices for use in Whisper began.
- **Publications, Reports, and Presentations**
  - See table below under Publications. Note: The items marked as [DRAFT] will be finalized and fully released in a future quarterly report.

- **NJOY Development and Maintenance, Uncertainty Analysis Development, and Modernization (AM2)**
- **NJOY 2016**
  - No update was officially released in Q3. Work was performed on corrections for the Blatt-Biedenharn formalism (an experimental capability in NJOY2016 that allows calculation of angular distribution data as Legendre series from resonance parameters). Comparison of a new NDEX capability (NNL) with the NJOY2016 capability showed discrepancies which we are working on correcting.
  - At ND2025, several issues in NJOY2016 were brought up (damage energy and incident charged particle data in JEFF4). Over the next few months, we will investigate those and make corrections where required.
  - User support:
    - Support on ENDF formats: fission yield data and covariance data
    - Support on how to use ENDFtk and ACEtk
- **NJOY21 (AM2)**

- ACEtk development progress:
  - release of ACEtk v1.0.3 (https://github.com/njoy/ACEtk/releases/tag/v1.0.3) to fix a few minor things and improve code quality.
- ENDFtk development progress:
  - release of ENDFtk v1.2.0 (https://github.com/njoy/ENDFtk/releases/tag/v1.2.0) which is a major update reported on before (replacing the range-v3 dependency, which reduces compilation time and memory using during compilation, etc.).
  - work on implementing a GENDF file parser into ENDFtk (work done by Anthony Kitamura, a summer student from Texas A&M)
  - added documentation for using MF2 and MF32 data
- Dryad development progress:
  - Most identifiers in dryad are currently strings. We have started replacing these with better identifiers using a "register" of previously defined identifiers to accelerate identifier construction. The identifiers involved in this work are the element identifier, the electron subshell identifier, the particle identifier and the reaction type identifier (this last one allows us to define reactions without having to use MT numbers and derive the appropriate MT number from it). For more information on these identifiers (other than the reaction type identifier): https://github.com/njoy/dryad/blob/develop/python/examples/dryad-identifiers.ipynb
  - Started similar work on reaction identifiers but this is still ongoing.
  - Covariance data type are being added to dryad (initial work taken from codex and adapted to dryad). This includes populating data from both ENDF and GNDS files. Some refactoring is still required so this work is still ongoing.
  - Updates to be able to read more GNDS files (basically implementing skipping unsupported data) so that the files do not error out.
  - Adding comparison operators == and != on dryad components, which will allow us to more easily compare data (e.g. to determine if a GNDS file and ENDF file have the same data). For more information: https://github.com/njoy/dryad/blob/develop/python/examples/dryad-equality-operators.ipynb
- Implementation of Windows CI on modern NJOY libraries is currently underway.
- Prototype files for a new eprdata25 library (photoatomic and electroatomic data from ENDF/B-VIII.1) for MCNP have been produced. Preliminary verification and validation tests are promising.
- Presentation at ND2025 of the status of the NJOY modernization
- Participation in the WPEC meetings in Brussels, Belgium.

- **Shielding Benchmark Study (AM5)**
  - A simple shielding configuration was selected to facilitate understanding of the different computer code performance for the complex shielding benchmark. Each organization participating in the project has been working on the modeling of this benchmark. LANL has prepared the required input files. The goal is to prepare the data needed for the benchmark comparison before the mid of August and send them to ASNR. The work is in progress and on schedule.

PUBLICATIONS	
Quarter	**Publication Reference**

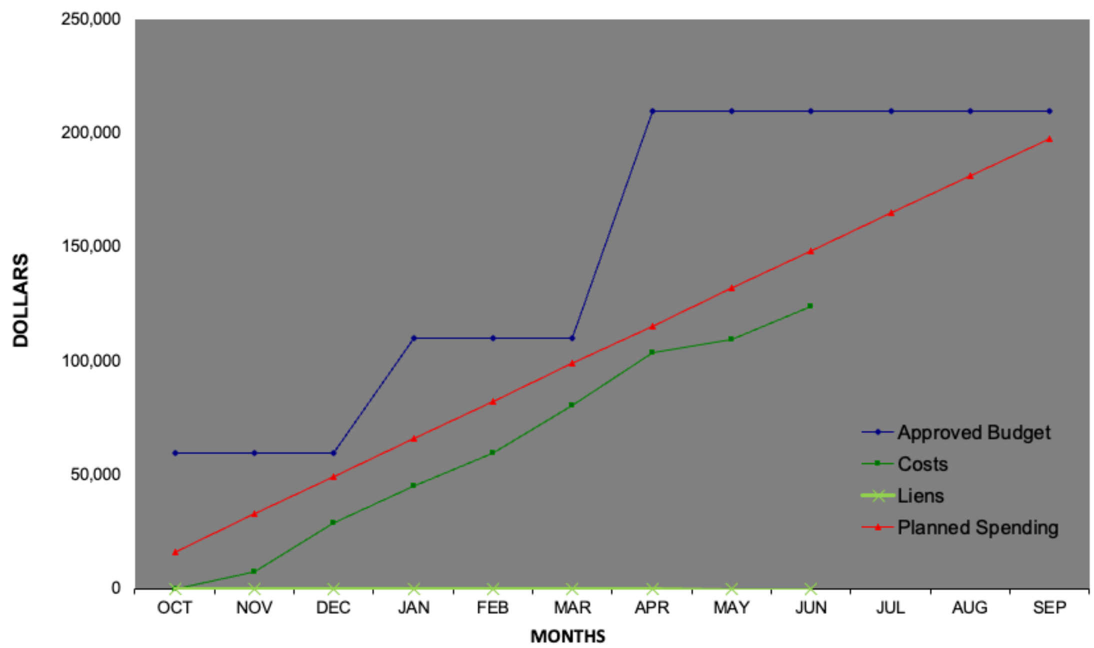
	Example: Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	Colin A. Weaver, Michael E. Rising, Joel A. Kulesza, and Pablo A. Vaquer, "Analytic Sensitivity Coefficients for Bethe's Solution of the Neutron Slowing Down Equation," LANL Paper **LA-UR-24-22379**.
Q1	[DRAFT] Matthew Lazaric, Christopher Perfetti, and Michael E. Rising, "Implementation of Windowed Multipole into MCNP6.3," LANL Paper **LA-UR-24-32752**.
Q1	Michael E. Rising, Jerawan C. Armstrong, Simon R. Bolding, Jeffrey S. Bull, Laura Casswell, Alexander R. Clark, R. Arthur Forster, Cole S. Frederick, Jesse F. Giron, Fred B. Jones, Colin J. Josey, Timothy M. Kelley, Joel A. Kulesza, Michael A. Lively, Robert C. Little, Sriram Swaminarayan, Jeremy E. Sweezy, Pablo A. Vaquer, Colin A. Weaver, and Anthony J. Zukaitis, "The MCNP®6 Code: A Decade of Progress," LANL Presentation **LA-UR-24-31335**.
Q1	Alexander R. Clark and Michael E. Rising, "Whisper Updates," LANL Presentation **LA-UR-24-32621**. (Presentation already provided and available on NCSP website)
Q1	Michael E. Rising, Alexander R. Clark, Colin A. Weaver, and Noah A. Kleedtke, "FY24 MCNP(R) Updates for the Nuclear Criticality Safety Program," LANL Presentation **LA-UR-24-32654**.(Presentation already provided and available on NCSP website)
Q1	[DRAFT] Colin A. Weaver, Christopher Perfetti, and Michael E. Rising, "Fixed Source Sensitivity Calculations for Inertial Confinement Fusion Applications," submitted paper to Nucl. Sci. and Engineering, LANL Paper **LA-UR-24-22570**.
Q1	[DRAFT] Michael E. Rising, Jerawan C. Armstrong, Simon R. Bolding, Jeffrey S. Bull, Laura Casswell, Alexander R. Clark, R. Arthur Forster, Cole S. Frederick, Jesse F. Giron, Fred B. Jones, Colin J. Josey, Timothy M. Kelley, Joel A. Kulesza, Michael A. Lively, Robert C. Little, Sriram Swaminarayan, Jeremy E. Sweezy, Pablo A. Vaquer, Colin A. Weaver, and Anthony J. Zukaitis, "The MCNP®6 Code: A Decade of Progress," submitted paper to EPJ N, LANL Paper **LA-UR-24-28294**.
Q2	Matthew Lazaric, Christopher Perfetti, and Michael E. Rising, "Implementation of Windowed Multipole into MCNP6.3," LANL Paper **LA-UR-24-32752**.
Q2	Alexander R. Clark and Michael E. Rising, "Verification of the Uniformly-Ordered Binary Decision Algorithm in Correlated-Benchmark Whisper Calculations," submitted to NCSD 2025 Topical Meeting, LANL Paper **LA-UR-25-21642**.
Q2	Michael E. Rising, Jerawan C. Armstrong, Simon R. Bolding, Jeffrey S. Bull, Laura Casswell, Alexander R. Clark, R. Arthur Forster, Cole S. Frederick, Jesse F. Giron, Fred B. Jones, Colin J. Josey, Timothy M. Kelley, Joel A. Kulesza, Michael A. Lively, Robert C. Little, Sriram Swaminarayan, Jeremy E. Sweezy, Pablo A. Vaquer, Colin A. Weaver, and Anthony J. Zukaitis, "The MCNP®6 Code: A Decade of Progress," *EPJ Nuclear Sci. Technol.*, 11 (2025) 9. DOI: https://doi.org/10.1051/epjn/2025003.
Q2	Colin J. Josey, Alexander R. Clark, Joel A. Kulesza, Michael A. Lively, Eric J. Pearson and Michael E. Rising, "MCNP® Code Version 6.3.1 Verification & Validation Testing," LANL Paper **LA-UR-25-22398**.
Q2	Jeffrey S. Bull, Colin J. Josey, Joel A. Kulesza, Michael E. Rising and Sriram Swaminarayan, "MCNP® Code Version 6.3.1 Build Guide," LANL Paper **LA-UR-25-22869**.
Q2	[DRAFT] Michael E. Rising, Jerawan C. Armstrong, Simon R. Bolding, Jeffrey S. Bull, Alexander R. Clark, Cole S. Frederick, Jesse F. Giron, Avery S. Grieve, Wim Haeck, Fred B. Jones, Colin J. Josey, Joel A. Kulesza, Michael A. Lively, Sriram Swaminarayan, Jeremy E. Sweezy, Colin A. Weaver, and Anthony J. Zukaitis, "MCNP® Code Version 6.3.1 Release Notes," LANL Paper **LA-UR-25-23548**.

Q2	[DRAFT] Colin A. Weaver, Christopher Perfetti, and Michael E. Rising, "Fixed Source Sensitivity Calculations for Inertial Confinement Fusion Applications," submitted paper to Nucl. Sci. and Engineering, LANL Paper **LA-UR-24-22570**.
Q3	Michael E. Rising, Jerawan C. Armstrong, Simon R. Bolding, Jeffrey S. Bull, Alexander R. Clark, Cole S. Frederick, Jesse F. Giron, Avery S. Grieve, Wim Haeck, Fred B. Jones, Colin J. Josey, Joel A. Kulesza, Michael A. Lively, Sriram Swaminarayan, Jeremy E. Sweezy, Colin A. Weaver, and Anthony J.
Q3	Colin A. Weaver, Michael E. Rising, Joel A. Kulesza, and Pablo A. Vaquer, "Analytic Sensitivity Coefficients for Bethe's Solution of the Neutron Slowing Down Equation," LANL Presentation LA-UR-25-23861.
Q3	[DRAFT] Colin A. Weaver, Pablo A. Vaquer, and Michael E. Rising, "A Verification Benchmark for One-Speed Transport in One-Dimensional Cylindrical Geometry," submitted to ANS Winter 2025, LANL Paper LA-UR-25-25643.
Q3	Michael E. Rising, Avneet Sood, Pablo A. Vaquer, and Colin A. Weaver, "MCNP6® New Features, Algorithms, and Workflows," LANL Presentation LA-UR-25-23947.
Q3	Michael E. Rising, "Challenges in Software Development for Nuclear Applications," LANL Presentation LA-UR-25-24091.
Q3	Michael E. Rising and Alexander R. Clark, "Production and Use of ENDF/B-VIII-based Nuclear Data Covariance Matrices," LANL Presentation LA-UR-25-26047.
Q3	Michael E. Rising, et al., "MCNP® Code Version 6.3.1 Release Notes," LANL Report LA-UR-25-23548.
Q3	Fred B. Jones et al., "2025 MCNP® User Symposium: Abstracts," LANL Report LA-UR-25-26174.
Q3	Robert C. Little, Michael E. Rising, Sriram Swaminarayan, Nathan A. Gibson, Colin A. Weaver, Jill L. Gibson, Joel A. Kulesza, and John A. Hopkins, "MCNP Site Support Newsletter Second Quarter 2025," LANL Report LA-UR-25-26231.
Q3	[DRAFT] Colin A. Weaver, Christopher Perfetti, and Michael E. Rising, "Fixed Source Sensitivity Calculations for Inertial Confinement Fusion Applications," submitted paper to Nucl. Sci. and Engineering, LANL Paper LA-UR-24-22570.
Q3	W. Haeck, A. Lewis, J. Peterson, N. Gibson, M. Lively, "The road to a modernized NJOY", LA-UR-25-25928.
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM3, 4, 5 **M&O Contractor Name**: LLNL **Point of Contact Name:** Catherine Percher **Point of Contact Phone:** (925) 579-4226	**Reference:** DP0909010 **Date of Report:** August 15, 2025

BUDGET



1. Carryover into FY 2025 = $ 10,000
2. Approved FY 2025 Budget = $200,000
3. Total FY2025 budget w/Carryover = $210,000
4. Actual spending for 1st Quarter FY 2025 = $29,244
5. Actual spending for 2nd Quarter FY 2025 = $51,374
6. Actual spending for 3rd Quarter FY 2025 = $43,403
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $ 12,000

   NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status on LLNL AM3 activities in the NCSP Quarterly Progress Reports. (AM3)		
All 4 Quarters	Provide status report on GNDS/FUDGE in the NCSP Quarterly Progress Reports. (AM4)		

NCSP Quarterly Progress Report (FY-2025 Q3)

All 4 Quarters	Provide status on LLNL AM5 activities in NCSP Quarterly Progress Reports. (AM5)		

ACCOMPLISHMENTS

- AM3 – Slide Rule Application
  - COG preliminary results for the 679 cases for phase 6 of the Slide Rule sensitivity study (Pu system) were completed and sent to Johann Herth at ASNR. As a result of his review, some case errors were identified and corrected. The updated Excel file was sent to him for further feedback. He is now working on intercomparison of three different code results from COG (LLNL), MCNP (ASNR), and SCALE (ORNL).
- AM4 - Thermal Scattering and Self-Shielding in GNDS/FUDGE
  - As part of the WPEC Expert Group on GNDS, we kicked off a GNDS processing code intercomparison effort. We are expecting participation from at least FUDGE, AMPX and NJOY, and hope to have a few others join in. The plan is to have each institution start with an internal comparison between results starting with ENDF-6 files and results starting with GNDS, then extend that to an inter-code comparison.
  - Approved publication of the next version of the GNDS standard, GNDS-2.1. It will be published later this year as an NEA working document.
  - We pushed a public release of FUDGE (version 6.10) to github in June. Major changes include fixes for some processing problems especially related to photon production. We also did some testing of the JEFF library before the JEFF-4 release and made some improvements to the ENDF-6 translator in FUDGE to give more informative error messages for some common problems in ENDF-6 files.
- AM5 - Proposed Benchmark Intercomparison Study
  - This quarter LLNL completed all simplified shielding benchmark calculations using COG with ENDF/B-VIII.0 nuclear data and provided these results to J. Bez (ASNR) for comparative analysis. Additional COG calculations may be done next quarter using other libraries to resolve discrepancies, if necessary.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter

  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

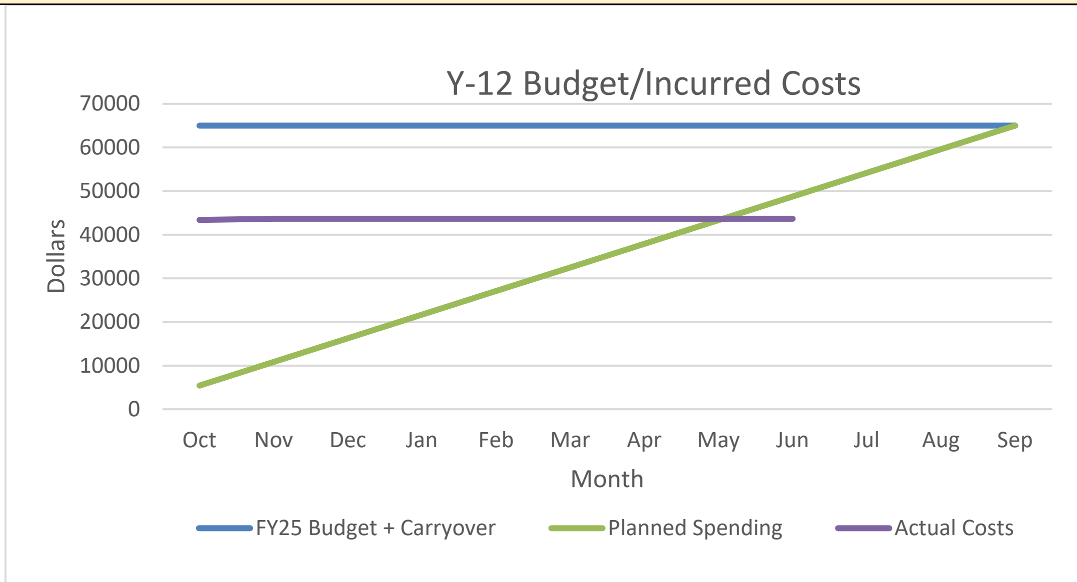
Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019

Q1	Heinrichs, D. "COG 11.3 New Features," LLNL-PRES-870532, was presented at the Joint International Conference on Supercomputing in Nuclear Applications + Monte Carlo (SNA + MC2024) in Paris, France on October 22, 2024. A corresponding journal article has been accepted for publication in EPJ N.
	COG User's Manual, 6th Ed., LLNL-SM-871019, October 30, 2024, was published with approval for unlimited distribution. Previous versions of the manual were OUO (CUI). The manual and its appendix are also available at https://cog.llnl.gov/sqa.
	Gert, G. et al. "A Hankel Transform Approach to Doppler Broadening." Annals of Nuclear Energy. Volume 209, 15 December 2024, 110790. https://doi.org/10.1016/j.anucene.2024.110790.
	Mattoon, C. "Thermal Scattering and Self-Shielding in GNDS/FUDGE/GIDI+." Presented at the NCSP Technical Program Review, December 2024, Santa Fe, NM. LLNL-PRES-2001285.
Q2	D. Heinrichs, E. Lent, C. Lee, "COG 11.3 New Features," EPJ Nuclear Sci. Technol. **11**, 2 (2025)
	Mattoon, C. "Updating to a GNDS-Based Nuclear Data Workflow." Presented at the Workshop for Applied Nuclear Data Activities, February 2025, Arlington, VA. LLNL-PRES-2002648.
Q3	Mattoon, C. "Progress Towards International GNDS Adoption." Presented at the Conference for Nuclear Data for Science and Technology, June 28, 2025, Madrid, Spain. LLNL-CFPRES-2007597
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM1 **M&O Contractor Name**: Y12 **Point of Contact Name:** Kevin Reynolds **Point of Contact Phone:** (865) 241-9067	**Reference:** DP0909010 **Date of Report:** August 7, 2025

BUDGET



1. Carryover into FY 2025 = $39,999.00
2. Approved FY 2025 Budget = $25,000.00
3. Total FY 2025 Budget w/Carryover = $64,999.00
4. Actual spending for 1st Quarter FY 2025 = $43,654.66
5. Actual spending for 2nd Quarter FY 2025 = $0.00
6. Actual spending for 3rd Quarter FY 2025 = $0.00
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status on Y12 AM1 activities in the NCSP Quarterly Progress Reports. (AM1)		

ACCOMPLISHMENTS

- AM1 – Proposed Benchmark Intercomparison Study
  - Final Report input from Y-12 was delivered to IRSN. (Q1)
  - No further work this FY in Q2, Q3 or Q4

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

Summary of MCNP Classes in FY 2025 – Q3

[1]M.E. Rising and [1]C.A. Weaver
[1] Monte Carlo Codes (XCP-3), LANL

FY2025 – Q3 classes are highlighted in red.

Total Students

- **FY2025 – Q1** **89 students** **(Intermediate, Intro, Texas A&M, Variance Reduction)**
- **FY2025 – Q2:** **46 students** **(Health Physics, Intro)**
- **FY2025 – Q3:** **129 students** **(UM, Intermediate, Criticality, Intermediate, Advanced, Safeguards, Intro)**
- **FY2025 – Q4:** **TBD students** **(Criticality, NJOY)**
- **FY2025 – TOTAL:** **264 students**

In FY25, a balance of in-person and online classes are offered.

Classes sponsored by DOE-NNSA-NCSP

- **Criticality Calculations with MCNP6 (LANL-AM1)**
  - **May 5 – 9, 2025** **in-person @ LANL** **9 students**
  - **July 14 – 18, 2025** **in-person @ PNNL** **TBD students**

  MCNP criticality class for NCS & reactor physics practitioners, with focus on best practices. Includes 1 day on NCS validation using MCNP6-Whisper. NCS participants at DOE sites do not pay registration fees.

- **Sensitivity-Uncertainty Tools & Practices for NCS Validation (LANL-TE4)**
  - **TBD** **TBD** **TBD students**

  Joint LANL & ORNL effort, covering background material and specific usage of MCNP6-Whisper and SCALE-KENO-TSUNAMI-TSURFER. D. Bowen coordinates scheduling at DOE sites.

Other Classes - supported by student registration fees.

- **Introduction to MCNP6** (includes 1/2 day on criticality calculations, without NCS validation & Whisper)
  - **Oct 21 – 25, 2024** **online** **40 students**
  - **Mar 10 – 14, 2025** **online** **36 students**
  - **June 9 – 13, 2025** **online** **39 students**

- **Intermediate MCNP6**
  - **Sept 30 – Oct 4, 2024** **in-person @ LANL** **12 students**
  - **Apr 14 – 18, 2025** **in-person @ LANL** **11 students**
  - **May 12 – 16, 2025** **in-person @ OECD/NEA** **22 students**

- **Advanced MCNP6**
  - **May 19 – 23, 2025** **in-person @ OECD/NEA** **21 students**

- **Variance Reduction with MCNP6**
  - **Dec 2 – 6, 2024** **in-person @ LANL** **10 students**

- **Unstructured Mesh with Attila4MC**
  - **Mar 31 – Apr 4, 2025** **in-person @ LANL** **13 students**

- **MCNP6 for Nuclear Safeguards Practitioners**
  - **June 2 – 6, 2025** **online** **14 students**

- **Practical MCNP for the Health Physicist, Radiological Engineer, and Medical Physicist**
  - **Feb 24 – 28, 2025** **in-person @ LANL** **10 students**

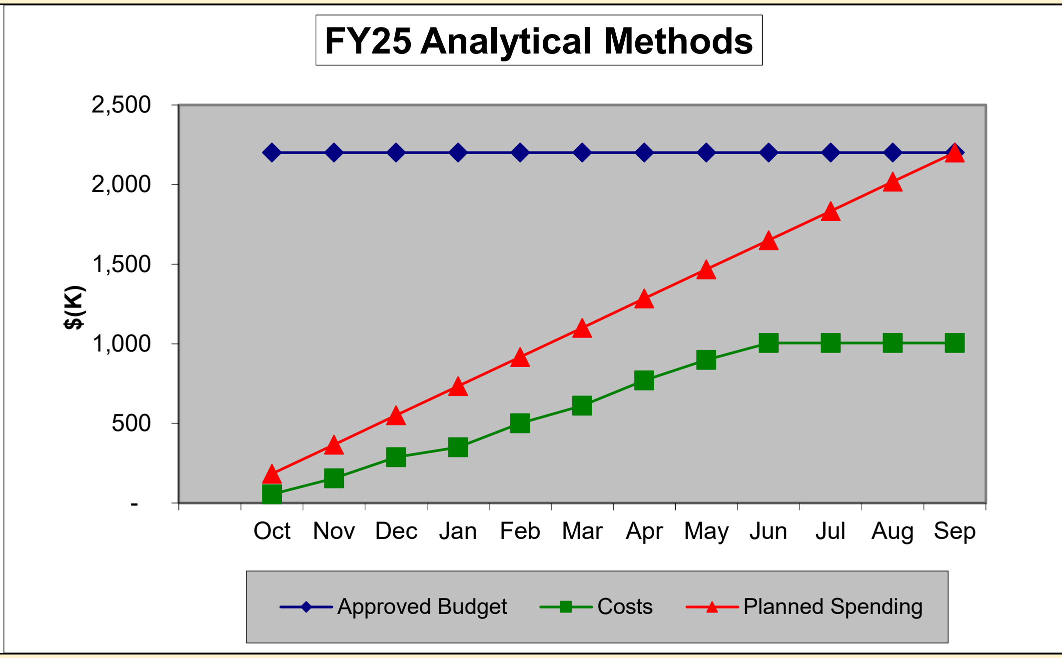
- **NJOY**
  - **Sept 8 – 12, 2025** **in-person @ LANL** **TBD students**

- **Texas A&M (Introduction)**
  - **Oct 28-30, Nov 4-6, 12, 2024** **online** **27 students**

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM1, 2, 3, 6, 10, 17, 19 **M&O Contractor Name**: ORNL **Point of Contact Name:** Alex Lang **Point of Contact Phone:** (865) 341-1915	**Reference:** DP0909010 **Date of Report:** August, 2025

BUDGET



1. Carryover into FY 2025 = $ 151
2. Approved FY 2025 Budget = $ 2,201
3. Total FY 2025 Budget w/Carryover = $2,352
4. Actual spending for 1st Quarter FY 2025 = $287
5. Actual spending for 2nd Quarter FY 2025 = $325
6. Actual spending for 3rd Quarter FY 2025 = $393
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Continue distribution of available and newly packaged software to the NCS community requesters (at no direct cost to them) and provide quarterly distribution totals. (AM1)		
All 4 Quarters	Provide status on RSICC activities in the NCSP Quarterly Progress Reports. (AM1)		
All 4 Quarters	Provide status reports on ORNL participation in US and International Analytical Methods collaborations and provide		

	a brief trip summary report to NCSP Manager on items of NCSP interest. (AM2)		
All 4 Quarters	Provide a status report on: (AM2) • TSUNAMI activities, development, and improvements. • VADER activities, development, and improvements. • Sampler development and improvements o Investigate the feasibility of integrating automated manufacturing tolerance assessment. • CSAS activities, development, and improvements. • SCALEHELP • SCALE 7.0 Support • SCALE training • Publish articles on the SCALE website to users to communicate software updates, user notices, generic technical advice, and training course announcements.		
All 4 Quarters	Provide status on ORNL AM3 activities in the NCSP Quarterly Progress Reports. (AM3)		
All 4 Quarters	Provide status on ORNL AM6 activities in the NCSP Quarterly Progress Reports. (AM6)		
All 4 Quarters	Provide status on ORNL AM10 activities in the NCSP Quarterly Progress Reports. (AM10)		
All 4 Quarters	Provide status on ORNL AM17 activities in NCSP Quarterly Progress Reports. (AM17)		

ACCOMPLISHMENTS

- **AM1 - Radiation Safety Information Computational Center (RSICC)**
  - § Distributed 1031 software packages.
  - § 338 SCALE, 423 MCNP®, and 0 COG packages distributed.
  - § RSICC quarterly report issued.

Quarter	University Requests	NCSP Direct Requests
1	290	52
2	583	24
3	221	33
4		

FY2025 University Distributions		
Month	**MCNP**	**SCALE**
October	91	19
November	37	14
December	29	4
January	80	18
February	235	30
March	67	62
April	19	14
May	55	42
June	20	16
July		
August		
September		
Total	**533**	**219**

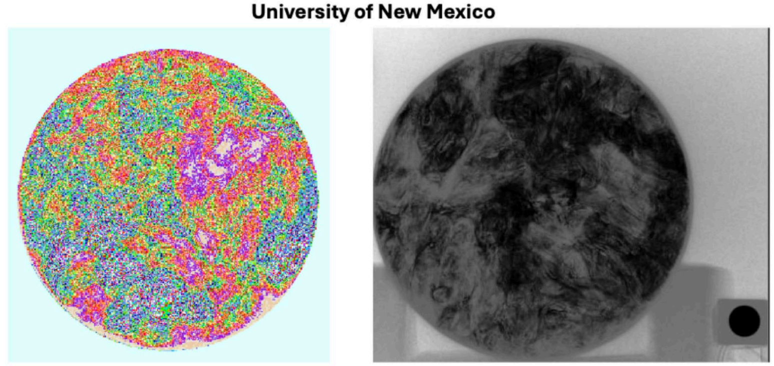
- **AM2 - SCALE/KENO/TSUNAMI Maintenance and Support/Cross-Section Generation/Modernization**
  - **Provide a status report on TSUNAMI upgrades**
    - Automated Direct Perturbation Capability: Worked on designing a new input block within the new sensitivity tally input block for automatic direct perturbation capability. Input parsing, schema validation, and Fulcrum autocomplete have been added to the codebase. Started developing a custom class to process inputs and store the data in a data container in a format suitable for subsequent candidate selection and direct perturbation calculation modules.
    - Hybrid Method for F*(r) Importance Map Generation: A case study was designed to evaluate the impact of mesh selection on accuracy for the old CLUTCH and new Hybrid CLUTCH. Uniform and non-uniform meshing schemes have been tested using simple geometric shapes and recently larger ICSBEP experiments. Results of this study can be used when developing new guidance for CLUTCH F* calculational methods to be included in training and the SCALE manual. Current results from this study suggest the current guidance for parameters and meshing needs to be updated to ensure accurate sensitivity coefficients, as verified through direct perturbation calculations.

- Updates to TSUNAMI Primer: The TSUNAMI primer has been updated from its previous release in 2009. The primer from 2009 was converted from the available PDF into reStructured Text format (the same format as the SCALE manual) for ease of revision and updates. The primer is being rewritten where necessary to update guidance according to usage of TSUNAMI in SCALE 6.3, such as using Fulcrum as the main user interface instead of GeeWhiz. The USLSTATS chapter was removed and rewritten to provide guidance for the new product for USL calculation, VADER. Guidance for calculating sensitivity coefficients in continuous energy (CE) TSUNAMI via the IFP and CLUTCH methods has been started and is a priority to complete in Q4.
- TSURFER – Predictivity of the Criticality Bias via machine learning: Testing a machine learning model and a traditional model based on the NUREG/CR-6698 for their capacity to predict the criticality bias for the VALID benchmarks. The work compared the ck and E predictors and their bias predictive performance in different categories of the benchmarks, assessed whether a correlation cutoff (ck cutoff) is justified, and tested the relevance of benchmarks properties (e.g., their fissile or physical form) toward the predictivity of the criticality bias. The work also investigated the association between the similarity level to the number of benchmarks being used in validation. Results of this study will be used to improve the capabilities provided by TSURFER code to determine the biases and uncertainties.

- **Provide a status report on VADER**
  - VADER Defect Fixes and Testing Improvements: Addressed defects related to the uncertainty-weighted historical parametric method and extrapolation-enabled USL1 method. New regression tests and unit tests consistent with the recently published bias determination guidance (NUREG/CR-7311) were incorporated for these methods.
  - SCALE Manual Maintenance for VADER: Building off Q2 work overhauling the VADER manual section to provide in-depth documentation on VADER methodologies, the manual was supplemented with an example trending analysis input including results and discussion. Additionally, minor enhancements were made to support VADER documentation throughout the SCALE manual and within the VADER section for improved clarity and updated reference information.
- **Provide a status report on Sampler improvements**
  - No Effort was planned for SAMPLER in Q3.
- **Provide a status report on CSAS improvements**
  - Manual updates: Both KENO and CSAS-Shift manual sections have been updated to reflect the recent changes, including convergence plots, relative frequency plots, new parameters for particle track-filtering, problem characterization edits introduced as part of SCALE 6.3.3 release.
  - Performance Evaluation of Hybrid Parallel Calculations with SCALE-Shift Sequences: A case study has been designed to evaluate the performance of CSAS-, MAVRIC-, and TSUNAMI-Shift sequences when performing hybrid parallel (MPI + OpenMP) calculations. The results of this study will be used to provide further guidance to users on how to configure MPI tasks and OpenMP threads in their computations for optimal parallel performance when running SCALE on different computational environment including desktop/laptop computers and HPC clusters.
- **Maintenance Activities**
  - SCALE 6.3.3 specific - SCALE PROFILER entry for ScaleRTE: A new capability has been added to the SCALE runtime environment (ScaleRTE) to allow attaching a profiler (or debugger) to the SCALE command-line. This capability will help to improve debugging on deployed code, especially when trying to understand the behavior of parallel code sections.

        - Resolve the memory issues for SCALE 6.3.3: It was an unexpectedly deep investigation and resolution, supported by different funding sources as well as NCSP. As SCALE has modernized to use more in-memory transfers between modules and fewer disk-based transfers, memory leaks have been identified which impact the resource utilization and degrade performance, in particular for large, complex systems. In summary, all memory leaks in SCALE sequence implementation have been fixed, excess memory use of data containers have been determined and fixed, and management issues in data containers broadcasted to the worker MPI processes observed with SCALE 6.3.2 release have been fixed.
    - **SCALEHELP**
        - Continued to support SCALE Help activities
    - **SCALE 7.0 support**
        - No activities for Q3.
    - **SCALE training (other than stats)**
        - The annual SCALE Users' Group Workshop brought together over 130 SCALE users from academia, industry, and the US government. Plenary talks were given by staff from the Air Force Institute of Technology on using SCALE in coursework and research; University of Texas, Austin, on modeling the Molten Salt Research Reactor (MSRR); Argonne National Lab on microreactor transportation package modeling; and from Swiss company, NAGRA, on machine learning applied to validation. One of the winners of the SCALE best model contest was a CSAS model of variations within a fuel disk from the AGN-201M.

Modeling of Fuel Heterogeneity in the AGN-201M at the University of New Mexico



CSAS6 model based on grey scale of each pixel

One of ten radiographs of fuel disks

    - **Quarterly newsletter**
        - No Effort used from NCSP. SCALE information is continually updated on https://www.ornl.gov/scale.
    - **Travel, Domestic Conference/Meeting:**
        - No travel for Q3.
- **AM3 - AMPX Maintenance & Modernization**

- Ongoing SQA review, testing, and bug-fixing of the modernized jamaican and platinum sequences. At this time, newly dense kinematics files (produced by y12 with the mu-gridding fix previously implemented) have been found to lead to prohibitively long run times in jamaican (the code for producing PDFs and CDFs for angles and exit energies from double differential cross sections). Resolution of this problem is ongoing.
- Work resumed to update support for the GNDS-2.1 format for thermal scattering law data.
- The status of GNDS-2.1 format support was presented at the WPEC expert group meeting on June 4.
- A poster describing the status of AMPX development generally, highlighting the work on reducing the SCALE continuous energy (CE) library sizes and GNDS-2.1 support, was presented at the ND2025 conference on June 26.

- **AM6 – Slide Rule Application**
  - ORNL is performing the calculations for the last PU phase.
- **AM10 – Proposed Benchmark Intercomparison Study**
  - ORNL is investigating discrepancies between SCALE and the other participants of the intercomparison for the ICSBEP concrete maze benchmark, it will be finalized in Q4. In parallel, ORNL finished calculations for the simplified benchmark proposed by ASNR, the “corridor”. The fluxes results were sent to ASNR, and the detector response functions are being processed.
- **AM17 – Expansion of the Verified, Archived, Library of Inputs and Data (VALID)**
  - Work has involved updating and maintaining the VALID GitLab repository, which is currently available at https://code.ornl.gov/scale/validation/VALID
    - Requests and downloads of the repository have already been accessed by private industry and universities for calculation and validation purposes
  - ANS paper for the promoting VALID was presented for the summer annual meeting
  - Additional work is underway to reformat the repository to provide users of the data with additional information including validation reports and k_{eff} values for current SCALE releases and nuclear data library updates .

PUBLICATIONS

Any publications that have

- Completed your institution’s review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q3	Metwally, M., Marshall, W., Greene, T., Shaw, A., Cihangir, C., "Updated Guidance on Sensitivity/Uncertainty Methods Use for Nuclear Criticalty Safety Validation", ANS NCSD 2025, Austin, Tx.

2025 Q3 – SCALE Training Courses Report for the Nuclear Criticality Safety Program

Class Name	SCALE Training for the Research on the Energy System (RSE S.p.A.) Company (Milan, Italy)
Class Dates	April 7–11, 2025
Location	Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	7
Short Description	This training was part of a Lab Director–level collaboration visit between ORNL and the Italian government. It showcased the diverse array of codes available within the SCALE software package and provided attendees with a comprehensive understanding of its capabilities through practical applications and methodologies. The goal was to inform and inspire participants, fostering future collaborations in nuclear modeling and simulation, while also supporting Italy’s potential adoption of SCALE as a regulatory analysis tool.

Class Name	Frequent Fulcrum Functions: The Basics of SCALE’s Graphical User Interface Tutorial
Class Dates	June 2, 2025
Location	Virtual – 2025 SCALE Users’ Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	53
Short Description	This tutorial introduced the Fulcrum graphical user interface and the basic functions that enhance the common activities of creating, editing, navigating, executing, and visualizing SCALE input files. This tutorial helped attendees become familiar with the Fulcrum input file text editor and the integrated input development environment features of autocompletion, automatic checking, cursor context, and input navigation. In addition, the Fulcrum and SCALE runtime environment was reviewed to improve understanding of job execution workflow. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	SCALE Utilities for Nuclear Data Interrogation, Comparison, and Visualization Tutorial
Class Dates	June 2, 2025
Location	Virtual – 2025 SCALE Users’ Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	53
Short Description	This tutorial was an introduction to the tools available to interrogate, compare, and visualize the SCALE nuclear data. Fulcrum was used to plot continuous energy and multigroup cross section data, multigroup scattering matrices, covariance matrices, and correlation matrices. Also demonstrated was how to use Fulcrum to compare cross section and uncertainty data from different evaluated nuclear data releases. Users got the chance to use the OBIWAN tool to view/patch/diff/convert data found on F33 and F71 files. Lastly, a variety of AMPX tools were used to compare covariance libraries, compare working and master libraries, and print/manipulate the data stored on a multigroup library. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	Fulcrum Data and Geometry Visualization Tutorial
Class Dates	June 2, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	57
Short Description	This tutorial reviewed the data plotting and geometry visualization capabilities in the Fulcrum graphical user interface. It also helped attendees become familiar with Fulcrum's 2D plot, and 2D and 3D geometry visualization features. Attendees learned how to identify plottable data items, compose and export plot and plot data for SCALE plot formats (SDF, AMPX MG/CE, PLT, F71, PTP, SPF, ORIGEN gamma data, etc.) and visualize, navigate, cut, hide, and export the geometry and spatial data (fission map, dose map, etc.) overlays in 2D and 3D. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.3.

Class Name	Activation Analysis with ORIGEN/MAVRIC for Advanced Reactors Tutorial
Class Dates	June 3, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	59
Short Description	This tutorial demonstrated the application of ORIGEN and MAVRIC for activation analysis for an advanced reactor concept. ORIGEN was used to generate the activation source terms and MAVRIC was employed to calculate dose rates due to activated materials. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	Molten Salt Reactor Analysis with SCALE Tutorial
Class Dates	June 3, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	51
Short Description	This tutorial demonstrated SCALE 6.3 capabilities for reactor physics and fuel cycle analyses of liquid-fueled systems, such as molten salt reactors and used the TRITON module and leverage new input definitions to define elements being fed into and removed from an irradiated mixture. The tutorial included the development and testing of a computational model, verification activities for complex material flow scenarios, and postprocessing to perform fuel cycle analyses. Resolving additional short-time phenomena was briefly discussed. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.3.

Class Name	MAVRIC: Long-distance Statistics for Activation
Class Dates	June 3, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	51
Short Description	This tutorial demonstrated how to use MAVRIC and ORIGEN to activate a common operational component, a pump, for a nuclear reactor and calculate dose rates for a radiation worker due to activated component. MAVRIC was used to estimate the neutron flux due to nuclear fission in the reactor core by utilizing CADIS method to optimize the flux tally at the pump. ORIGEN was used to create a gamma source due to activated pump. MAVRIC was used again to estimate dose rates around the pump by importing the activation source generated by ORIGEN. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	SCALE Sensitivity Tutorial
Class Dates	June 4, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	55
Short Description	This tutorial was a survey of sensitivity and similarity capabilities within SCALE, covering SAMS, TSURFER, TSUNAMI, TSAR, and TSUNAMI-IP. Attendees performed eigenvalue and reactivity sensitivity analyses, data adjustment, and similarity analysis, and had the opportunity to ask questions about current and future capabilities. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	New Sensitivity Features and More in Sampler Tutorial
Class Dates	June 4, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	52
Short Description	This tutorial introduced the application of the Sampler sequence to perform sensitivity and uncertainty analysis for high-assay low-enriched uranium (HALEU)/high burnup (HBU) and accident tolerant fuel (ATF) concepts. Participants learned how to use recent features in Sampler to identify similarities and differences in decay heat and k-eff trends, as well as the major contributors to the identified differences, for LWR fuel. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.3.

Class Name	New Sensitivity Capability in ORIGEN
Class Dates	June 4, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	45
Short Description	This tutorial introduced users to the new sensitivity feature in ORIGEN, which enables the exploration of the impact of nuclear data changes on responses of interest. It demonstrated through simple exercises that are representative of real-life applications the power of this feature in supporting a deeper understanding of the underlying physics. Attendees could follow along using SCALE 6.3.

Class Name	Modeling of TRISO Fuel with SCALE Tutorial
Class Dates	June 5, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	45
Short Description	This tutorial demonstrated SCALE 6.3 capabilities for reactor physics and fuel inventory analyses of pebble-bed reactors such as high temperature gas-cooled reactors. The TRITON reactor physics sequence was used to leverage new geometry input options for detailed continuous-energy models as well as established input options for fast multi-group models. The tutorial included the development and testing of a computational model and the postprocessing of results for purposes of fuel inventory interrogation. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.3.

Class Name	VADER for Criticality Safety Validation Tutorial
Class Dates	June 5, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	48
Short Description	This tutorial demonstrated criticality safety validation exercises using the VADER sequence in SCALE 6.3.1. This tutorial used VADER under the Fulcrum user interface to develop upper subcritical limits (USLs) for hypothetical criticality safety applications based on critical experiment data. Several statistical tests and USL determination methods will be demonstrated. No prior experience with SCALE was needed for this tutorial. Attendees could follow along using SCALE 6.3.

Class Name	Accessible data files in SCALE and how to use them: II.JSON and CSV Tutorial
Class Dates	June 5, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	46
Short Description	SCALE 6.3 provides users of ORIGEN with several new ways to represent and interrogate data. In this tutorial, users learned about three new formats for exporting ORIGEN data and how to access them using the OBIWAN command-line tool. For nuclide inventories, these include comma-separated value format and the new JSON-based "Inventory Interface" format (II.JSON). For ORIGEN reactor libraries, this consists of the open HDF5 standard. Tutorial attendees learned how to render ORIGEN data in these formats and how they can be used by tools like Python for follow-on analysis. No prior experience with SCALE was required, although familiarity with ORIGEN and the command line were helpful. Attendees could follow along using SCALE 6.3.

Class Name	SCALE Modelling & Simulations for Nuclide Inventories and Source Terms in Spent Nuclear Fuel Tutorial
Class Dates	June 6, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	42
Short Description	This tutorial walked users through different approaches and relevant files for neutron and gamma source terms analysis in LWR spent fuel, using fuel depletion and decay capabilities in SCALE. Attendees learned how to determine neutron and gamma sources with ORIGEN under the ORIGAMI graphical user interface, how to use ft71 files obtained with different SCALE depletion sequences as input for standalone ORIGEN simulations to determine these sources, and how to visualize the results with Fulcrum. A hands-on example looking at the impact on modeling assumptions (0D vs 1D) for the fuel assembly on the predicted sources was provided. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	ORIGEN Library Generation with TRITON Tutorial
Class Dates	June 6, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	40
Short Description	This tutorial guided users through the process of generating ORIGEN reactor libraries using TRITON and applying these libraries for rapid depletion calculations with ORIGEN or ORIGAMI. Additionally, users gained familiarity with the use of the SLIG template system (provided with SCALE) for developing complete "interpolation grids" of fuel assembly configurations needed to perform rapid depletion calculations based on problem-specific conditions. Prior experience with SCALE (particularly familiarity with ORIGEN and/or ORIGAMI) was highly recommended. Attendees followed using SCALE 6.2 or SCALE 6.3.

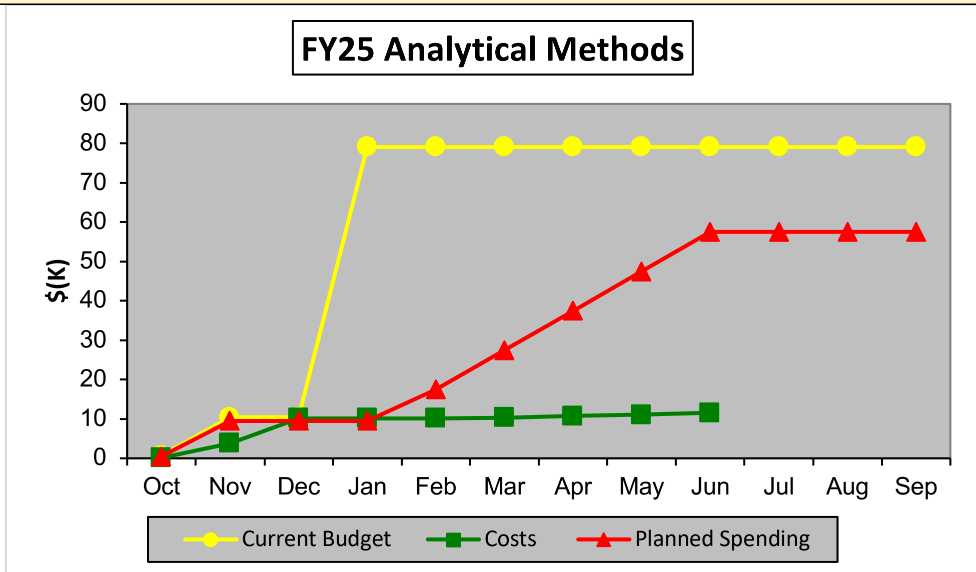
Class Name	LWR Decay Heat Analysis with SCALE Tutorial
Class Dates	June 6, 2025
Location	Virtual – 2025 SCALE Users' Group Workshop, Oak Ridge National Laboratory, Oak Ridge, TN
Number of Attendees	28
Short Description	This tutorial walked users through different approaches for decay heat analysis in LWR spent fuel using fuel depletion and decay capabilities in SCALE. Attendees learned how to determine decay heat based on fast simulations with ORIGEN under the ORIGAMI graphical user interface for LWRs, how to use ft71 files obtained with different SCALE depletion sequences as input for standalone ORIGEN simulations to determine decay heat as function of burnup and cooling time, and how to visualize the results with Fulcrum. No prior experience with SCALE was required. Attendees could follow along using SCALE 6.2 or SCALE 6.3.

Class Name	Training Course for the U.S. Nuclear Regulatory Commission (NRC) on Spent Fuel Pool and New Fuel Vault Criticality Safety Analyses with SCALE
Class Dates	June 9–13, 2025
Location	U. S. NRC Headquarters, Bethesda, MD
Number of Attendees	20
Short Description	ORNL organized a first-of-its-kind SCALE hands-on training course for NRC staff on nuclear criticality safety analyses for new fuel storage vaults and spent fuel storage pools. The training covered both boiling water reactor and pressurized water reactor fuel types and performed the fuel lattice / fuel depletion analyses in SCALE/Polaris followed by performing the 3D neutron transport solve in KENO. The training walked through the detailed steps of performing a criticality safety analysis from assembly modeling, depletion, and analyzing manufacturing tolerances and accident conditions. The training was attended by 20 NRC staff and was well-received.

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: AM1 **M&O Contractor Name**: PNNL **Point of Contact Name:** Travis Zipperer **Point of Contact Phone:** (206) 528-3474	**Reference:** DP0909010 **Date of Report:** August, 2025

BUDGET



1. Carryover into FY 2025 = $686
2. Approved FY 2025 Budget = $78,350
3. Total FY2025 Budget w/Carryover = $79,036
4. Actual spending for 1st Quarter FY 2025 = $9,760
5. Actual spending for 2nd Quarter FY 2025 = $165
6. Actual spending for 3rd Quarter FY 2025 = $1,250
7. Actual spending for 4th Quarter FY 2025 = $0
8. Projected carryover into FY 2026 = $46,470

NOTE: Include commitments as part of spending

Projected carryover based on planned spending curve is $66,470; however, projected carryover will be less as a portion of the work originally planned in Q2 and Q3 will be performed in Q4.

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete (blue)	On Schedule (green)	Behind Schedule (yellow)	Missed Milestone (red)

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
Q1	Provide a status of Sum-of-Fractions analysis for nuclide mixtures (AM1)		
Q2	Provide a status of Sum-of-Fractions analysis for nuclide mixtures (AM1)		Funding approvals were paused in early Q2. Funding is currently awaiting approval from site office.
Q3	Provide a status of Sum-of-Fractions analysis for nuclide mixtures (AM1)		
Q4	Provide a status of Sum-of-Fractions analysis for nuclide mixtures (AM1)		

ACCOMPLISHMENTS

- AM1 – Analysis of Sum-of-Fractions for Nuclide Mixtures
  - Q1: Presented to the SoF method to ANS Winter Conference.
  - Q3: Work initialized; meeting set up between ORNL and PNNL to begin expansion of the SoF method to low/unmoderated systems.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

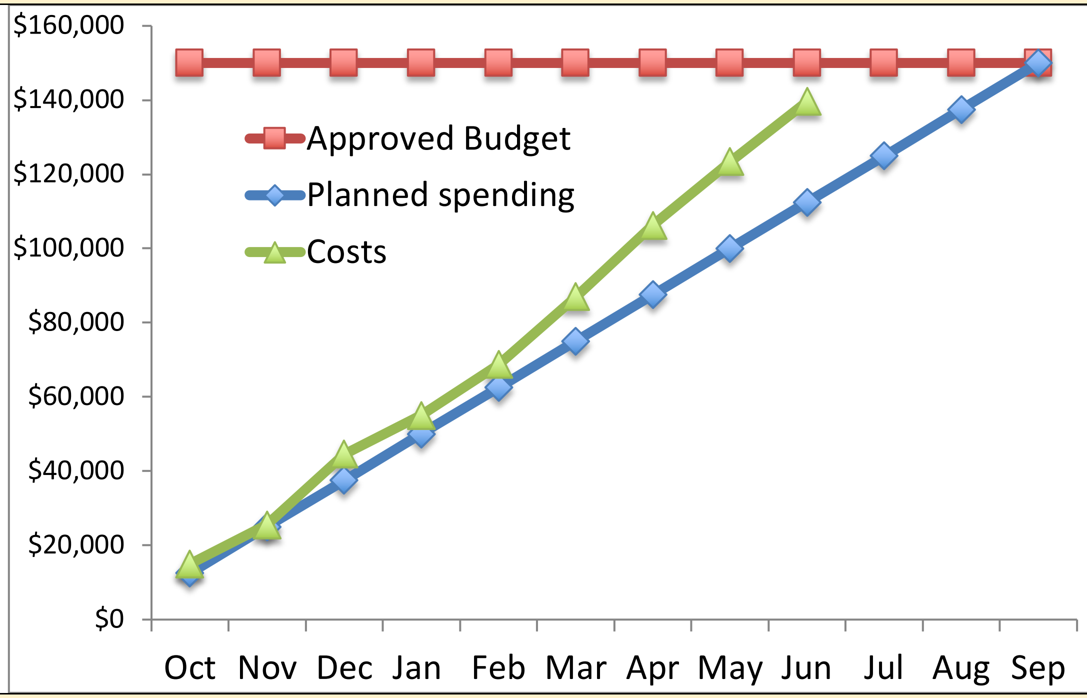
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	Travis Zipperer, Andrew Prichard, Travis Greene, BJ Marshall, and Alex Lang, "Sum of Fractions Method", 2024 ANS Winter Conference and Expo, Orlando, FL, November 17-21, 2024.
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: IPD3 **M&O Contractor Name**: LANL **Point of Contact Name:** Joetta Goda **Point of Contact Phone:** 505-667-2812	**Reference:** DP0909010 **Date of Report:** July 15, 2025

BUDGET



1. Carryover into FY 2025 = $ 0
2. Approved FY 2025 Budget = $150k
3. Total FY2025 Budget w/Carryover = $150k
4. Actual spending for 1st Quarter FY 2025 = $44,598.22 + $0 commitments
5. Actual spending for 2nd Quarter FY 2025 = $42,423.43 + $0 commitments
6. Actual spending for 3rd Quarter FY 2025 = $52,575.55 + $0 commitments
7. Actual spending for 4th Quarter FY 2025 =
8. Projected carryover into FY 2025 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status on activities in the NCSP Quarterly Progress Reports.		

ACCOMPLISHMENTS

- IPD3 – IT support at NNSS
  - Hosted LANL and LLNL IT teams for our quarterly meetings
  - Testing the new zero clients, as we'll be replacing the older/slower systems with the new zero clients in the high bays
  - Planning to add a system in Control Room 1 once some planned MSTS modifications are complete to remove a rack.
  - Assessing the few options for disk-full systems or adding a local server for faster boot times.
  - Updating the network throughout the remainder of 2025 from 1gb links to 10gb, which paired along with USB 3.1, will allow faster data transfer speeds
  - Preparing server to support new KeyWatcher system; a new KeyWatcher box was procured by NCERC-FO and mounted in Control Room 1. The previous box has reached capacity and has been moved to Control Room 2.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

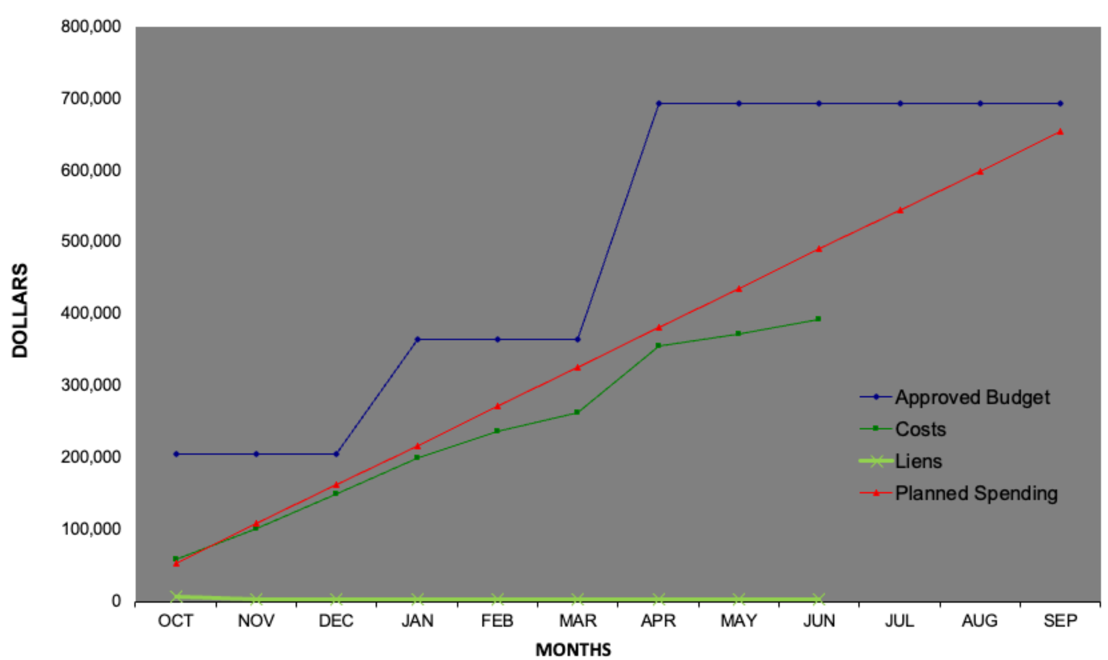
S Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: IPD1, 2, 5 **M&O Contractor Name**: LLNL **Point of Contact Name:** Catherine Percher **Point of Contact Phone:** (925) 579-4226	**Reference:** DP0909010 **Date of Report:** August 15, 2025

BUDGET



1. Carryover into FY 2025 = $43,550
2. Approved FY 2025 Budget = $650,000
3. Total FY2025 Budget w/Carryover = $693,550
4. Actual spending for 1st Quarter FY 2025 = $150,683
5. Actual spending for 2nd Quarter FY 2025 = $113,892
6. Actual spending for 3rd Quarter FY 2025 = $128,897
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $39,000

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Manage all aspects of the DOE NCSP participation in the ICSBEP as required to ensure the finalizing and publishing ICSBEP evaluations per IE schedule. (IPD1)		

All 4 Quarters	Provide status reports on LLNL participation in US and International IPD collaborations (including ICSBEP) in the NCSP Quarterly Progress Reports. (IPD1)		
All 4 Quarters	Maintain, operate, and modernize the NCSP website, databases, and provide user assistance as required. (IPD2)		
All 4 Quarters	Provide status on activities in the NCSP Quarterly Progress Reports. (IPD5)		

ACCOMPLISHMENTS

- IPD1 - Conduct ICSBEP for Benchmarks of the 5-Year Plan and publish annual revision to the Handbook
  - Six NCSP-funded benchmarks were approved by the ICSBEP Technical Review Group pending comment resolution from the meeting:
    - Lawrence Livermore National Laboratory (USA) – *Pulsed-Neutron Die-Away Experiments with Water Targets (Fundamental Physics Benchmark)*
    - Lawrence Livermore National Laboratory (USA) – *TEX-HEU Thermal Critical Benchmarks with Chlorine*
    - Lawrence Livermore National Laboratory (USA) – *High Multiplication Subcritical Benchmark at Sandia National Laboratory LEU SPR/CX Facility* (Fundamental Physics Benchmark)
    - Los Alamos National Laboratory (USA) – *Cerberus Copper Critical Experiments*
    - Los Alamos National Laboratory (USA) – *Jupiter High ^{240}Pu Configurations*
    - Sandia National Laboratory (USA) – *Epithermal Hex Lattices with 6.9% UO2 Fuel with Tantalum*
  - J. Glesmann provided independent review for Cerberus
- IPD2 - Maintain the NCSP Website and Systems
  - Update documents, links, calendars, taskings, newsletters, photos/portraits, create art for updated banners and/or course registrations
  - FY26 Cvent course registrations built
  - FY26 TPR agenda page built
  - FY27 [December 2025] Cvent course registration built
  - Added and updated foreign trip reports
  - Maintain list of available T&E courses and course registrations for 2024/2025 along with running registration reports for each
  - NCSP.llnl.gov site analytics
  - monthly LFE meetings, updates to LFE page/database, update charts, LFE analytics

IPD5 - IT Support at NNSS

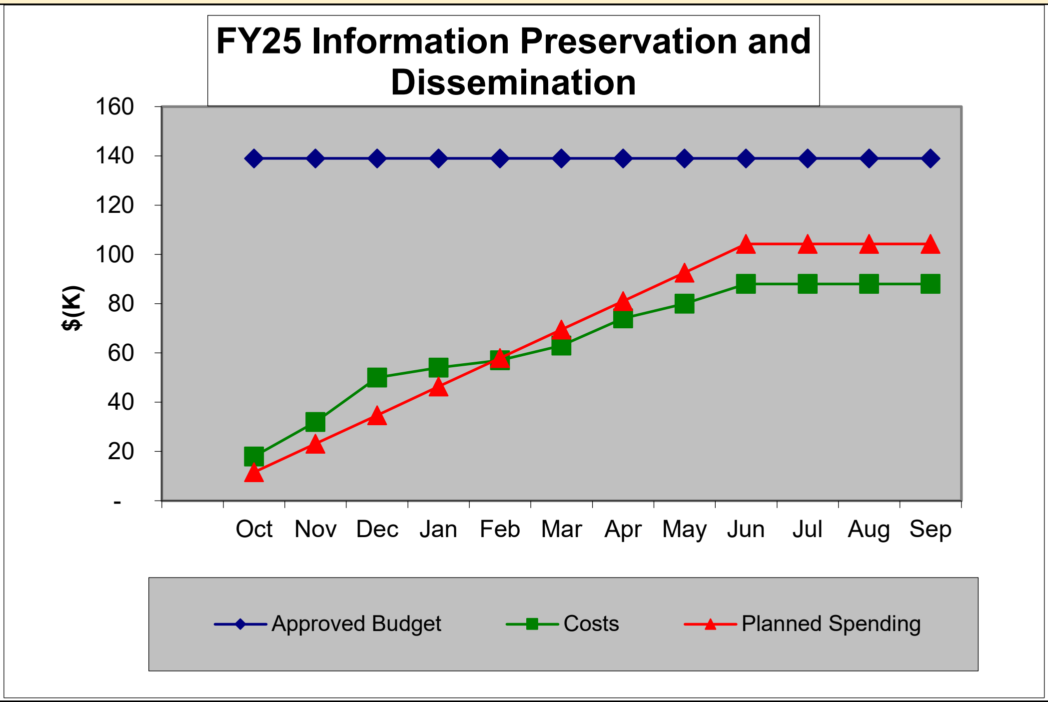
  - Provided ISSM/ISSO and System Administrator support for Nevada IT including required weekly NTS-SLAN/NCERC system updates, monthly authenticated scans for NCERC network devices, and system upgrades as required. Created and renewed NTS-SLAN accounts throughout the quarter. Provided IT support and and trouble-shooting for users and equipment.

PUBLICATIONS	
Any publications that have • Completed your institution's review cycle during the quarter AND • Are publicly releasable Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.	
Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	Percher, C. "International Criticality Safety Benchmark Evaluation Project Update," Presented at the 2024 NCSP Technical Program Review, Santa Fe, NM, December 2024.
Q2	None
Q3	None
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: IPD4 **M&O Contractor Name**: ORNL **Point of Contact Name:** Alex Lang **Point of Contact Phone:** (865) 341-1915	**Reference:** DP0909010 **Date of Report:** August 2025

BUDGET



1. Carryover into FY 2025 = $ 89
2. Approved FY 2025 Budget = $ 139
3. Total Approved FY 2025 Budget w/Carryover = $ 228
4. Actual spending for 1st Quarter FY 2025 = $ 50
5. Actual spending for 2nd Quarter FY 2025 = $ 13
6. Actual spending for 3rd Quarter FY 2025 = $ 25
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report about progress on the development of the NCSP LFE database working with international collaborators. (IPD4)		

ACCOMPLISHMENTS

- IPD3 – Nuclear Criticality Safety Repository

- During this reporting period, the team curated a total of 693 records associated with the NCSP. During this quarter, we added key phrase and sponsorship information to 683 Technical Reports, and they are pending full curation. We fully curated and added subject category codes to 7 Technical Reports and 3 Accepted Manuscripts. This makes for a cumulative 5,763 records curated.

Product Type	Partially Curated	Existing Fully Curated	New Fully Curated	Totals	Cumulative
Technical Reports	683	7	0	690	1923
Conference Products	0	0	0	0	3206
Accepted Manuscripts	0	2	1	3	632
Patents	0	0	0	0	1
Books	0	0	0	0	1
Totals	**683**	**9**	**1**	**693**	**5,763**

- In the next quarter, we plan to continue curation efforts focusing on the enhancement or addition of key metadata elements, specifically sponsoring organization and keywords. This approach ensures that records are easily discoverable within OSTI.GOV and will allow for processing of more records.

- IPD4 – Learning From Experience (LFE) database
  - A staff member has been dedicated to collecting and submitting entries into the database. To date, seven entries from the US were submitted in this quarter. A formal structure for the international LFE group has been established with UK taking the leadership role. A formal process is being established to obtain, review, and submit entries between all international parties. There is current outreach to practitioners involved in SAFER submissions to discuss items that should be added into the LfE database. Additionally, communication is in progress with developers of SAFER to discuss the potential of working with the LfE database..
- IPD5 – Oak Ridge Health Physics Research Reactor CAAS Benchmark Evaluation
  - Mathieu Dupont presented the accepted evaluation at the SINBAD taskforce meeting in Slovenia. The SINBAD evaluation was reviewed on RESolution and is officially accepted for publication in SINBAD. The last details are being worked out between NEA and RSICC for the distribution of this evaluation within the new SINBAD release.

PUBLICATIONS

Any publications that have

- Completed your institution’s review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

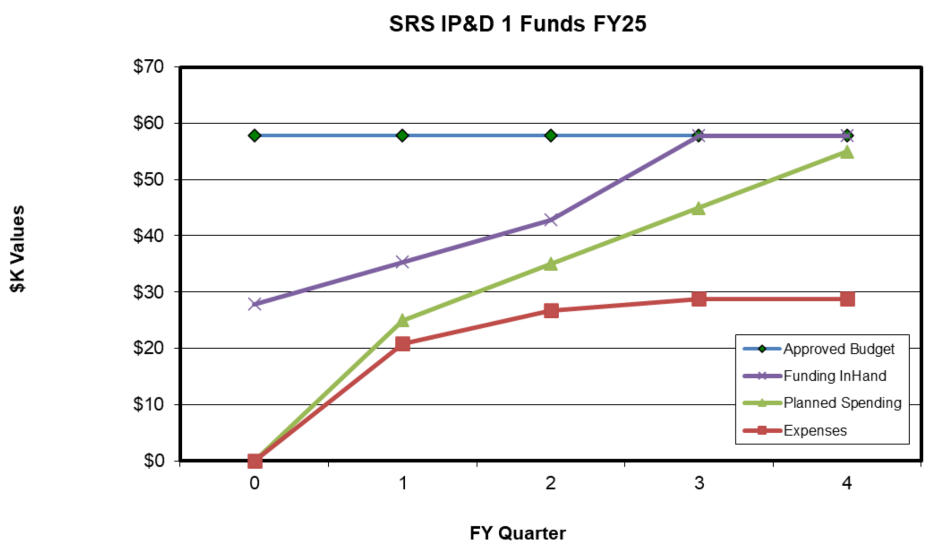
NCSP Quarterly Progress Report (FY-2025 Q3)

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: IPD1 **M&O Contractor Name**: SRNS **Point of Contact Name:** Scott Finfrock **Point of Contact Phone:** 803-557-1317	**Reference:** DP0909010 **Date of Report:** August, 2025

BUDGET



1. Carryover into FY 2025 = $27,811
2. Approved FY 2025 Budget = $27,800.00
3. Total FY 2025 Budget w/Carryover = $55,611
4. Actual spending for 1st Quarter FY 2025 = $20,811
5. Actual spending for 2nd Quarter FY 2025 = $5,883
6. Actual spending for 3rd Quarter FY 2025 = $2,127
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status reports on SRS progress with CritView in the NCSP Quarterly Progress Reports. (IPD1)		
All 4 Quarters	Any needed code support (as other users work with it). (IPD1)		
All 4 Quarters	Investigate opportunities to add additional handbook data (e.g., TID-7068). (IPD1)		

All 4 Quarters	Investigate options for developing an APP for smartphone/tablet use. (IPD1)		
Q1	Complete revision to CritView code (delayed from FY24)		
Q1	Complete testing of new code version (delayed from FY24)		
Q1	Revise User's Manual for new version of code		This was not in the original task list but needs to be done. Completed in Q2 and will be included in the package sent to LLNL
Q1	Work with the SRS clearance office to obtain clearance for public release of the FY24 updated code and data. (IPD1)		We have resolved the charging issue but still have a ways to go to get the code released.
Q1	Deliver the final version of the code and database to LLNL for inclusion on the NCSP website. (IPD1)		Expect to complete this without issue once the clearance can be obtained.
Q4	Expansion of MCNP/SCALE databases to encompass additional materials/configurations. (IPD1)		

ACCOMPLISHMENTS

- IPD1 – ARH-600 Reissue (CritView)
    -

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter AND Are publicly releasable

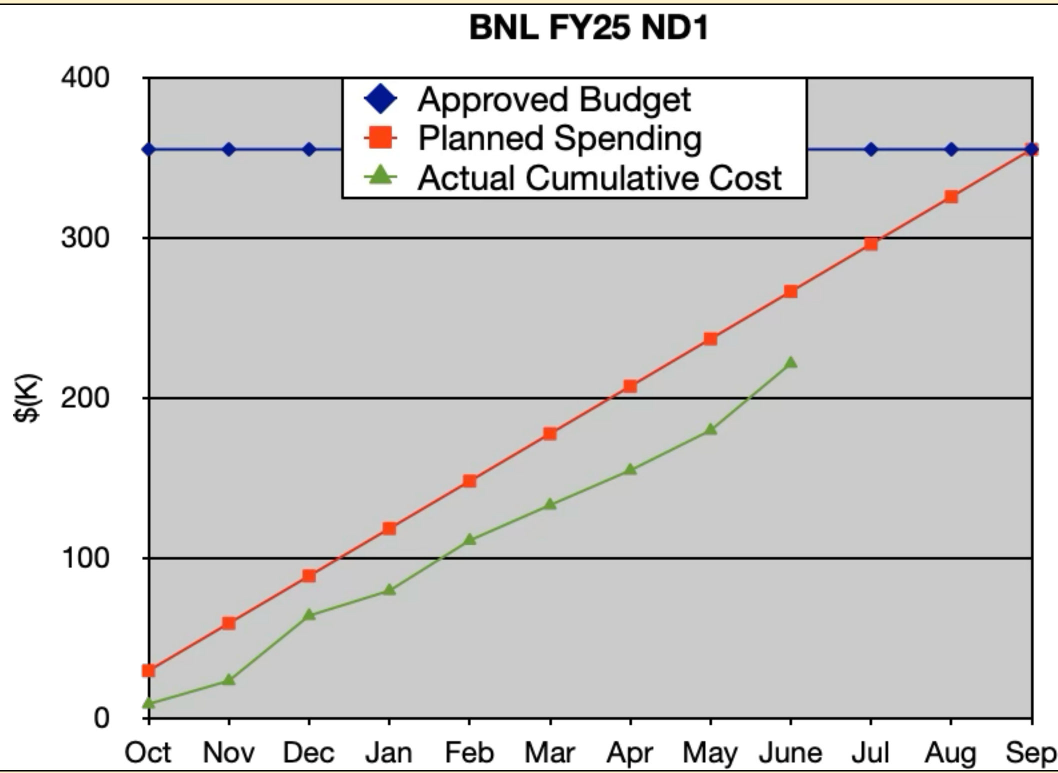
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND1 **M&O Contractor Name**: BNL **Point of Contact Name:** Gustavo Nobre **Point of Contact Phone:** 631-344-5205	**Reference:** DP0909010 **Date of Report:** August 11, 2025

BUDGET



1. Carryover into FY 2025 = $ 55,208
2. Approved FY 2025 Budget = $ 300,000
3. Total FY 2025 Budget w/Carryover = $ 355,208
4. Actual spending for 1st Quarter FY 2025 = $ 64,020
5. Actual spending for 2nd Quarter FY 2025 = $ 69,010
6. Actual spending for 3rd Quarter FY 2025 = $ 88,483
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026= $ 53,439

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Maintain the ENDF library: • Organize versioned system, submission of evaluated files, and peer-review of contributions		

	• If mandated by CSEWG, release new ENDF library or intermediate Beta versions. (ND1)		
Q3	Maintain and upgrade ADVANCE code system by performing data verification of new NCSP evaluations and performing quality assurance on the data as required. Provide status reports on all ND1 activities in the NCSP Quarterly Progress Reports. (ND1)		
Q3	Provide status reports on all ND1 activities in the NCSP Quarterly Progress Reports.		The present FY25 Q3 report fulfills this request.

ACCOMPLISHMENTS

- ND1 - National Nuclear Data Center (NNDC) Support to the NCSP
    - ENDF/B-VIII.1 “Big Paper”: while we await the referee(s) report(s), we implemented small fixes and localized updates.
    - ADVANCE:
        - We have redone the GitLab CI pipeline for the ADVANCE system, replacing a manual build-publish.sh script with a clean, modular .gitlab-ci.yml that separates Docker image building (build_image), deployment (deploy_to_prod), and data verification (verify_endf) into distinct, auditable stages.
        - The Dockerfile was optimized for caching and minimal size, while authentication was streamlined by embedding registry login directly into the CI jobs, eliminating the need for a separate registry_login job.
        - We also improved other minor aspects like the README, a flowchart diagram of the pipeline, and a structured documentation bundle including Markdown, PDF, and PNG files. The result is a more maintainable, reproducible, and secure CI/CD process.
    - Planning of ENDF/B-IX.0:
        - Set up review merge requests in GitLab for the new evaluations, coordinating interaction between reviewers and evaluators.
        - Organized and prepared for the 1st Reactor Graphite Workshop, to happen on Q4 (July 8-9, 2025) at BNL. Graphite is an important moderator in criticality systems and we need to bring the community together to ensure we will provide the best TSL evaluation in the next library release.
    - Attended the 2025 WPEC Meeting and associated subgroup meetings in Brussels, Belgium.
        - Gustavo Nobre chaired the meeting for SG-53 “**Stable Zirconium Evaluations and Validation**”
        - On the SG-53 meeting Gustavo Nobre also presented the talk “**SG-53 Status**”. This topic is aligned with the NCSP 5-year plan.
        - Gustavo Nobre presented the talk “**ENDF Status & Updates**” on the status of the ENDF/B library, in particular related to the most recent ENDF/B-VIII.1 release and future plans for the ENDF library. This is directly related to the NCSP ND1 task element.
        - Gustavo Nobre also presented in the WPEC meeting the talk “**WPEC SG-53 report**”. This topic is aligned with the NCSP 5-year plan.
    - Attended the ND2025 Conference (16th Nuclear Data for Science and Technology Conference)
        - David Brown:
            - Gave a Plenary talk: “The US Nuclear Data Program”

- Chaired the session: “Criticality Safety CS-S6D3M1”
- Chaired the session: “Machine learning ML-S5D3A1”
- Presented the talk: “Tests of the probability table method for unresolved resonances”
- Presented the talk: “Improving gamma-ray emission data in ENDF and enabling inline gamma-ray cascade capability”
- Presented the talk: “Estimation of Maxwellian averaged cross-sections with machine learning methods”
- Presented the talk: “The Berkeley Atlas: A database of absolute cross sections for inelastic, gamma-ray production with 14 MeV neutrons”

- Gustavo Nobre:
  - Gave a Plenary talk: “The ENDF nuclear database”
  - Chaired the session: “Dissemination and processing DP-S3D1M2”
  - Presented the talk: “The ENDF/B-VIII.1 release: Past, Present and Future of the ENDF/B library”
  - Presented the talk: “ADVANCE: A Kubernetes Cluster of Docker Containers for Automating Nuclear Data Quality Assurance”
  - Presented the poster: “Nuclear Reaction Data for Fission Products Off Stability”
  - Presented the poster: “Bayesian Resonance Reclassifier: A Machine-Learning method to identify neutron resonance spins”
  - Presented the poster: “chatNSR: An AI-Enhanced Nuclear Science References Knowledge Base”

- Submitted a summary paper (“The National Nuclear Data Center Support to Nuclear Criticality Safety Program”) to the 2025 ANS Winter Conference & Exp.

PUBLICATIONS

Any publications that have

- Completed your institution’s review cycle during the quarter
  AND
- Are publicly releasable

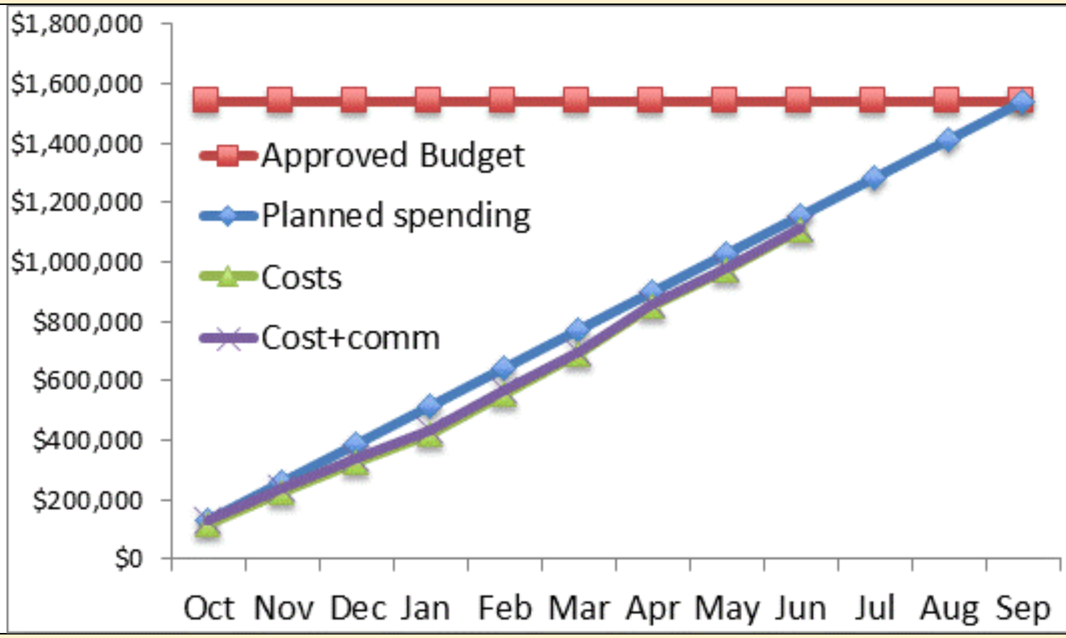
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	D.A. Brown, “CSEWG Meeting Minutes, 4 - 7 November 2024”, BNL-227509-2025-INRE
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND1, ND2 **M&O Contractor Name**: LANL **Point of Contact Name:** Joetta Goda/Bob Little/Jen Alwin **Point of Contact Phone:** 505-667-2812/505-665-3487/505-667-7252	**Reference:** DP0909010 **Date of Report:** July 11, 2025

BUDGET



1. Carryover into FY 2025 = $ 0K
2. Approved FY 2025 Budget = $1,539K
3. Total FY25 Budget w/Carryover = $1.539K
4. Actual spending for 1st Quarter FY 2025 = $324.6K
5. Actual spending for 2nd Quarter FY 2025 = $364.5K
6. Actual spending for 3rd Quarter FY 2025= $416.9K
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete (blue)	On Schedule (green)	Behind Schedule (yellow)	Missed Milestone (red)

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status reports on LANL participation in US and International Nuclear Data collaborations in the NCSP Quarterly Progress Reports (ND1)		See ND1 section for updates.
All 4 Quarters	Provide status report on all activities in the NCSP Quarterly Progress Reports. (ND2)		See ND2 section for updates.
Q1	Conduct CSEWG Evaluation and Covariance sessions. (ND1)		Conducted the CSEWG covariance session with presentation. See **CSEWG** section for updates.

Q1	Report data testing results with beta releases of ENDF/B-VIII.1 at CSEWG. (ND1)		Reported data testing results with beta releases of ENDF/B-VIII.1 at CSEWG. (LA-UR-24-31792 transmitted with this report). See **CSEWG** section for updates.
Q4	Deliver nuclear data evaluations as indicated in Appendix B of this document. (ND1)		See ND1 section for updates.
Q4	Deliver nuclear data measurements as indicated in Appendix B of this document. (ND2)		See ND2 section for updates.

ACCOMPLISHMENTS

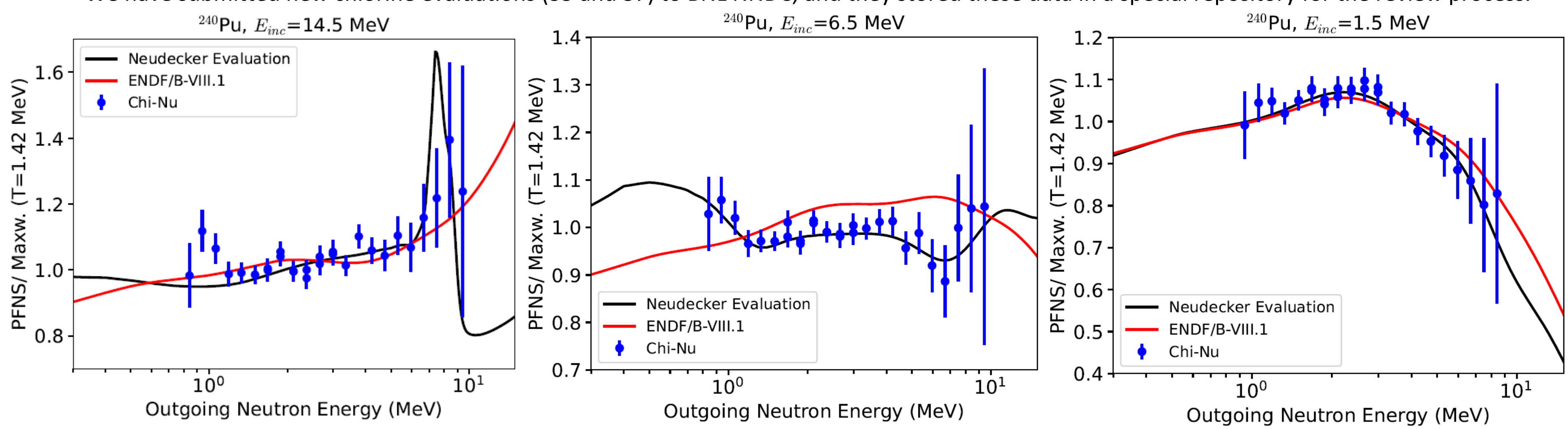
ND1 – Nuclear Data Evaluation and Testing

Light nuclei

- ^{12}C+n: We have produced preliminary ENDF format files of MF=3 and MF=4 with CoGNAG inelastic scattering data. The files were sent for some testing. We could add GELINA elastic scattering data in the fast neutron energy region between 1 and 8 MeV in EDA calculations. The calculation with GELINA data is in progress.

Medium nuclei

- We have slightly updated the ^{139}La file to include the angular dependence for several channels in the resonance region.
- We have submitted new chlorine evaluations (35 and 37) to BNL NNDC, and they stored these data in a special repository for the review process.



Actinides

Pu240: "Update evaluation to include new LANSCE / Chi-Nu prompt fission neutron spectra":

- Ran several evaluations.

- Redid experimental UQ for Chi-Nu data upon discovery of having received preliminary 240Pu PFNS data, not the final published one. Factored in final Chi-Nu data as published.
- Created a preliminary evaluation from several attempts (a few plots attached).
- Formatted the preliminary data into ENDF-6 format and released them for initial validation testing end of June.

U233,234,236: “Attempt a consistent nu-bar evaluation supported by a model code to provide better nu-bar data for minor U-isotopes”

- Finished experimental UQ of all isotopes.
- Created an experimental database for evaluations.
- Ran several evaluations for subsets of isotopes. The optimization works well only for a subset of isotopes.
- Investigated what part of the model needs to be fixed to get a better fit via evaluations and sent that information to T-2.
- Parameter sensitivities using CGMF have been run for all U isotopes from 232-239; sensitivities, initial parameters, and baseline nubar values were passed over to XCP-5 for evaluation. A second set of sensitivities have been started to test the shape of the total kinetic energy distribution

U235: " Assess results from the PFUNS integral experiment in the context of the current U-235 evaluated PFNS”

- Meetings with XCP-5, T-2, and NEN-2 several times on way forward.
- Working towards new evaluation.
- Continued setting up the MCNP input file and made some preliminary tests. We have modified the thickness of the samples (most uncertain quantity) to ensure that the sample mass agrees with the specifications.

- **Publications, Reports, and Presentations**
  - See table below under Publications. Note: The items marked as [DRAFT] will be finalized and fully released in a future quarterly report.
  - Published paper in Physical Review X (Vol. 15, 021086, 2025, high-impact journal) with title: "Machine Learning to Select Experiments Driven by Fundamental Science and Applications for Targeted Nuclear Data Improvement". This paper uses heavily experimental databases created as part of NCSP work. Main funding source for the paper was PARADIGM. LA-UR: LA-UR-24-30584.
  - Presented poster at ND2025 Poster LA-UR-25-25571 on PARADIGM. NCSP-funded the NCERC facility cost during experiment.
  - Invited presentation on the Physical Review X paper at Workshop Algorithms For Multiphysics Models In The Post-Moore's Law Era, 2025-06-02/2025-06-13 (Los Alamos, New Mexico, UNITED STATES) LA-UR-25-25384.
  - Presented work “Selected LANL FPY and nubar evaluations”.
  - Presented work “Fission Observables with CGMF and Applications to Nuclear Data Evaluations” at ND2025.
  - Presented work “Random-matrix approach for generating cross sections in unresolved resonance region” at ND2025.

ND2 – Nuclear Data Measurements at LANSCE
^{233}U PFNS@Chi-Nu

- The LLNL gas handling system is being upgraded to new components for the computer control and interface and to make the LabView control module compatible with modern computers. All the parts needed for this system are in hand. To reduce costs, a legacy laptop is planned to be set-up and integrated in the gas handling system.

- A beam time proposal for the upcoming experiment was reviewed favorably.
- Corresponding team: Matt Devlin, Keegan Kelly, John O'Donnell, Jason Surbrook, Pat Copp

^{240}Pu PFNS@Chi-Nu

- A talk on Prompt Fission Neutron Spectra (PFNS) generally, featuring the recent ^{240}Pu(n,f) PFNS was given at the 16th International Nuclear Data Conference for Science and Technology 2025, that was held in Madrid, Spain, between June 22nd – 27th (LA-UR-25-25815). A conference proceeding paper is planned.
- Corresponding team: Matt Devlin, Keegan Kelly, John O'Donnell, Jason Surbrook, Pat Copp

^{35}Cl @LENZ

- In preparation for the upcoming run cycle, the newly designed neutron collimator that was developed for the ^{35}Cl measurement at LENZ, was installed in the beamline. In addition, the Integrated Work Document that is required to authorize the experiment, has been signed. Finally, the new Data Acquisition system has been tested and is ready for the flight path characterization.
- The ^{35}Cl work was presented at the 16th International Nuclear Data Conference for Science and Technology 2025, that was held in Madrid, Spain, between June 22nd – 27th by postdoc Ken Hanselman with extensive conversations with users of chlorine nuclear data. The title was "Validations and Extensions of the LANL-TP Chlorine Evaluation" (LA-UR-25-25931).
- A publication has been drafted that validates the fast evaluation using CLYC detector response data as a benchmark. The results are compared with the Chlorine Worth Study, for which discrepancies serve to motivate the need for the ongoing LENZ measurements, future DICER measurements with isotopically enriched samples, and Tex-Cl integral benchmarks.
- Corresponding team: Kenneth Hanselman, Sean Kuvin, Hye Young Lee, Josef Svoboda, Jack Winkelbauer

^{133}Cs@DANCE

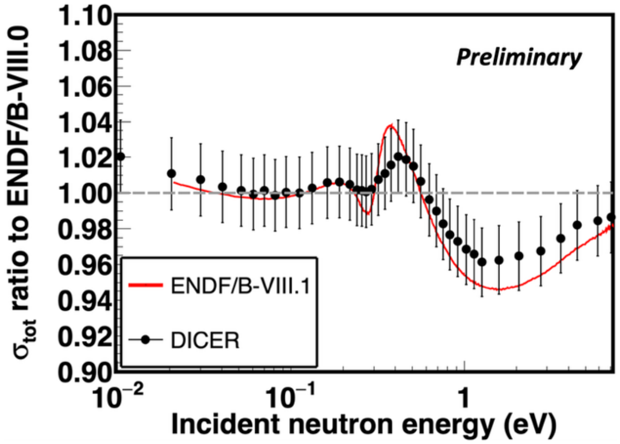
- The experiment proposal was submitted, and the experiment is scheduled to start mid-August. For the experiment two sample formats are planned to be used: (a) CsF and (b) CsI. The CsF sample fabrication has undergone tests, and the sample is under preparation. The CsI sample is ready to be attached to the sample holder. The sample holder is currently under machining. An empty frame will be used for background measurements and is currently pending to be attached to the sample holder.
- Corresponding team: Esther Leal Cidoncha

^{133}Cs@DICER

- The glovebox that was identified to handle the metallic Cs samples has been approved for use. New gloves and manipulation tools have been procured and are currently under installation. This effort will enable the sample manipulation of several other hazardous or sensitive samples that require an inert atmosphere or a controlled environment. The experiment has been scheduled for the beginning of August.
- Corresponding team: Thanos Stamatopoulos

^{239}Pu@DICER

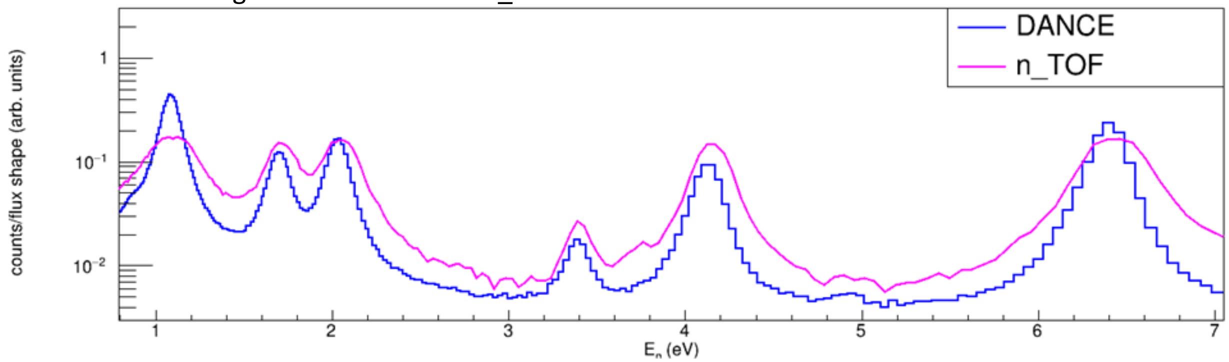
- A ^{239}Pu(n,tot) related talk was accepted to the International Conference on Nuclear Data for Science and Technology, that will be held in Madrid, Spain from June 22nd – 27th (LA-UR-25-25696). The analysis is ongoing and discrepancies from ENDF/B-VIII.0 and ENDF/B-VIII.1 are observed, as shown in the following figure, especially around 1 eV. In this figure the ratio between the DICER results to ENDF/B-VIII.0 is shown along with the ratio between ENDF/B-VIII.1 to ENDF/B-VIII.1.



- Corresponding team: Thanos Stamatopoulos

^{151}Sm@DANCE

- The DANCE 2003 data are being analyzed in the Resolved Resonance Region (RRR). This served initially as a contingency plan, in case the 2025 LANSCE cycle was at risk, and at the same time as an attempt to modernize the DANCE analysis code and analyze legacy data. The preliminary analysis is very promising: resonances are resolved with higher resolution than n_TOF data found in EXFOR.



- The preliminary analysis was presented at the 16th International Nuclear Data Conference for Science and Technology 2025, that was held in Madrid, Spain, between June 22nd – 27th (LA-UR-25-25669). The conference proceedings manuscript is under preparation.
- Corresponding team: Esther Leal Cidoncha

^{149}Sm@DICER/DANCE

- A ^{149}Sm(n,γ) and ^{149}Sm(n,tot) related talk was presented at the 16th International Conference on Nuclear Data for Science and Technology, that was held in Madrid, Spain from June 22nd – 27th (LA-UR-25-26124).
- Corresponding team: Thanos Stamatopoulos, Paul Koehler

PUBLICATIONS	
Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	I Stetcu, A Lovell, T Kawano, M Herman, Evaluation work for 139La, presented at CSEWG meeting, Brookhaven, November 2024, Report No. **LA-24-31639**.
Q1	H Sasaki, M Paris, G. Hale, S Paneru, "12C+n evaluation work extending to 16MeV neutron", presented at CSEWG meeting, Brookhaven, November 2024, Report No. **LA-UR-24-31740**
Q1	Gerry Hale, Toshihiko Kawano, Amy Lovell, Mark Paris, Hiro Sasaki, Ionel Stetcu, Denise Neudecker, Mike Herman, Cole Fritsch, Evaluations for Nuclear Criticality Safety Program 12C, 139La, minor actinides, 235U, NCSP TPR 2024-12-05, Report No. **LA-UR-24-32569**. (Presentation already provided and available on NCSP website)
Q1	Devin Barry et al.: "SG50 Data-format Requirement Document for an Automatically Readable Comprehensive and Curated Experimental Reaction Database MEDUSAL", Report No. **LA-UR-24-29270**. This report serves as final document for WPEC SG-50 work on this subject. Knowledge on what experiment information should be stored acquired through NCSP evaluations went into that report.
Q1	Devin Barry et al.: "SG50 Data-format Specification Document for an Automatically Readable Comprehensive and Curated Experimental Reaction Database MEDUSAL", Report No. **LA-UR-24-29265**. This report serves as requirement document for WPEC SG-50 work on this subject. Knowledge on what experiment information should be stored acquired through NCSP evaluations went into that report.
Q1	D. Neudecker, "The need for new EXFOR formats to apply machine learning techniques to its data", Report No. **LA-UR-24-32044**
Q1	N. Kleedtke, D. Neudecker, A. C. Kahler, N. Gibson, W. Haeck, "Validation Testing at LANL with ENDF/B-VIII.1 Official Release Files," *Cross Section Evaluation Working Group Meeting* (2024), Report No. **LA-UR-24-31792**.
Q1	D. Neudecker, "Evaluations of the 238U PFNS and minor U/Pu isotopes", Report No. **LA-UR-24-32546.**(Presentation already provided and available on NCSP website)
Q1	D. Neudecker, "Machine learning selection of differential and integral experiments to optimally reduce nuclear data uncertainties", Report No. **LA-UR-24-32617.** (Presentation already provided and available on NCSP website)
Q1	Denise Neudecker et al. "Adjusting VIII.0 mean values and covariances with different integral responses", Report No. **LA-UR-24-31844**.
Q1	Kenneth Hanselman et al. "Hauser-Feshbach Analysis of Fast Neutron-Induced Reactions on Chlorine", Report No. **LA-UR-31220.**
Q1	Athanasios Stamatopoulos et al. "DICER: A new instrument at LANSCE to constrain neutron capture rates on radionuclides", Report No. **LA-UR-24-31503.**
Q1	Esther Leal Cidoncha et al. "Neutron-induced capture-to-fission cross section ratio measured at LANSCE", Report No. **LA-UR-24-31517**.
Q1	Esther Leal Cidoncha et al. "$^{133}Cs(n,\gamma)$ DANCE measurement", Report No. **LA-UR-24-31548**. (Presentation already provided and available on NCSP website)
Q1	D. Neudecker, E. C. Thompson, K. M. Amundson, B. W. Bell, P. J. Brain, T. E. Cutler, M. J. Devlin, K. Fujio, N. A. Gibson, M. J. Grosskopf, M. W. Herman, J. D. Hutchinson, T. Kawano, A. Khatiwada, N. A. Kleedtke, E. L. Cidoncha, R. C. Little, A. E. Lovell, A. R. McHugh, A. Stamatopoulos, S. A.

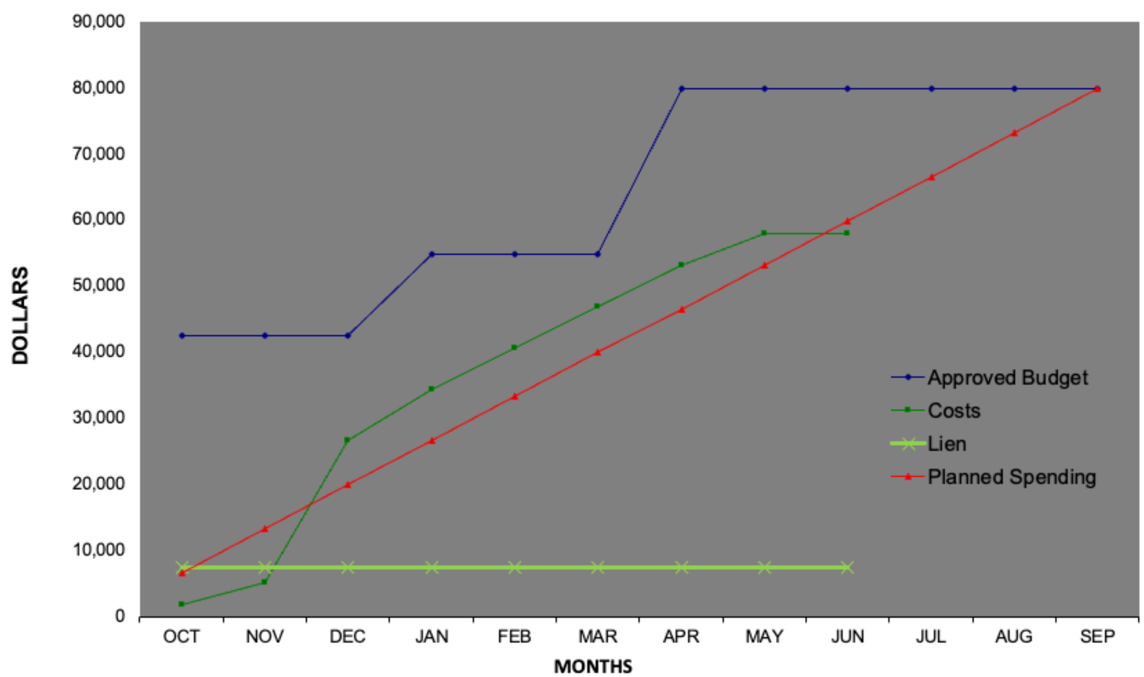
	Vander Wiel, N. A. W. Walton, "How to adjust with differential and integral data using ML," NEA WPEC SG-52, Paris, France, Nov. 25, 2024, Report No. **LA-UR-24-32392.**
Q1	E. C. Thompson, M. J. Grosskopf, S. A. Vander Wiel, D. Neudecker, T. E. Cutler, M. J. Devlin, "Statistical Methods for Selecting a Pair of Differential and Integral Experiments that Reduce Uncertainties in Intermediate-Energy Nuclear Data," Fission Experiments and Theoretical Advances (FIESTA 2024), Los Alamos, NM, Nov. 20, 2024, Report No. **LA-UR-24-32403**.
Q2	Athanasios Stamatopoulos, Paul Koehler, Aaron Couture, Brad Di Giovine, Veronika Mocko, Gencho Rusev, Christiaan Vermeulen, and John Ullmann, "DICER: A new instrument at LANSCE to constrain neutron capture rates on Radionuclides", *EPJ Web of Conferences 322, 08005* (2025). DOI https://doi.org/10.1051/epjconf/202532208005 , Los Alamos Report No. **LA-UR-24-31503.**
Q2	Esther Leal-Cidoncha, Ingrid Knapova, Aaron Couture, Evelyn M. Bond, Todd A. Bredeweg, Cathleen Fry, Marian Jandel, Toshihiko Kawano, Luiz Leal, Amy E. Lovell, Shea Mosby, Marco T. Pigni, Gencho Rusev, Ionel Stetcu, and John Ullmann, "Neutron-induced capture-to-fission cross section ratio measured at LANSCE", *EPJ Web of Conferences 322, 08004* (2025). DOI https://doi.org/10.1051/epjconf/202532208004 , Los Alamos Report No. **LA-UR-24-31517.**
Q2	Kenneth Hanselman, Sean Kuvin, Hye Young Lee, Toshihiko Kawano, Scott Essenmacher, Panagiotis Gastis, Heshani Jayatissa, Tommy Cisneros, Matthew Wargon, and Lukas Zavorka, "Hauser-Feshbach Analysis of Fast Neutron-Induced Reactions on Chlorine", *EPJ Web of Conferences 322, 02005* (2025). DOI https://doi.org/10.1051/epjconf/202532202005 , Los Alamos Report No. **LA-UR-24-31220.**
Q2	[DRAFT] D. Neudecker, P. Brain, R.J.~Casperson, N. Gibson, M.J. Grosskopf, J. Hutchinson, T.~Kawano, K.J. Kelly, M. Paris, C.~Percher, "The Need for a New LLNL Pulsed Sphere Neutron Leakage Spectra Series", Los Alamos Report No. **LA-UR-25-23118.**
Q2	[DRAFT] D. Neudecker, T.E. Cutler, M. Devlin, P. Brain, N. Gibson, M.J. Grosskopf, M.W. Herman, J. Hutchinson, T. Kawano, A. Khatiwada, N. Kleedtke, E. Leal-Cidoncha, R.C. Little, A.E. Lovell, A. Stamatopoulos, E.C. Thompson, S.A. Vander Wiel, E. Williamson, "Machine Learning to Select Experiments Driven by Fundamental Science and Applications for Targeted Nuclear Data Improvement", Los Alamos Report No. **LA-UR-24-30584.**
Q3	D. Neudecker, T.E. Cutler, M. Devlin, P. Brain, N. Gibson, M.J. Grosskopf, M.W. Herman, J. Hutchinson, T. Kawano, A. Khatiwada, N. Kleedtke, E. Leal-Cidoncha, R.C. Little, A.E. Lovell, A. Stamatopoulos, E.C. Thompson, S.A. Vander Wiel, E. Williamson. **LA-UR: LA-UR-24-30584**. The paper is online, open access available at: https://doi.org/10.1103/PhysRevX.15.021086.
Q3	D. Neudecker, B. Brain, T. Cutler, M. Devlin, K. Fujio, N. Gibson, M. Grosskopf, M. Herman, J. Hutchinson, T. Kawano, A. Khatiwada, N. Kleedtke, E. Leal Cidoncha, R. Little, A. Lovell, A. McHugh, T. Stamatopoulos, E. Thompson, N. Walton S. Wander Wiel, E. Williamson "Selecting Differential and Integral Experiments via Machine Learning to Reduce 239Pu Nuclear Data Uncertainties from 1-600 keV", **LA-UR-25-25571** on PARADIGM including the experiment where NCSP funded the NCERC facility cost. Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	D. Neudecker, N. Thompson, B. Bell, Brain, T. Cutler, M. Devlin, K. Fujio, N. Gibson, M. Grosskopf, M. Herman, J. Hutchinson, T. Kawano, A. Khatiwada, N. Kleedtke, E. Leal Cidoncha, R. Little, A. Lovell, T. Stamatopoulos, S Wander Wiel,. "Using machine learning to jointly harness the strength of microscopic, fundamental-science-driven and macroscopic, application-driven experiments", Invited presentation on the Physical Review X paper at Workshop Algorithms For Multiphysics Models In The Post-Moore's Law Era, 2025-06-02/2025-06-13 (Los Alamos, New Mexico, UNITED STATES) **LA-UR-25-25384**.
Q3	A.E. Lovell, D. Neudecker, P. Talou, T. Kawano, I. Stetcu, M. Herman, G. Rusev, A. Lee, H. Selby. "Selected LANL FPY and nubar evaluations", **LA-UR-25-24295.**

Q3	K. Fujio, T. Kawano, A.E. Lovell, D. Neudecker, "Random-matrix approach for generating cross sections in unresolved resonance region", **LA-UR-25-25705**. Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	I. Stetcu, A. E. Lovell, P. Talou, T. Kawano, D. Neudecker, "Fission Observables with CGMF and Applications to Nuclear Data Evaluations", **LA-UR-25703**. Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	A. Stamatopoulos, "^{239}Pu + n measurement at DICER using an isotopically pure sample", **LA-UR-25-25696**, Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	M. Devlin, "Recent Fission Neutron Spectra Measurements with Chi-Nu at LANSCE", **LA-UR-25-25815**, Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	A. Stamatopoulos, P. Koehler, S. Chasapoglou, A. Couture, T. Bredeweg, B. DiGiovine, S. Essenmacher, R. Reifarth, J. Svoboda, J. Ullmann, M. Krticka, J. O'Donnell, "The n + ^{149}Sm study with DANCE and DICER and LANSCE and abrupt changes in width distributions, **LA-UR-25-26124**, Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	E. Leal Cidoncha, "151Sm neutron-induced capture cross section measurement with DANCE". **LA-UR-25-25669**. Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).
Q3	Hanselman, "Validations and Extensions of the LANL-TP Chlorine Evaluation", **LA-UR-25-25931**. Presented at International Conference on Nuclear Data for Science and Technology, 2025-06-22/2025-06-27 (Madrid Spain).

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND13 **M&O Contractor Name**: LLNL **Point of Contact Name:** Catherine Percher **Point of Contact Phone:** (925) 579-4226	**Reference:** DP0909010 **Date of Report:** August 15, 2025

BUDGET



1. Carryover into FY 2025 = $30,000
2. Approved FY 2025 Budget = $50,000
3. Total FY2025 Budget w/Carryover = $80,000
4. Actual spending for 1st Quarter FY 2025 = $26,695
5. Actual spending for 2nd Quarter FY 2025 = $20,322
6. Actual spending for 3rd Quarter FY 2025 = $10,943
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $3,000

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status on activities in the NCSP Quarterly Progress Reports. (ND13)		

ACCOMPLISHMENTS

- ND13 – PPAC Target Fabrication
  - The PFNS measurement has been delayed until early FY26.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

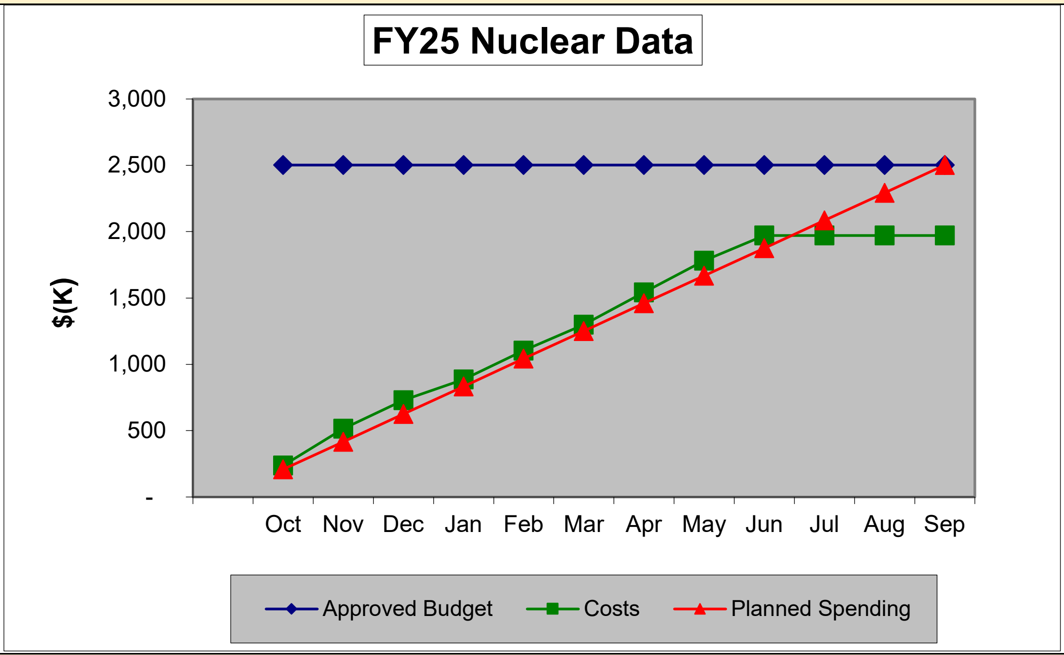
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	C.Y. Wu and R. Henderson, U233 PPAC Design and Fabrication, NCSP Technical Program Review, Dec 3 – 5, 2024, Santa Fe, NM
Q2	none
Q3	none
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND1, 2, 3, 6, 9, 12 **M&O Contractor Name**: ORNL **Point of Contact Name:** Alex Lang **Point of Contact Phone:** (865) 341-1915	**Reference:** DP0909010 **Date of Report:** August, 2025

BUDGET



1. Carryover into FY 2025 = $207
2. Approved FY 2025 Budget = $ 2,502
3. Total FY 2025 Budget w/Carryover = $2,709
4. Actual spending for 1st Quarter FY 2025 = $730
5. Actual spending for 2nd Quarter FY 2025 = $569
6. Actual spending for 3rd Quarter FY 2025 = $672
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports. (ND1)		
All 4 Quarters	Provide status reports on ORNL participation in US and International Nuclear Data collaborations, and for foreign travel, provide a brief trip summary report to NCSP Manager on items of NCSP interest. (ND1)		

All 4 Quarters	Complete cross-section measurement deliverables per the nuclear data schedule in Appendix B. (ND1)		GELINA is operating since April 2025
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports. (ND2)		
All 4 Quarters	Provide status reports on ORNL participation in US and International Nuclear Data collaborations, and for foreign travel, provide a brief trip summary report to NCSP Manager on items of NCSP interest. (ND2)		
All 4 Quarters	Complete cross-section evaluation deliverables per the nuclear data schedule in Appendix B. (ND2)		
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports (ND6)		
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports (ND9)		
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports (ND12)		

ACCOMPLISHMENTS

- Status report on all nuclear data support activities.
  - Biweekly internal TSL measurement and evaluation meeting
  - Biweekly internal ND evaluation and measurements meetings
  - Organizing the CSEWG Hackathon to be held at ORNL
  - 8 members of ORNL ND group had 12 presentations and posters at the ND2025 in Madrid, Spain in June.
  - Luiz Leal chaired a session at the ND2025 in Madrid, Spain
  - ND group members gave presentations at the R-Matrix workshop in June at ORNL
  - SAMMY was used at the R-Matrix workshop as program of choice for the data analysis and teaching.

- ND1 - Nuclear Data Measurements
  - Neutron transmission experiments for ^{92,94}Zr were performed at GELINA.
  - Neutron capture experiments for ^{92}Zr were performed at GELINA, including open beam, scattering sample and reference sample
  - Discussion with nTOF point of contacts to set up measurements (transmission and capture) for n+37Cl.
  - Discussion with nTOF spokes persons at ND2025 about possible NCSP experiment at the nTOF facility.

- Modern replacement for GELINA data reduction software development continued with new software to rebin TOF data to match counts information at different flight path lengths

- ND2 – Nuclear Data Evaluations and Testing
  - Evaluation on n+234U submitted to the ENDF GitHub repository. Additional work is needed to include unpublished LANL and nTOF (n,g) data
  - Evaluation on n+16O started and is in progress.
  - Presentation submitted to NCSD2025: "Status of the n + 234U evaluation in the Resolved Resonance Region".
  - Continue working on the zirconium evaluation. Converted old Zr-92 capture and transmission GELINA data from REFIT into SAMMY format.
  - Work on data evaluation for Mo isotopes other than Mo-95.
  - Resonance evaluation of the F-19 continues. Improving set of resonance parameters in the resonance region up to 1 MeV with covariance.
  - Continue working on Hf data provided by Devin Barry from RPI.
  - 14N: R-matrix analysis that includes first excited states of 14N and 11B continued. Some exploration of the R-matrix boundary parameter was conducted, especially to test whether the B=S boundary condition is a "good enough" approximation for this nuclide. This was presented at the R-matrix Workshop in June. The status of the 14N evaluation was presented at the ND2025 conference at the end of June.
  - 139La: Consensus with Ionel Stetcu (LANL) that the file is ready to submit to BNL for consideration for the next version of the ENDF library. Performed additional testing, such as calculating Maxwellian average cross sections at several temperatures, so that that integral value is available for comparison with other evaluations. The status of this evaluation was presented in a poster at the ND2025 conference at the end of June.
  - 63,65Cu: Work was largely paused, but there has been more feedback (such as at the ND2025 conference) that the covariances might need to be revised in the 100 keV region. This is under consideration for end-of-year planning.

- ND3 - Isotopic Sample Leases to Support ND1 ND Measurements
  - No activities

- ND6 – SAMMY Nuclear Data Evaluation Code Modernization
  - Building cleaner program flow for SAMMY, we started to improve the model used for external fitting routines like Minuit or Dakota (https://dakota.sandia.gov). Dakota can do parameter adjustments by calling a program like the interface to SAMMY repeatedly with different parameters. The interface return is expected to be a cost function, in our case chi-square. We started to expand the interface to be able to run several SAMMY runs, for example capture and transmission from different experiments. Initial results look promising. While this is not yet available in the master branch of SAMMY as we are actively developing it, it is available in an experimental branch on the outside facing SAMMY git-lab page for use by collaborators.
  - As reported in the last quarterly report, we started to refactor of the program flow to calculate the resolved resonance cross section from spin group related cross section in preparation to allow to add fitting of ratio data in SAMMY. Some inconsistencies were found in the calculations of the derivatives for self-indication experiments and for the L-dependent detector efficiencies. These inconsistencies were investigated, and

we discovered that the calculation of the derivatives in these cases was indeed wrong and has now been corrected. The branch awaits final review.
    - For a different project, we added the capability to read several ENDF files to make a multi-isotope SAMMY parameters file. However, that project did not need the covariance information. Therefore, we used NCSP funds to also add the covariance information from the ENDF file to the SAMMY covariance file. The covariance from the ENDF will be a block covariance with no correlation between isotopes. The branch is currently undergoing final review. This reduces user-error and is another step towards more automated ENDF evaluations.
    - Work with a student (Alec Golas) from RPI on improvements in the URR region is continuing.

- ND9 – Evaluation of Thermal and Resolved Resonance Ranges of UO_2 and PUO_2
    - Both SNS proposals for experimental measurements (Er-166/167 at SEQUOIA & Pu-242 enriched PuO_2 at VISION) were accepted for measurements. Planning is underway to ensure optimal sample configurations & experimental conditions before the measurements begin.
    - Progress of this work was presented at the ND2025 conference. Feedback from the international community, including other forms of follow-on experimental verification, was discussed and are being considered for future measurement campaigns.
    - Addressed non-isotropic angular scattering in the center-of-mass frame for orbital angular moment numbers greater than zero. This phenomena becomes significant in the keV region, where narrow p- and d-wave resonances become more pronounced and numerous.

- ND12 – SNS TOF experiments
    - The previously designed collimators for thermal and epithermal/fast neutrons can be used at VENUS.
    - Ordered black resonances filters to determine the backgrounds for the VENUS beamline.
    - Study of the resolution function created with MCNP for VENUS beamline using transmission data for Ta, Au, and natural Hf.
    - The resolution function was implemented in SAMMY as user defined resolution function.
    - Examination of background obtained from transmission data taken at VENUS. These were Ta, Au and natural Hf.
    - A SNS proposal for VENUS transmission experiment studies was accepted as alternate.

PUBLICATIONS

Any publications that have

- Completed your institution’s review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

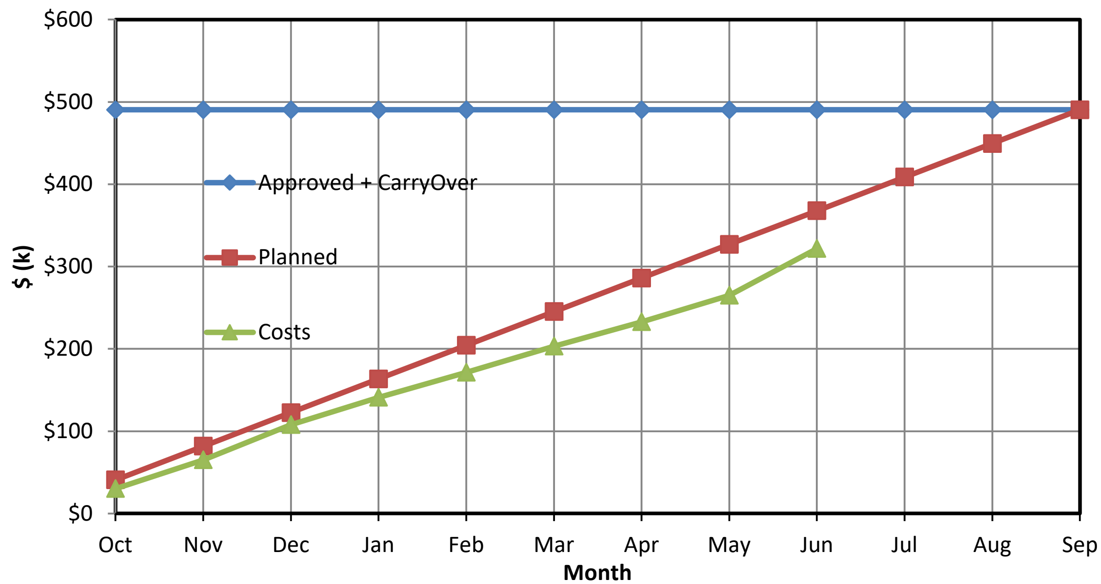
Quarter	Publication Reference

	Example: Author, "Title", LA-UR-18-27731, October 1, 2019
Q3	Pigni, M., Bostelman, R., Hartanto, D., Greene, T., Wiarda, D., McDonnel, J., "R-matrix Analysis of N+NaCl Reactions to Criticality Benchmarks and Molten-Salt Reactor Designs," 16th Nuclear Data for Science and Technology Conference, Madrid, Spain, June 2025.
Q3	Chapman, C., Arbanas, G., "Model for Simultaneous Evaluation of Thermal Neutron Scattering & Resolved Resonance Parameters," 16th Nuclear Data for Science and Technology Conference, Madrid, Spain, June 2025.
Q3	McDonnel, J.D., "Nitrogen Evaluation," R-Matrix School, Oak Ridge, TN, June 2025.
Q3	McDonnell, J.D., Brown, J., Chapman, C.W., Wiarda, D., "AMPX Support for GNDS-2.1," 37th Meeting of the Working Party on International Nuclear Data Evaluation Cooperation, Brussels, Belgium, June 2025.
Q3	Pigni, M., Bostelmann, R., Hartanto, D., Greene, T., Wiarda, D., McDonnell, J., *R-matrix Analysis of n+natCl Reactions Up to 1.2 MeV*, ORNL/LTR-2025/3751, UT-Battelle, Oak Ridge National Laboratory, July 2025.
Q3	Brown, J.M., Greene, T.M., McDonnell, Celik, C., "Validation of Modern Nuclear Data Processing in SCALE," ANS NCSD, Austin, Texas, September 2025.
Q3	McDonnell, J.D., Brown, J.M., Guber, K.H., Pigni, M.T., "Nuclear Data Evaluation Contributions: Cu, Lan, N, and Ta," CSEWG, Brookhaven National Laboratory, 2024.
Q3	McDonnell, J.M. Brown, J., Chapman, C.W., Jeon, BK, Kim, K.S., Wiarda, D., "AMPX Developments in 2024," NCSP TPR, Santa Fe, NM, December 2024.
Q3	McDonnell, J.D., Guber, K.H., Pigni, M.T., "Resolved Resonance Region Evaluation of 139La and 14N," CSEWG, Brookhaven National Laboratory, November 2024.
Q3	McDonnell, J.D., Brown, J., Chapman, C.W., Jeon, BK, Kim, K.S., Wiarda, D., "AMPX Status 2024," CSEWG, Brookhaven National Laboratory, Brookhaven, New York, November 2024.

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND1 **M&O Contractor Name**: RPI **Point of Contact Name:** Yaron Danon **Point of Contact Phone:** 518-276-4008	**Reference:** DP0909010 **Date of Report:** July 22, 2025

BUDGET



1. Carryover into FY 2025 = $ 10,409
2. Approved FY 2025 Budget = $ 480,000
3. Total FY 2025 Budget w/Carryover = $490,409
4. Actual spending for 1st Quarter FY 2025 = $107,856
5. Actual spending for 2nd Quarter FY 2025 = $95,353
6. Actual spending for 3rd Quarter FY 2025 = $118,646
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $ 38,000

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status reports on all activities in NCSP Quarterly Progress Reports (ND1)		
All 4 Quarters	Provide status reports on RPI participation in US and International Nuclear Data collaborations, and for foreign travel, provide a brief trip summary report to NCSP Manager on items of NCSP interest. (ND1)		

Q1	Complete analysis of measurement from previous year (ND1)		Ta, F and Fe-54 analysis completed, documentation completed. EXFOR entry in preparation
Q2	LINAC operations recommence – testing of Phase 2 configuration (ND1)		Completed in 2024 ahead of time, LINAC in phase 2 is fully operational.
Q3	Complete nuclear data measurements (transmission/capture or scattering) per the nuclear data schedule in Appendix B (ND1)		Zr low energy capture measurement in Q4 Cl QD scattering awaiting new graduate student, possibly be done in Q4. Or deferred to Q1 of next FY
Q4	Complete measurements data analysis and provide the data to ORNL as needed to support the evaluation effort per the nuclear data schedule in Appendix B. (ND1)		

ACCOMPLISHMENTS

- ND1 – Resonance Region Nuclear Data Measurement Capability at RPI
  - **Fe-54**
    - Draft of Fe-54 measurements paper ready to be submitted for publication.
    - Fe-54 measurements release to EXFOR in progress.
  - **Fast Neutron Scattering**
    - QD fast neutron scattering from Ta journal paper published Annals of Nuclear Energy.
  - **Zr Evaluations RRR**
    - Performed preliminary Zr-91 resolved resonance region evaluation using new ORNL/JRC-GEEL transmission and capture measurements.
    - Presented current progress of Zr-90/91 evaluations at WPEC subgroup-53 on stable Zr isotope evaluations/validation
    - Presented status of Zr-90/91 resolved resonance region evaluations at the ND 2025 conference.
  - **Zr Evaluations RRR**
    - Progressed significantly on URR evaluation for Zr-90 and Zr-91 isotopes Incorporated previously developed self-shielding uncertainty quantification methodology into parameter evaluation
    - Improved uncertainty quantification for these cases; Identified variance preservation issue in P-Table construction present in ENDF processing codes - developing method to properly conserve P-Table variance for evaluation.
  - **URR improvements to SAMMY**
    - Validated Multi-Isotope URR fitting performance for total and capture cross-sections, as well as self-shielded transmission and capture yield.
    - Added the capability to represent and handle prior data covariance matrices.
    - Enabled utilization of data uncertainties in SAMMY URR Bayesian fitting process.

PUBLICATIONS

Any publications that have • Completed your institution's review cycle during the quarter AND • Are publicly releasable Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	1. Brown, J. M., Barry, D. P., Lewis, A., Trumbull, T. H., Pigni, M. T., Greene, T., Block, R. C., Golas, A., & Danon, Y. (2025). Unresolved resonance parameter evaluation and uncertainty quantification of, Annals of Nuclear Energy, 212, 111013. 2. S. Singh, B. Wang, G. Stockard, J. Farrar, and Y. Danon, "Undergraduate work at the RPI LINAC", NR/NCSP Program Review Meeting, Troy, NY, October 2024. 3. S. Singh, Y. Danon, "Measurements and RRR Evaluation of ^{54}Fe", NR/NCSP Program Review Meeting, Troy, NY, October 2024. 4. S. Singh, Y. Danon, "Measurements and RRR Evaluation of ^{54}Fe", NCSP TPR, Santa Fe, NM, December 2024. 5. Siemers, G. and Danon, Y. RPI Quasi-Differential Scattering Calculations, NDAG Meeting, Brookhaven, NY, 2024. Accessible: https://indico.bnl.gov/event/24320/contributions/98875/attachments/58556/100957/siemers-NDAG-2024.pdf 6. Siemers, G et al. ENDF/B-VIII.1 Validation using Recent RPI Quasi- Differential Neutron Scattering Measurements, CSEWG Annual Meeting, Brookhaven, NY, 2024. Accessible: https://indico.bnl.gov/event/24320/contributions/97749/attachments/58793/100959/siemers-csewg-2024.pdf 7. Siemers, G. and Danon, Y. JEFF-4 181Ta Testing on Recent High Energy Neutron Scattering Measurements, JEFF Nuclear Data Week, NEA Headquarters Boulogne-Billancourt, France, 2024 8. Siemers G. and Danon, Y. RPI High Energy Neutron Scattering Measurements and Zirconium Evaluations, Nuclear Criticality Safety Program Technical Program Review, Santa Fe, NM, 2024. Accessible: https://ncsp.llnl.gov/sites/ncsp/files/2024-12/67_nd_-_rpi_-_rpi_neutron_scattering_measurements_and_zirconium_evaluations.pdf
Q2	
Q3	1. Siemers, G. et. Al, Towards New ^{90,91}Zr Resolved Resonance Region Evaluations. Working Party on International Nuclear Data Evaluation Co-operation. Brussels, Belgium (2025). June 2025. 2. Siemers, G. et. al, New Quasi-Differential Neutron Scattering Measurements of Tantalum and Fluorine from 0.65 MeV to 20 MeV. 16th Nuclear Data for Science and Technology Conference, Madrid, Spain June 2025. 3. Siemers, G. et. Al, Towards New Incident Neutron Evaluations Of ^{90,91}Zr for ENDF/B-IX. 16th Nuclear Data for Science and Technology Conference, Madrid, Spain June 2025. 4. Siemers, Gregory J., et al. "A quasi-differential measurement of neutron scattering from tantalum between 0.65 MeV and 20 MeV." Annals of Nuclear Energy 224 (2025): 111676. 5. Golas, Alec, et al. "Unresolved Resonance Region Evaluations of Zr-90 and Zr-91." WPEC SG-53 , 2-6 June 2025, Brussels, Belgium.

	6. Golas, Alec, et al. "Determination of Resonance Parameters from Self-Shielded Measurements." WPEC SG-51, 2-6 June 2025 Brussels, Belgium.
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: ND3 **M&O Contractor Name**: RPI **Point of Contact Name:** Yaron Danon **Point of Contact Phone:** 518-276-4008	**Reference:** DP0909010 **Date of Report:** July, 2025

BUDGET

NA ($0 budget)	1. Carryover into FY 2025 = $ 0 2. Approved FY 2025 Budget = $ 0 3. Total FY 2025 Budget w/Carryover = $ 0 4. Actual spending for 1st Quarter FY 2025 = $0 5. Actual spending for 2nd Quarter FY 2025 = $ 6. Actual spending for 3rd Quarter FY 2025 = $ 7. Actual spending for 4th Quarter FY 2025 = $ 8. Projected carryover into FY 2026 = $0 **NOTE:** Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status report on all LINAC refurbishment activities in the NCSP Quarterly Progress Reports (ND3)		
All 4 Quarters	RF Window Conditioning and testing, as needed (ND3)		
Q1	LINAC operations secured for Phase 2 – Install one new modulator to power two existing accelerator structures. Complete 12/2024. (ND3)		

Q1	Place final contract amendment for batch 3 of accelerator sections (production units #5 – #8). (ND3)		
Q1	Final delivery of RF vacuum boundary windows to RPI. (ND3)		Issue with delivered windows, plasma created during tests. This is was addressed by the vendor pending testing.
Q2	Batch 2 of accelerator sections (production units #2 – #4) delivered to RPI. (ND3)		
Q2	Complete testing of new LINAC configuration following Phase 2 completion. (ND3)		
Q2	Design and procurement of currently funded auxiliary system components. (ND3)		
Q3	All new RF elbows delivered to RPI. (ND3)		
Q3	SAT of accelerator section #2 (ND3)		RF test partially completed. SAT deferred, to not delay phase III
Q4	Final delivery of beam insertion diagnostics. (ND3)		
Q4	SAT of accelerator section #3 (ND3)		

ACCOMPLISHMENTS

- ND3 – RPI/ORNL: LINAC 2020 Nuclear Data Capabilities Maintenance Plan
    - LINAC is operation using one new klystron + modulator driving two existing sections
    - One section is not operational and cannot be fixed until phase 3
    - Issue with delivered RF windows that causes plasma formation during testing, this is under corrective action with the vendor.
    - RF windows issue will cause a delay in testing accelerator sections but is not critical for phase 3.
    - Q3 4 speed of light acceleration section received. One unit has a manufacturing issue which is being resolved with the vendor.

PUBLICATIONS

Any publications that have

- Completed your institution’s review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

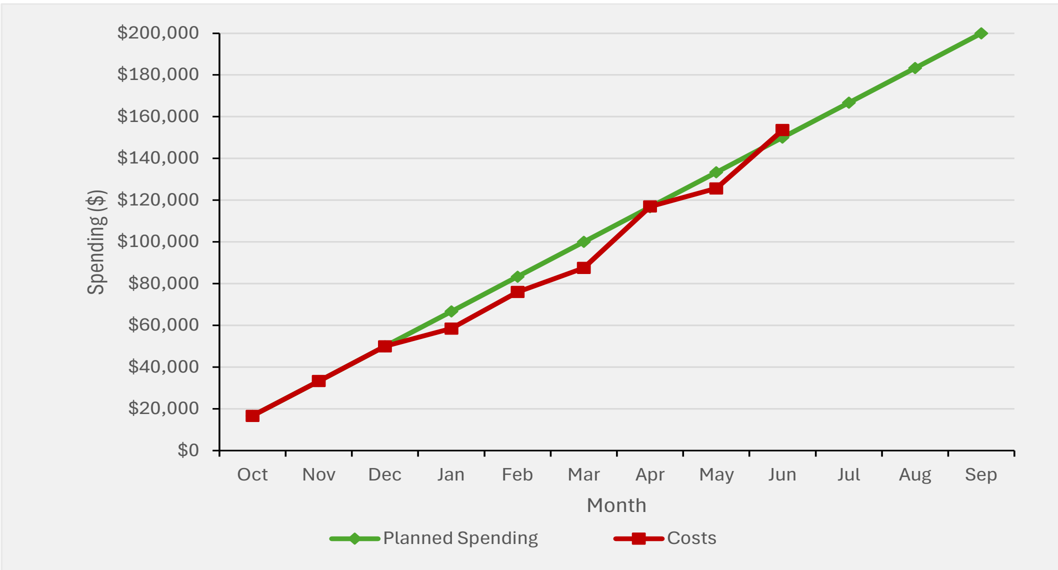
Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	

Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q1)

NCSP Element and Subtask: ND1 **M&O Contractor Name**: TAMU **Point of Contact Name:** Ayman Hawari **Point of Contact Phone:** (919)244-1341	**Reference:** DP0909010 **Date of Report:** August 17, 2025

BUDGET



1. Carryover into FY 2025 = $0
2. Approved FY 2025 Budget = $200,000
3. Total FY 2025 Budget w/Carryover = $ 200,000
4. Actual spending for 1st Quarter FY 2025 = $ 50,000
5. Actual spending for 2nd Quarter FY 2025 = $ 37,500
6. Actual spending for 3rd Quarter FY 2025 = $ 66,103
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
Q1	Provide status on NCSU nuclear data activities on thermal neutron scattering law evaluations and methods development (ND1)		Task complete.
Q1	Provide presentation on NCSU nuclear data activities at Annual CSEWG meeting		Task complete.
Q1	Provide presentation on NCSU nuclear data activities at NCSP TPR		Task complete.

Q2	Provide status on NCSU nuclear data activities on thermal neutron scattering law evaluations and methods development (ND1)		Task complete.
Q3	Provide status on NCSU nuclear data activities on thermal neutron scattering law evaluations and methods development (ND1)		Task complete (see accomplishments below)
Q4	Deliver thermal neutron scattering data evaluations as indicated in Appendix B of the 5-Year Plan. (ND1)		
Q4	Provide status on NCSU nuclear data activities on thermal neutron scattering law evaluations and methods development (ND1)		

ACCOMPLISHMENTS

- ND1 - Thermal Scattering Law Evaluations and Methods Development
  - TAMU evaluation of the U_3Si_2 File 7 library is completed and is undergoing QA checks. Preliminary U_3O_8 File 7 library is produced.
  - TAMU evolved the UMo DFT models and initial verification started. QA of DFT models is underway while examining experimental data.
  - TAMU continued integrating NeTS methods in MC simulations (Serpent code). Steady state and transient (TREAT) and cases were analyzed with success.
  - TAMU attended and contributed to the ReGra workshop at BNL. Explained details of the nuclear graphite libraries in ENDF/B-VIII.0 and ENDF/B-VIII.1.
  - TAMU attended and presented several papers at the ND 2025 meeting in Madrid, Spain.

PUBLICATIONS

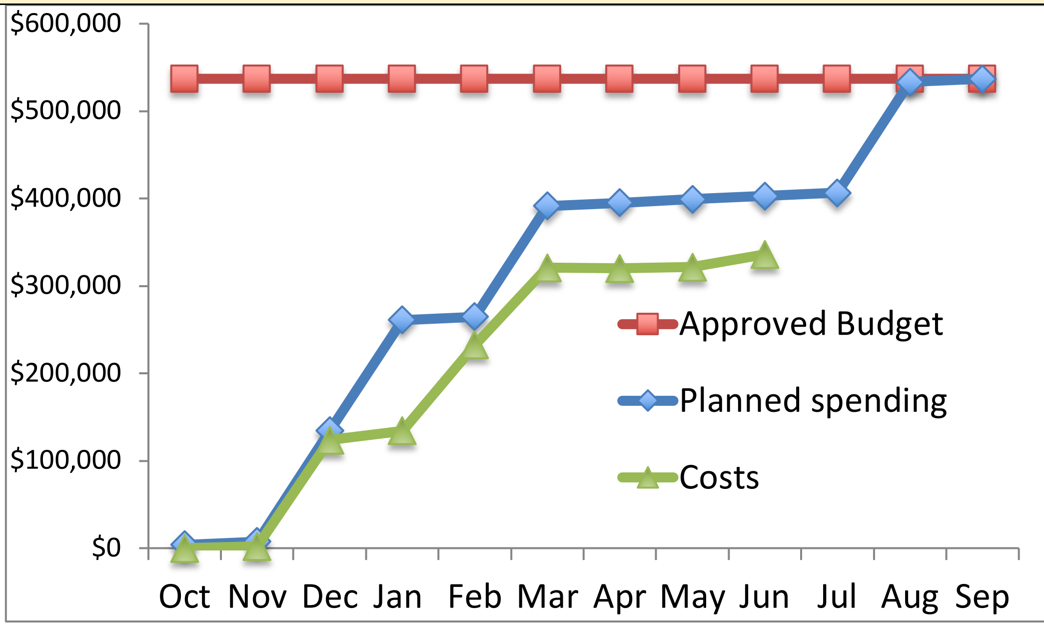
Any publications created during the quarter should be submitted to Marsha Henley, henleym@ornl.gov.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019	Sent to NCSP? Yes/no	If no, status of submittal
Q1	A summary paper was published at the ANS annual meeting (November)entitled " Evaluation of Thermal Neutron Scattering Cross Section of α-U_3O_8 with Ab Initio Lattice Dynamics". Publications are under preparation for several conferences and journals.	Yes	
Q2	1) T Ahmed, NC Fleming, AI Hawari, "Evaluation of thermal scattering law and cross sections for liquid hydrogen fluoride," Annals of Nuclear Energy 218, 111403. 2) J Gil, AI Hawari, " Evaluation of the thermal scattering law and cross sections for α-U3O8 using ab initio lattice dynamics," Annals of Nuclear Energy 216, 111295.	Yes	
Q3	1) J. Crozier, AI Hawari, " Direct NeTS sampling of nuclear graphite in Serpent," Annals of Nuclear Energy 222, 111549. 2) Several papers were presented at the ND 2025 meeting, Madrid, Spain, 2025.	Yes	ANE paper is attached. Developing ND papers.
Q4			

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TE3,6 **M&O Contractor Name**: LANL **Point of Contact Name:** Joetta Goda **Point of Contact Phone:** 505-667-2812	**Reference:** DP0909010 **Date of Report:** July 15, 2025

BUDGET



1. Carryover into FY 2025 = $ 0
2. Approved FY 2025 Budget = $537k
3. Total FY 2025 Budget w/Carryover = $537k
4. Actual spending for 1st Quarter FY 2025 = $123,540.52 + $22,296.34 commitments
5. Actual spending for 2nd Quarter FY 2025 = $197,257.05 + $22,296.34 commitments
6. Actual spending for 3rd Quarter FY 2025 = $15,347.35 + $22,296.34 commitments
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide status reports on all activities in the NCSP Quarterly Progress Reports. (TE3)		
All 4 Quarters	Provide status and update on LANL TE6 work in the NCSP Quarterly Progress Reports. (TE6)		

ACCOMPLISHMENTS

- TE3 – Conduct Hands-On Criticality Safety Training Course at NCERC
  - NCSP CSE Class the week of January 27, 2025.
  - NCSP CSO Class the week of March 17, 2025.
  - Preparing for NCSP CSE Class the week of August 11, 2025.
    - Flattop HEU core loaded week of July 7, 2025 and operated to ensure readiness for the next class.
    - Planet Class Foils handstacked and loaded week of July 21, 2025 to ensure readiness.
- TE6 – Development of University Pipeline for Criticality Safety Professionals
  - Continuation of contract with UNM

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

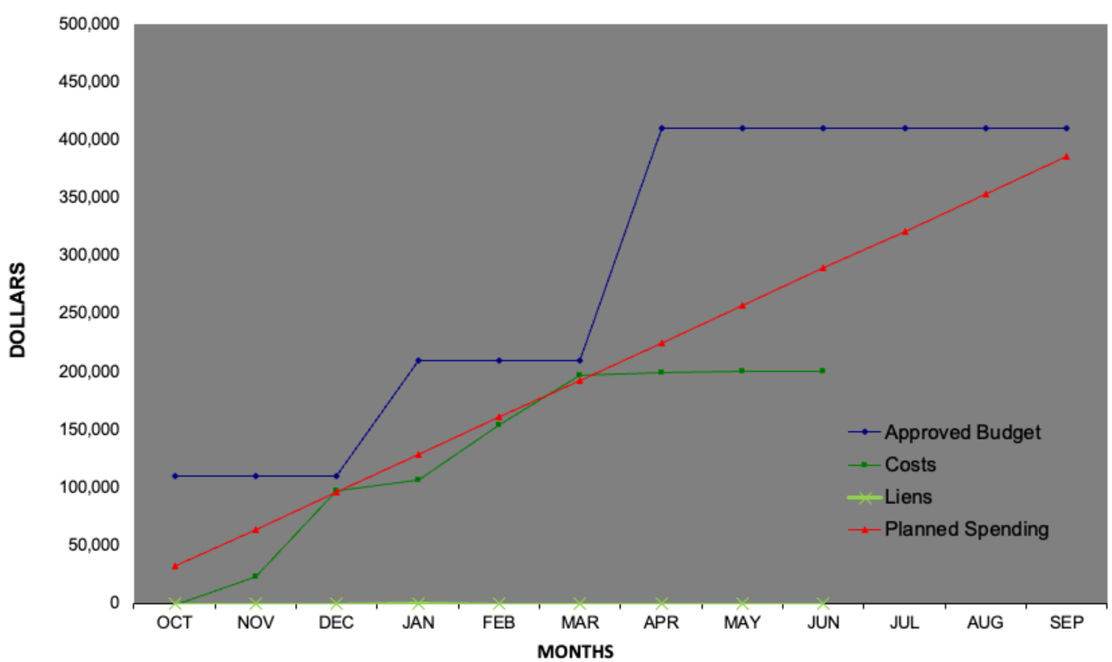
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TE1, 3, 8 **M&O Contractor Name**: LLNL **Point of Contact Name:** Catherine Percher **Point of Contact Phone:** (925) 579-4226	**Reference:** DP0909010 **Date of Report:** August 15, 2025

BUDGET



1. Carryover into FY 2025 = $10,000
2. Approved FY 2025 Budget = $400,000
3. Total FY2025 Budget w/Carryover = $410,000
4. Actual spending for 1st Quarter FY 2025 = $97,794
5. Actual spending for 2nd Quarter FY 2025 = $99,556
6. Actual spending for 3rd Quarter FY 2025 = $3,705
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $24,000

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report on LLNL TE1 activities in the NCSP Quarterly Progress Reports. (TE1)		

All 4 Quarters	Provide a status report on activities in the NCSP Quarterly Progress Reports. (TE3)		
All 4 Quarters	Provide status reports on all training activities to the NCSP Manager, to include photos and content for the quarterly newsletter (TE8)		

ACCOMPLISHMENTS

- TE1 – Conduct Hands-on Training at the DAF (TACS)
    - Attended telecons to support the August 2025 Two Week Practitioner's course
- TE3 – Classroom Criticality Safety Training
    - Participated in TE Mission and Vision telecons and provided feedback on TE section
- TE8 - Development of University Pipeline for Criticality Safety Professionals
    - None this period- UC Berkeley course was taught in the fall

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

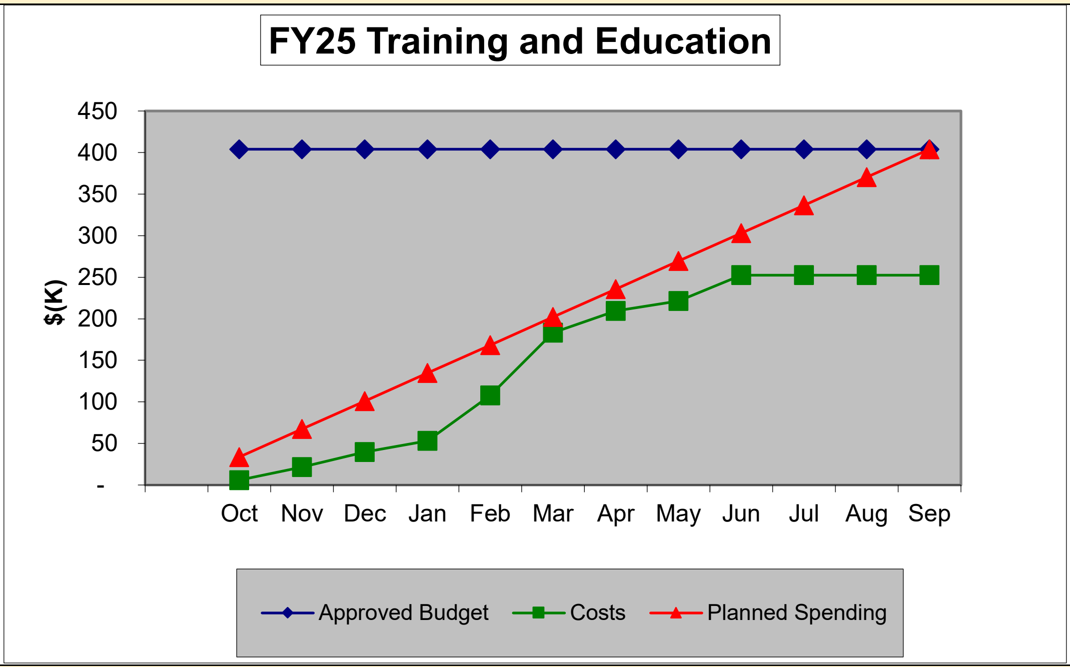
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	none
Q2	none
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

CSP Element and Subtask: TE1, 14, 15 **M&O Contractor Name**: ORNL **Point of Contact Name:** Alex Lang **Point of Contact Phone:** (865) 341-1915	**Reference:** DP0909010 **Date of Report:** August 2025

BUDGET



1. Carryover into FY 2025 = $ 34
2. Approved FY 2025 Budget = $ 370
3. Total FY 2025 Budget w/Carryover = $ 404
4. Actual spending for 1st Quarter FY 2025 = $ 40
5. Actual spending for 2nd Quarter FY 2025 = $ 143
6. Actual spending for 3rd Quarter FY 2025 = $ 69
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

Automated accruals for G.Tech contract were adjusted in February returning $58k of accrued funding to committed funding. The provided spending in Q2 includes all ORNL T&E activities and deducts the returned amount from the accrual adjustment.

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report on implementation of the NCS training program in the NCSP Quarterly Progress Reports. (TE1)		
All 4 Quarters	Provide a status report on activities in the NCSP Quarterly Progress Reports. (TE14)		

All 4 Quarters	Provide a status report on activities in the NCSP Quarterly Progress Reports. (TE15)		

ACCOMPLISHMENTS

- TE1 - Manage and Provide Instruction for the DOE Nuclear Criticality Safety Training & Education Program
  - Bowen executed with the NCSP TE team the April 2025 1-week manager course at Sandia. The course was a success and 11 students attended the course.
  - Management of the rosters for the rest of the FY25 courses took a lot of time in Q3 due to the large number of cancellations. Courses, as a result, are smaller in FY25 than in FY24. This was very time consuming and required lots of communication and coordination with the site registration POCs.
  - Started telecons to prepare for the August 2-week course.
  - Archived all course materials from the NCERC manager course in March and the Sandia manager course in April.
  - No NDA courses conducted in Q3. Planning as started for FY26.
- TE14 - Nuclear Criticality Safety Training and Pipeline Development
  - ORNL webpage and registration page completed and functional
  - Started to accept registrations for the course
  - Presented a paper and presentation on the course during the ANS Annual Conference
  - Presented a poster on the course during the ANS Student Conference
  - Distributed course flyer during the ANS student and ANS Annual Conferences
  - The flyer has also been posted in the NCSP website
  - All the presentations, videos, and quizzes have been loaded in the ORNL learning management system
  - Prepared the Level I certificate
  - Work is continuing on the Level II hands-on experience
  - The official enrollment of the students in the course is scheduled for the last week in June 2025

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter

  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

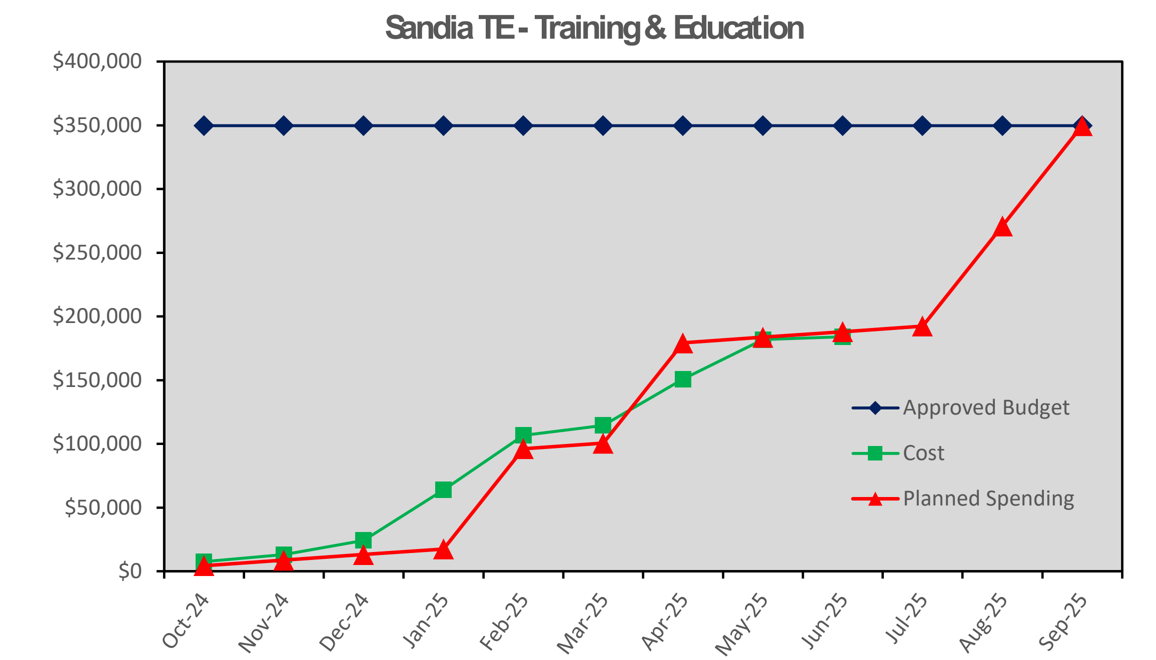
Quarter	Publication Reference
	Example: Author, "Title", LA-UR-18-27731, October 1, 2019

Q3	Goddard, M., Schmidt, A., Biegalski, S., Crocomber, G., Abuqudiara, T., Tsvetkov, P., Metwally, W., Bowen, D., Lang, A. "Development of a New Criticality Safety Training Program for College Students," ANS Student Conference 2025, Albuquerque, New Mexico, April 2025.

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TE1 **M&O Contractor Name**: Sandia National Laboratories (SNL) **Point of Contact Name:** David Ames **Point of Contact Phone:** (505)274-2164	**Reference:** DP0909010 **Date of Report:** August 11, 2025

BUDGET



1. Carryover into FY 2025 = $29,778
2. Approved FY 2025 Budget = $320,000
3. Total FY 2025 Budget w/Carryover = $349,778
4. Actual spending for 1st Quarter FY 2025 = $24,174
5. Actual spending for 2nd Quarter FY 2025 = $90,174
6. Actual spending for 3rd Quarter FY 2025 = $69,784
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone
Blue	Green	Yellow	Red

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Conduct hands-on training classes at Sandia and provide Human Factors and Equipment Reliability module support to the NCSP one- and two-week training classes in accordance with the approved schedule. (TE1)	Blue	

ACCOMPLISHMENTS

- TE1 - Prepare for and Conduct Hands-on Criticality Safety Training at SNL
  - Executed the Hands-on criticality safety class for NCS professionals January 27 – 31.
  - Updated Fundamental, Kinetics, and Accident Modules for the Mangers/CSO Hands-on course.
  - Executed the Hands-on criticality safety class for Managers/CSOs April 14 – 18

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

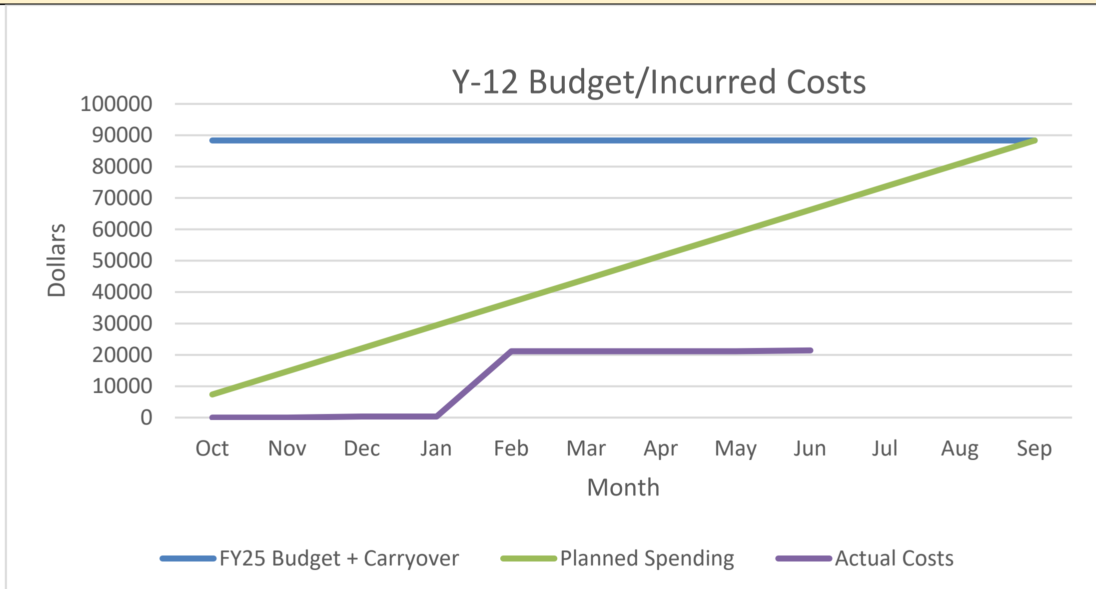
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TE1,5 **M&O Contractor Name**: Y12 **Point of Contact Name:** Kevin Reynolds **Point of Contact Phone:** (865) 241-9067	**Reference:** DP0909010 **Date of Report:** August 7, 2025

BUDGET



1. Carryover into FY 2025 = $8,346.00
2. Approved FY 2025 Budget = $80,000.00
3. Total FY 2025 Budget w/Carryover = $88,346.00
4. Actual spending for 1st Quarter FY 2025 = $337.42
5. Actual spending for 2nd Quarter FY 2025 = $20807.26
6. Actual spending for 3rd Quarter FY 2025 = $269.93
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status report of Y12 activities to support the hands-on training courses. (TE1)		
All 4 Quarters	Provide a status report on activities in the NCSP Quarterly Progress Reports. (TE5)		

ACCOMPLISHMENTS

- TE1 - Conduct Hands-On Criticality Safety Training Course
  -

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

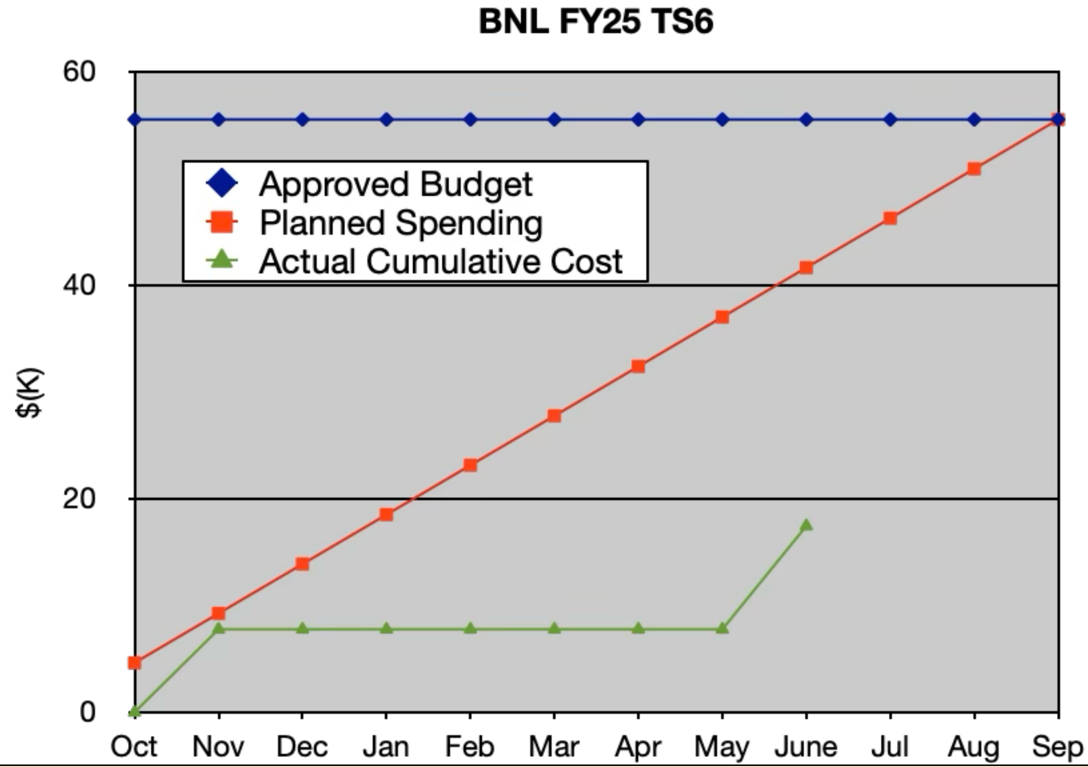
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS6 **M&O Contractor Name**: BNL **Point of Contact Name:** Gustavo Nobre **Point of Contact Phone:** 631-344-5205	**Reference:** DP0909010 **Date of Report:** August 11, 2025

BUDGET



1. Carryover into FY 2025 = $ 5,525
2. Approved FY 2025 Budget = $ 50,000
3. Total FY 2025 Budget w/Carryover = $ 50,525
4. Actual spending for 1st Quarter FY 2025 = $ 7,772
5. Actual spending for 2nd Quarter FY 2025 = $ 0
6. Actual spending for 3rd Quarter FY 2025 = $ 9,674
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $ 11,449

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide NCSP Manager annual report of succession planning efforts. (TS6)		Due at the end of FY25

ACCOMPLISHMENTS

- TS6 – ND Succession Planning
  - Most of the expenses are normally done throughout the Summer (Q3 and Q4) with the mentoring of students.
  - Started collaboration with a summer intern, Matthew Molnar.
    - His project is to employ the machine-learning method for spin re-classification of neutron resonances developed at BNL to the case of 143Nd and compare with previous evaluations.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

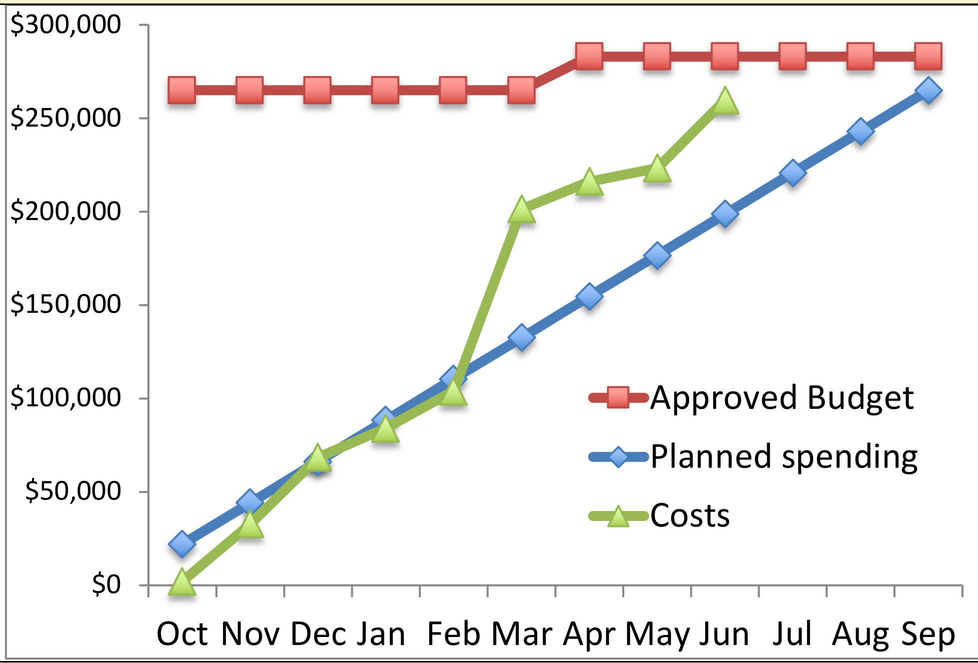
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q2)

NCSP Element and Subtask: TS4, 5, 6 **M&O Contractor Name**: LANL **Point of Contact Name:** Joetta Goda **Point of Contact Phone:** 505-667-2812	**Reference:** DP0909010 **Date of Report:** April 15, 2025

BUDGET



1. Carryover into FY 2025 = $ 0
2. Approved FY 2025 Budget = $265K
3. Total FY2025 Budget w/Carryover = $265K
4. Actual spending for 1st Quarter FY 2025 = $68,528.96 + $0 commitments
5. Actual spending for 2nd Quarter FY 2025 = $132,856.36 + $0 commitments
6. Actual spending for 3rd Quarter FY 2025 = $58,358.37 + $0 commitments
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $0

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide NCSP Manager annual report of succession planning efforts. (TS4)		
All 4 Quarters	Provide a status on LANL TS5 activities in the NCSP Quarterly Progress Reports. (TS5)		
Q1	Work with the NCSP Management Team as requested. (TS6)		

NCSP Quarterly Progress Report (FY-2025 Q2)

ACCOMPLISHMENTS

- TS4 – AM, IE, ND Succession Planning
  - Support of students
  - Includes some tuition reimbursements
- TS5 – LANL CSSG Funding
  - Tasking 2024-02, CSSG Review of Criticality Accident Alarm System Needs Assessment at the Savannah River Plutonium Processing Facility.
- TS6 – LANL – TPR Support Funding
  - *Costs for hotel contract paid at end of March/beginning of April. Total costs ~$36k.*
  - Successful TPR hosted in Santa Fe, NM
  - 140 attendees
  - 63 Technical presentations
  - Tour of LANSCE accelerator facility
  - Dinner at Hervé Wine Bar

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

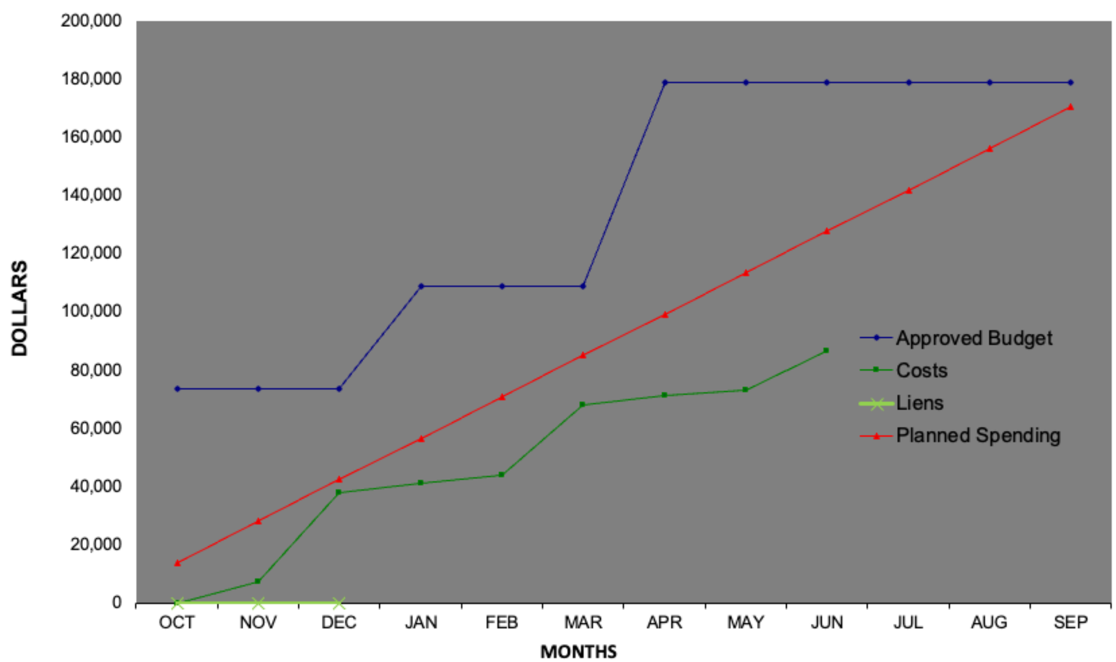
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS5, 6 **M&O Contractor Name**: LLNL **Point of Contact Name:** Catherine Percher **Point of Contact Phone:** (925) 579-4226	**Reference:** DP0909010 **Date of Report:** August 15, 2025

BUDGET



1. Carryover into FY 2025= $38,929
2. Approved FY 2025 Budget = $140,000
3. Total FY2025 budget w/Carryover = $178,929
4. Actual spending for 1st Quarter FY 2025 = $38,312
5. Actual spending for 2nd Quarter FY 2025 =$30,120
6. Actual spending for 3rd Quarter FY 2025 = $18,339
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $8400

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide NCSP Manager annual report of succession planning efforts. (TS5)		
All 4 Quarters	Provide a status and update on LLNL TS6 work in the NCSP Quarterly Progress Reports. (TS6)		

ACCOMPLISHMENTS

- TS5 - AM, IE, ND Succession Planning
  - Transitioned IE manager from C. Percher to J. Norris
  - Summer student I. Snider assisted J. Norris in automating COG benchmark suite analysis on the LLNL supercomputers for future intercomparisons and validation work

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

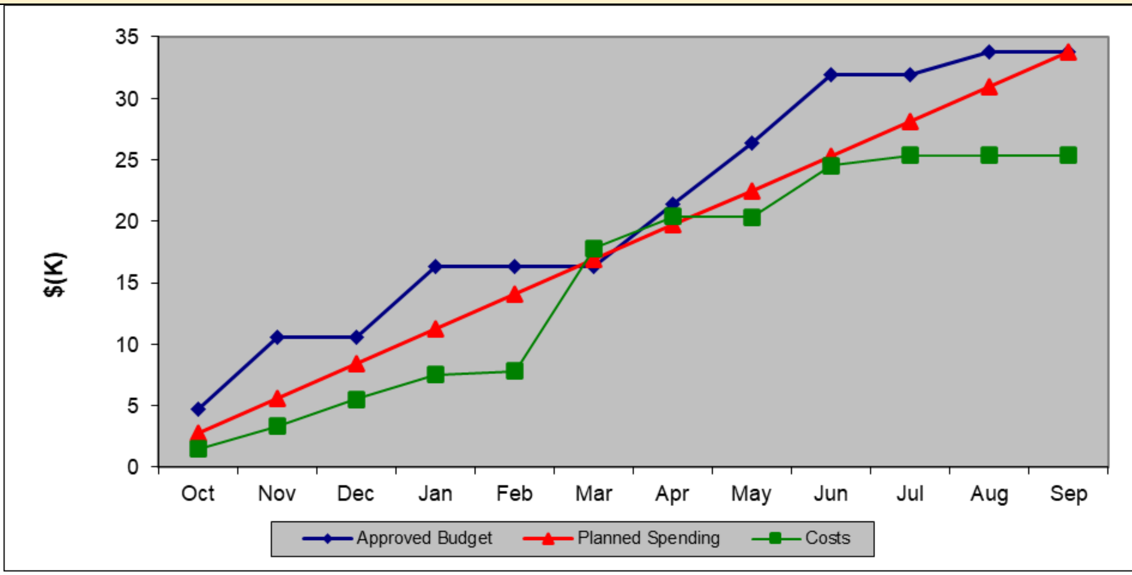
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	none
Q2	none
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS9 **M&O Contractor Name**: NNL **Point of Contact Name:** Mike Zerkle **Point of Contact Phone:** (412) 476-6188	**Reference:** DP0909010 **Date of Report:** August 14, 2025

BUDGET



1. Carryover into FY 2025 = $4.7k
2. Approved FY 2025 Budget = $29.0k
3. Total FY 2025 Budget with Carryover = $29.7k
4. Actual spending for 1st Quarter FY 2025 = $5.5k
5. Actual spending for 2nd Quarter FY 2025 = $12.3k
6. Actual spending for 3rd Quarter FY 2025 = $6.7k
7. Actual spending for 4th Quarter FY 2025 = $0.8k
8. Projected carryover into FY 2026 = $8.4k

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
1	Provide status report on all NDAG chair activities in NCSP Quarterly Progress Reports. (TS9)		None
2	Provide status report on all NDAG chair activities in NCSP Quarterly Progress Reports. (TS9)		None

3	Provide status report on all NDAG chair activities in NCSP Quarterly Progress Reports. (TS9)		None
4	Provide status report on all NDAG chair activities in NCSP Quarterly Progress Reports. (TS9)		

ACCOMPLISHMENTS

- TS9 – Support for NDAG Chair activities
  - Reviewed draft benchmark evaluations for 2025 ICSBEP TRG Meeting
  - Participated in 2025 joint ICSBEP/IRPhEP/SINBAD/SFCOMPO TRG Meeting in Ljubljana, Slovenia
    - Represented NNL Independent Reviewers for FUND-LLNL-DT-H2O-PNDA-001
    - Coordinated NNL Independent Review for ALARM-CF-AL-SHIELD-001
  - Participated in May 2025 IE Face-to-Face Meeting at LANL
  - Prepared draft Appendix B nuclear data measurement and evaluation plan for FY2026-FY2030
  - Coauthored paper and presentation on "Advancing Nuclear Data with Machine-Learned Force Fields" at 2025 ANS Annual Meeting, June 15-18, 2025, Chicago, IL.
  - Participated in ND2025 Conference in Madrid, Spain, June 22-27, 2025
    - Co-authored NNL presentation on "Modeling the Extinction Effect in Beryllium Metal"
    - Co-authored LLNL presentation on "Integral Experiment Validation of Hafnium with TEX-HEU and TEX-Hf"
  - Participated in monthly IE Review Meetings
  - Participated in CSEWG Executive Committee Meetings
  - Participated in NDWG Meetings
  - Supported several IERs as NDAG member
  - Lead FY2025 Q2 ND Quarterly Review Meeting in capacity of NDAG Chair
  - Initiated procurement paperwork to closeout NNL PO with NCSU PO for the joint NR/NCSP TSL R&D program and transfer it to TAMU

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

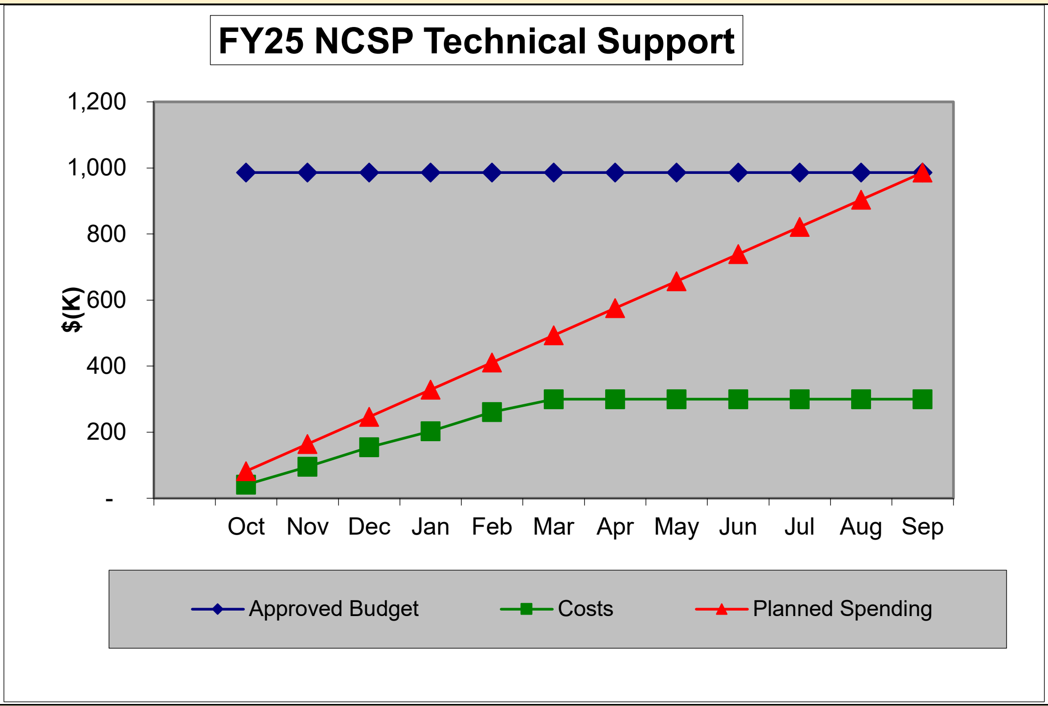
Quarter	**Publication Reference**

	Example: Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	1. J.L. Wormald, A.J. Trainer, M.L. Zerkle, "Machine-learned force fields for thermal neutron scattering law evaluations," *Annals of Nuclear Energy*, **211**, 110978, February 2025. (https://doi.org/10.1016/j.anucene.2024.110978) 2. Amelia Trainer, Benoit Forget, Jesse Holmes, Jonathan Wormald, Michael Zerkle, "Impact of temperature- and phase-dependent zirconium hydride phonons on criticality," *Annals of Nuclear Energy*, **212**, 111034, March 2025. (https://doi.org/10.1016/j.anucene.2024.111034)
Q3	1. J.L. Wormald∗, J.F. March-Rico, R.W. Smith, A.J. Trainer, and M.L Zerkle, "Advancing Nuclear Data with Machine-Learned Force Fields," *Trans. ANS*, **132**, 1048-1051 (2025). 2. Jesse Norris, Eric Aboud, Michael Zerkle, Daniel Kelly, "Integral Experiment Validation of Hafnium with TEX-HEU and TEX-Hf," Presented at 16th Nuclear Data for Science and Technology Conference (ND2025), Madrid, Spain, June 22-27, 2025. 3. Amelia Trainer, Jesse Holmes, Jonathan Wormald, Michael Zerkle, Michael Rapp, Adam Daskalakis, Devin Barry, Brian Epping, "Modeling the Extinction Effect in Beryllium Metal," Presented at 16th Nuclear Data for Science and Technology Conference (ND2025), Madrid, Spain, June 22-27, 2025.
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS2, 7, 12, 13 **M&O Contractor Name**: ORNL **Point of Contact Name:** Alexander Lang **Point of Contact Phone:** (865) 341-1915	**Reference:** DP0909010 **Date of Report:** August 2025

BUDGET



1. Carryover into FY 2025 = $ 146
2. Approved FY 2025 Budget = $ 840
3. Total FY 2025 Budget w/Carryover = $ 986
4. Actual spending for 1st Quarter FY 2025 = $ 154
5. Actual spending for 2nd Quarter FY 2025 = $ 146
6. Actual spending for 3rd Quarter FY 2025 = $ 139
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Maintain up-to-date spreadsheet of proposed tasks for NCSP Manager after the NCSP proposal review meeting and through the final task prioritization effort by the NCSP Management Team. (TS2)		

All 4 Quarters	Manage 5-year plan development and maintenance and oversee the Integral Experiment Request (IER) process and manage main 5-year plan and IER Milestones. (TS2)		
All 4 Quarters	Provide NCSP Manager annual report of succession planning efforts. (TS7)		
All 4 Quarters	Provide a status and update on ORNLTS12 work in the NCSP Quarterly Progress Reports. (TS12)		
All 4 Quarters	Provide the NCSP manager an update of NDA Technical Support Group and NDA Technical Infrastructure Project activities in the NCSP Quarterly Progress Reports. (TS13)		

ACCOMPLISHMENTS

- TS2 - Support for Lead Lab to Execute the NCSP
  - Quarterly report support
    - Execution of NCSP FY2024Q2 quarterly report meeting for the NCSP manager
    - Requests sent to each SPM for their Q2 reports
    - Processing Baseline Change Requests from SPMs as necessary
    - Requests for foreign trip reports based on Appendix C and updating the website with the reports/information received
    - Requested OSTI curate NCSP deliverables for Q2. Bowen archived NCSP deliverables on the archive database at ORNL.
  - FY24 Five-Year Plan
    - Addenda published for the plan – Rev. 1 and 2 to document changes in Strategic Priorities-list, milestones, and budget. The IE section of the 5YP has also been amended due to Q2 progress.
    - Supported CSCT meetings as necessary
    - Summer newsletter generated and sent to the NCSP manager for approval. Started fall newsletter as of this writing.
  - Access Database
    - Updates made to the Access database to support the NCSP management team as needed and to eventually use the Access database to generate the 5-year plans
      - Bowen has created SQL coding to support forms and queries for the BCR database to replace BCR forms and for the IE database and task list for FY2026 budget development.
      - BCR and IE database was completed and is in use. Main plan database and tools still in development.

        - Supported Mission and Vision meetings as necessary to support the revised document for all TPE teams – Bowen is working with the teams to meet a September 30, 2025 deadline for publishing on the NCSP website and hardcopy.Supported Mission and Vision meetings as necessary to support the revised document for all TPE teams – Bowen is working with the teams to meet a June 30, 2025 deadline for publishing on the NCSP website.

    - MGT Team

        - Miller led IE status update meetings, as necessary
        - Bowen assisted with this effort as needed
        - Conducted NCSP Management Team meetings to discuss the status of NCSP execution work

- TS7 - AM, ND Succession Planning
    - Supported 2 staff members to attend and present at the ReGra workshop
    - Supported newer criticality safety staff to develop proposal and compare validation methods using machine-learning
    - Supported Abstract Submission for ANS NCSD 2025.
    - Supported WANDA trip for new hire to NCS staff.
- TS12 – CSSG Funding
    - In Q3, Bowen supported the final tasking report for tasking 2024-02 for the SRPPF CAAS needs analysis. This included supporting CSSG team telecons and telecons with SRPPF staff, document reviews, and review/comment on draft tasking reports.
    - Supported CSSG meetings as necessary including face-to-face meeting in Chicago after the ANS annual meeting.
- TS13 - NDA Technical Support Group and NDA Technical Infrastructure Project
    - With the help of Pam Williams, we restructured the NCSP and NDA websites for the NDA program to reside within the NCSP, per the structure of the 5YP. We started planning the next NDA hold up measurement course for, likely, Q1 FY26 due to the CR funding issues in FY25.

PUBLICATIONS

Any publications that have

- Completed your institution's review cycle during the quarter
  AND
- Are publicly releasable

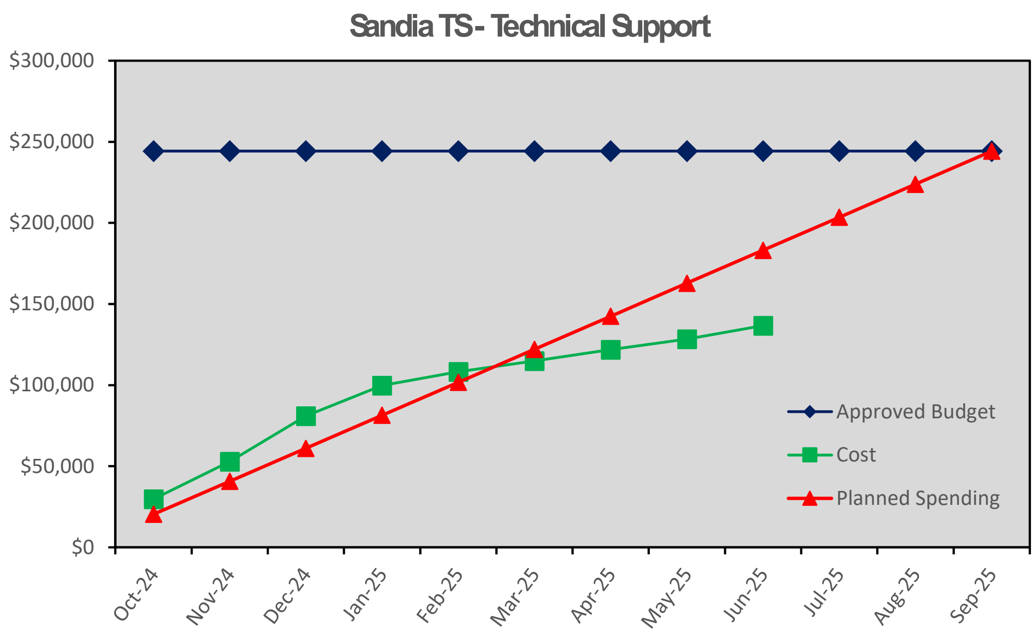
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q3	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS3, 12 **M&O Contractor Name**: Sandia National Laboratories (SNL) **Point of Contact Name:** David Ames **Point of Contact Phone:** (505)274-2164	**Reference:** DP0909010 **Date of Report:** August 12, 2025

BUDGET



1. Carryover into FY 2025 = $4,222
2. Approved FY 2025 Budget = $240,000
3. Total FY 2025 Budget w/Carryover = $244,223
4. Actual spending for 1st Quarter FY 2025 = $80,955
5. Actual spending for 2nd Quarter FY 2025 = $33,930
6. Actual spending for 3rd Quarter FY 2025 = $21,864
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide NCSP Manager annual report of succession planning efforts. (TS3)		
All 4 Quarters	Provide the NCSP manager with a summary of NCSP IER support in the NCSP Quarterly Progress Reports. (TS12)		

ACCOMPLISHMENTS

- TS3 – Support for Experimentalist Succession Planning
  - Matrixed employee performing as an experimenter and supporting the Hands-on Courses.
  - Actively participating in the NCS community by attending conferences and publishing papers.
- TS12 - NCSP IER Manager Support
  - Performed duties as the IE Manager in support of the IE program element.
    - Interacted with the site task mangers to track and assist progress on various IER milestones and MIHLs.
    - Interacted with NCSP Management Team, provided technical advice, and assisted on a broad scope of items (e.g., 5 year plans, IE priorities, MIHL lists items).
    - Run monthly IE meetings, distribute agenda and notes.
    - Participate in various IER team meetings and assisted IER team members with requested items.
    - Reviewed reports and processed through approval in IER database (team members and NCSP manager) or ensured BCR submission.
    - Processed BCR submissions and helped with MIHL item changes.
    - Track non-NCSP IERs and work with site and NCSP management team to initiate new ones, as added.
    - Updated team memberships per site leads direction.
    - Facilitated discussions between NCSP management team, LANL, and LLNL about issues associated with a few IERs and clarification on prioritization.
    - Worked in the IER database, assisted others with issues using database, work with G2 developers on database improvement items.
  - Very minor progress on NCSP IE Manual Revision and the IE section for the Mission & Vision document.

PUBLICATIONS

Any publications that have

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  AND
- Are publicly releasable

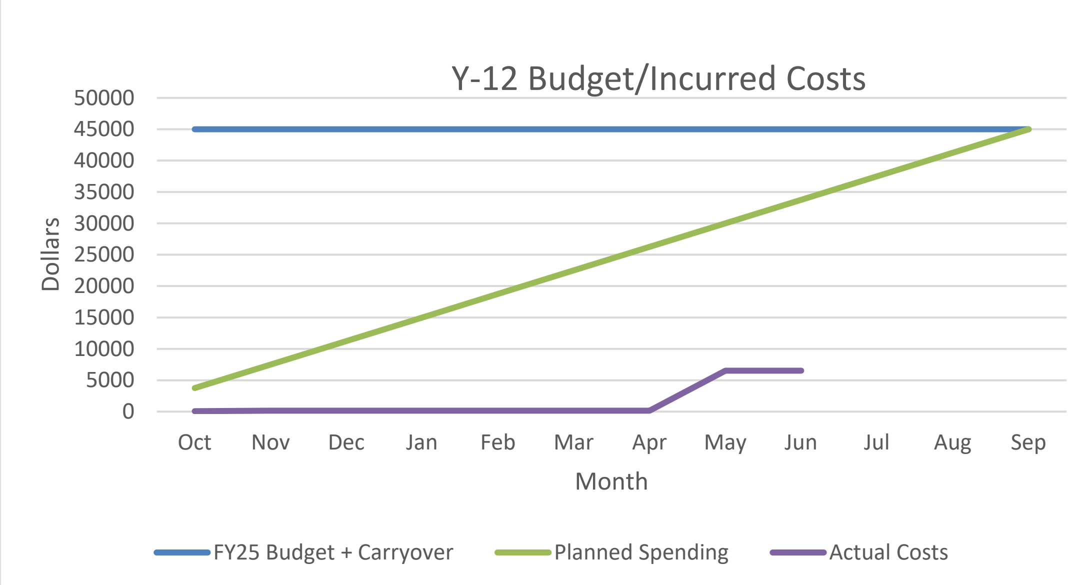
Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.

Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	M. Cook, E. Lutz, et al. "Updates on UO2-BeO Experiment (IER 523)," SAND2024-01393PE, Presented at the NCSP Technical Program Review, December 4, 2024.
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS16 **M&O Contractor Name**: Y12 **Point of Contact Name:** Kevin Reynolds **Point of Contact Phone:** (865) 241-9067	**Reference:** DP0909010 **Date of Report:** August 7, 2025

BUDGET



1. Carryover into FY 2025 = $20,000.00
2. Approved FY 2025 Budget = $25,000.00
3. Total FY 2025 Budget w/Carryover = $45,000.00
4. Actual spending for 1st Quarter FY 2025 = $142.71
5. Actual spending for 2nd Quarter FY 2025 = $0.00
6. Actual spending for 3rd Quarter FY 2025 = $6,376.93
7. Actual spending for 4th Quarter FY 2025 = $
8. Projected carryover into FY 2026 = $

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
All 4 Quarters	Provide a status and update on work in the NCSP Quarterly Progress Reports. (TS16)		

ACCOMPLISHMENTS

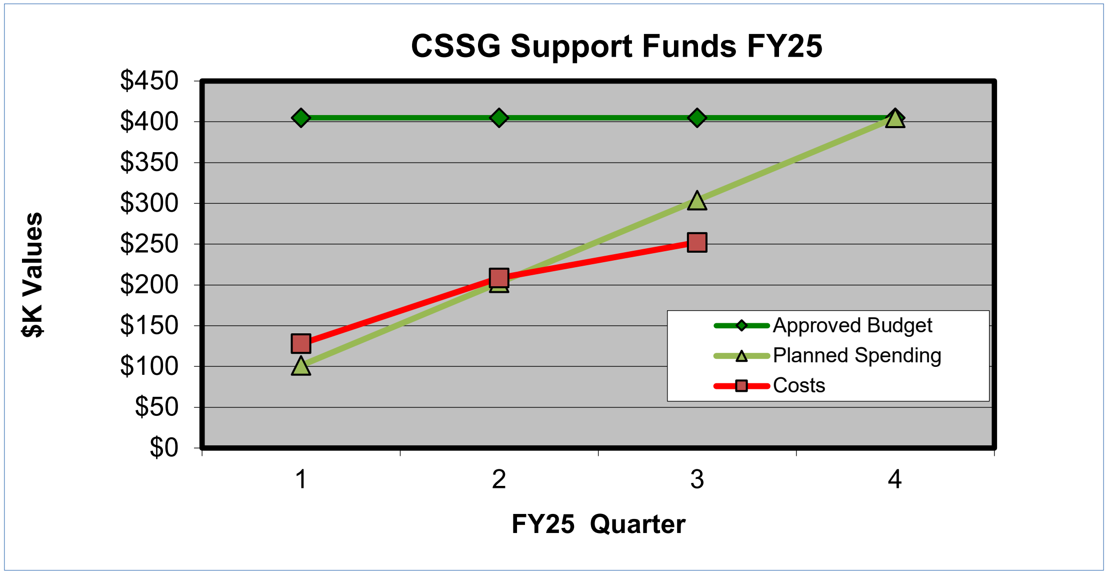
- TS16 – CSSG Support
  - Participated in BEM and Task Ranking Review and Review of NCSP 5 year plan and election of new Vice Chair.

PUBLICATIONS	
Any publications that have • Completed your institution's review cycle during the quarter AND • Are publicly releasable Should be submitted to Doug Bowen, bowendg@ornl.gov, with your quarterly report.	
Quarter	**Publication Reference** **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	

NCSP Quarterly Progress Report (FY-2025 Q3)

NCSP Element and Subtask: TS1 **Task Title**: CSSG Support **Point of Contact Name:** David Hayes **Point of Contact Phone:** 505-667-4523	**Reference:** DP0909010 **Date of Report:** August 11, 2025

BUDGET



1. Carryover into FY 2025 = $0
2. Approved FY 2025 Budget = $ 405,000
3. Actual spending for 1st Quarter FY 2025 = $127,790
4. Actual spending for 2nd Quarter FY 2025 = $80,570
5. Actual spending for 3rd Quarter FY 2025 = $43,852
6. Actual spending for 4th Quarter FY 2025 = $
7. Projected carryover into FY 2026 = $0

NOTE: Include commitments as part of spending

MILESTONES

STATUS (copy color code and paste below in 'STATUS' field)

Complete	On Schedule	Behind Schedule	Missed Milestone

QUARTER	TASK	STATUS	ISSUES/PATH FORWARD
Q1	Provide NCSP Manager report of activities. (TS1)		
Q2	Provide NCSP Manager report of activities. (TS1)		
Q3	Provide NCSP Manager report of activities. (TS1)		
Q4	Provide NCSP Manager report of activities. (TS1)		

NCSP Quarterly Progress Report (FY-2025 Q3)

ACCOMPLISHMENTS

- TS1 – CSSG – Support for the Criticality Safety Support Group
  - Incoming Deputy Chair elected
  - Issued 2024-02 Tasking Response, *CSSG Review of Criticality Accident Alarm System Needs Assessment at the Savannah River Plutonium Processing Facility*
  - Face to Face meeting held in conjunction with ANS Annual Meeting

PUBLICATIONS

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Quarter	Publication Reference **Example:** Author, "Title", LA-UR-18-27731, October 1, 2019
Q1	
Q2	
Q3	
Q4	