

1. Summary

The High Flux Isotope Reactor (HFIR) at Oak Ridge National Laboratory (ORNL), shown in Figure 1, produces medical and industrial isotopes and serves as a major research facility for neutron scattering to study the fundamental properties of materials and biological systems. HFIR is also used for materials irradiation experiments, neutron activation analysis, and research on radiation damage.

After more than 60 years of operation, the HFIR's carbon steel reactor pressure vessel (RPV) needs replacement due to radiation embrittlement. While several US power reactors have repaired nozzles and replaced vessel heads for this reason, only 4 reactors in the world have replaced their whole pressure vessel. HFIR will be the first in the US to replace its vessel and return the reactor to full operational status. The RPV replacement outage is scheduled for the late-2030s, and planning for the project is ongoing.

ORNL plans to bring in a Subcontractor(s) to be responsible for the following:

1. Characterization of the RPV source term at time of final shut down
2. Physical vessel removal, vessel storage, transportation, and disposal
3. Planning and execution of characterization and disposal of the project's radioactive/mixed waste, including specification, design, testing and authorization/licensing (as necessary) of necessary packaging and ensuring the availability of conveyances for transportation
4. Clean up and restoration of the reactor and facilities

ORNL is issuing this request for information (RFI) to seek input from interested parties regarding their ability to provide turnkey or selected specialty expertise and resources supporting the RPV replacement and

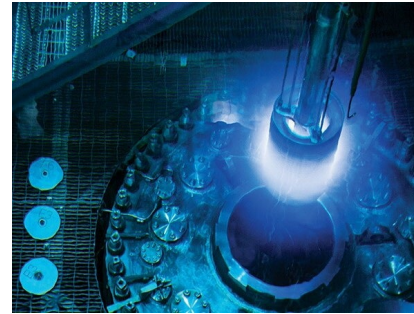


Figure 1. A HFIR fuel assembly being removed from the reactor pressure vessel.

Completed in 1965 and operating at 85 megawatts, HFIR's steady-state neutron beam produces one of the strongest neutron fluxes in the world. Today, HFIR has four primary missions:

- Neutron scattering
- Isotope production
- Irradiation materials testing
- Neutron activation analysis

HFIR is used by hundreds of researchers each year for neutron scattering research into the fundamental properties of materials.

Isotopes are produced in the HFIR flux trap for energy, medical, industrial, security, and research purposes, and HFIR is the western world's sole supplier of Californium-252—an isotope used for well-logging and industrial scanning. HFIR also supplies plutonium-238 to power NASA space missions

Producing both thermal and cold neutrons, the intense neutron flux, constant power density, and constant-length fuel cycles are make HFIR ideal to study physics, chemistry, materials science, engineering, and biology.

HFIR's cold-source capabilities were used in discovering element 117 in 2010. The element, officially named **tennessine**, required berkelium-249, which was available only at HFIR.

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removal, packaging, and disposal of the project’s radioactive and mixed wastes.

2. Supplemental information

One goal of this RFI is to identify potential vendors that are available, interested, and qualified to support the removal of the HFIR pressure vessel and facilitate disposal of the vessel, portions of the vessel, and other components as radioactive waste and/or mixed waste material.

This request for information provides an opportunity for respondents to (1) express interest in working with ORNL on the RPV replacement project, (2) provide supporting details on their organization that will help ORNL assemble a group of contractors to support the outage, and (3) provide their ideas and solutions for the most safe, efficient, and timely removal and disposal of the current RPV while minimizing facility down time.

This RFI is solely a request for information and budgetary pricing estimates and is not a request for quote (RFQ). Subject to availability of funds, the responses from this RFI may be used as input to an RFQ within the next 3 to 5 years to award one or more engineering studies to do a more in-depth evaluation of the technical, financial, and logistical challenges associated with HFIR pressure vessel removal.

Towards those goals, we ask respondents to provide the information requested in Section 3. We further request that the respondents follow the suggested outline as much as possible in order to help us to perform a more thorough and effective review. Respondents will not be reimbursed for any costs incurred in responding to this RFI, and responses to this RFI do not bind ORNL to any further actions related to these topics.

2.1 Project Timeline

The pressure vessel replacement planning, execution, and waste disposal will occur over more than a decade. The current timeline includes:

- 2028 to 2033 - preliminary design of replacement vessel and preliminary design of major components of replacement outage.
- 2033 to 2038 - detailed replacement vessel design and related reactor analyses; procurement of replacement vessel and internal components; and procurement of hardware (including waste packaging).
- 2038 to 2040 - vessel replacement and restart of the HFIR reactor.
- 2040 - final disposal/disposition of all project waste.

2.2 Facility Overview

The basic layout of the HFIR reactor is provided in Figure 2. The RPV internals, fastenings, interface hardware, and other components are shown in Figure 3. A vertical cross-sectional view of the reactor with its pools is shown in Figure 4.

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The RPV is submerged in an 80,000 gallon (303 kl), 36 foot (11 m) deep reactor pool. The reactor core centerline is 27 ft (8.2m) below water. There are two rectangular 114,000 gallon (431 kl), 20 foot (6m) deep Clean Pools used for spent fuel and irradiated experiment and component storage. The pool above the vessel top is rectangular, and below it is cylindrical. The pools provide radiation shielding and heat removal during reactor operation. The Critical Pool was intended to house a critical experiment facility and is a 10,000 gallon (38 kl), 25 ft (7.6 m) deep cylindrical pool. The water in the pools is circulated, demineralized, filtered and cooled.

Prior to removal of the RPV, the vessel's top head and its quick opening hatch will be removed and staged outside the reactor building for disposal. The vessel internals will be disassembled by ORNL as shown; several components are to be reused with the replacement pressure vessel, while others will be discarded and will be transferred underwater to the Clean Pools for characterization and disposition. Divers will disconnect and remove many of the piping connections and vessel attachment components. Divers may also perform selected RPV sectioning.

Once the internals have been removed and the connections are disassembled, only the reactor pressure vessel (including its lower extension) will remain for extraction. All vessel nozzles and openings will be covered and sealed by blind flanges or welded covers. The vessel and lower extension weldment, along with its blind flanges and the attached vessel lower head (see Figure 5 and Figure 6), will be removed by the selected Subcontractor(s).

Additionally, the Subcontractor(s) will be tasked with removing, packaging and disposing of radioactive and mixed waste currently stored in the pools or other areas at ORNL, as illustrated in Figure 7.

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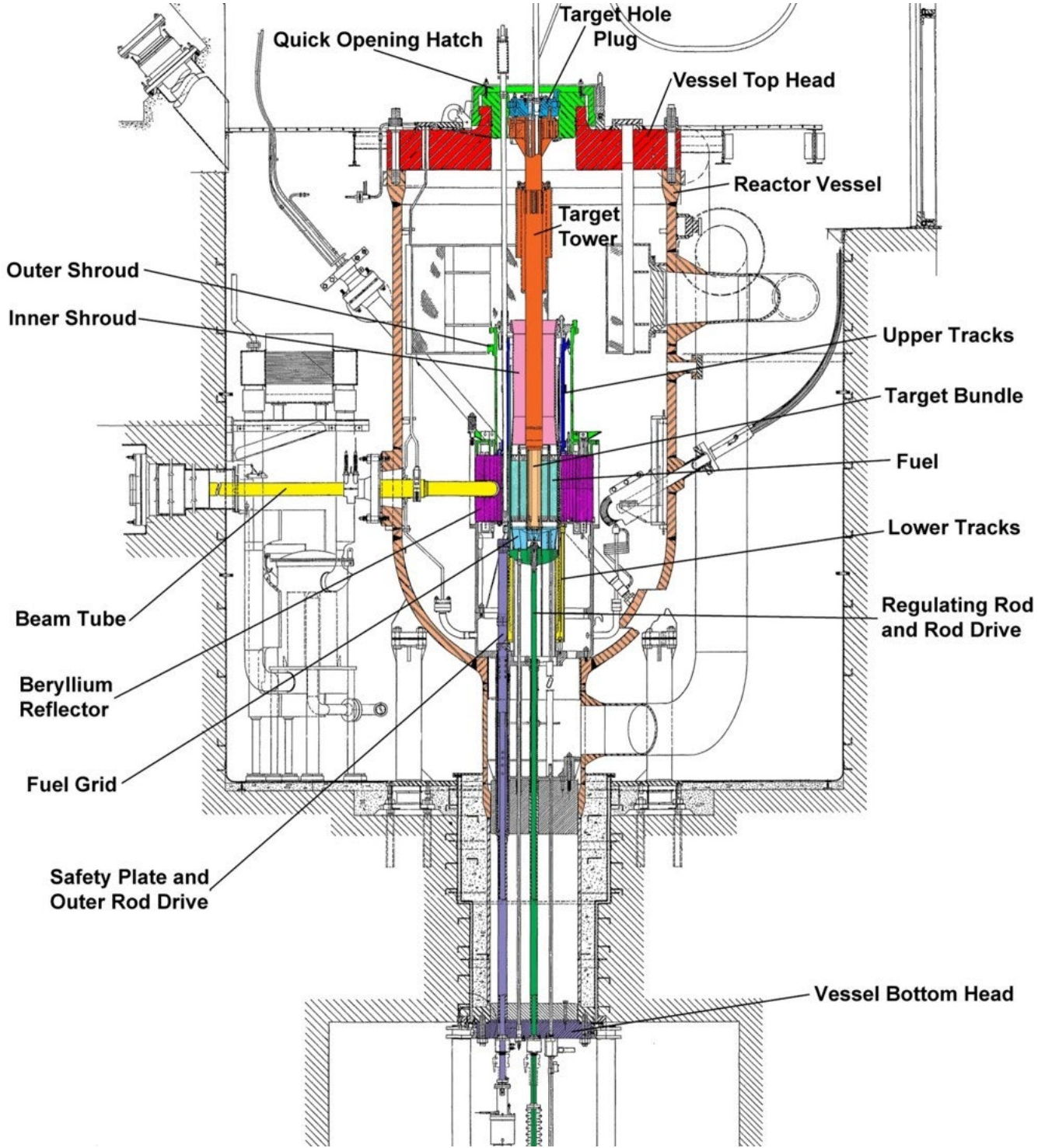


Figure 2. An axial cross-sectional view of the HFIR reactor.

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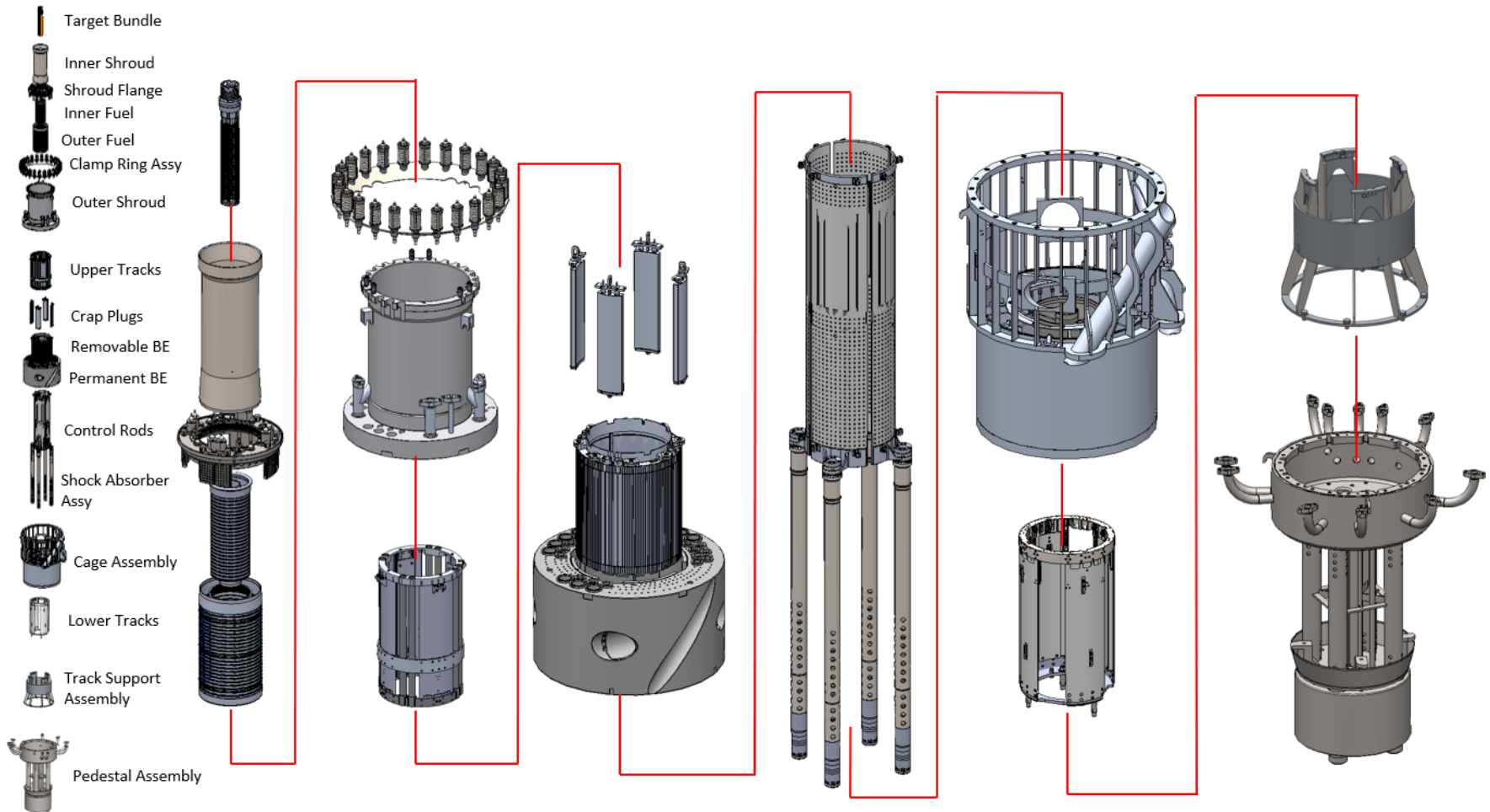


Figure 3. Components that will be disassembled by ORNL prior to RPV removal.

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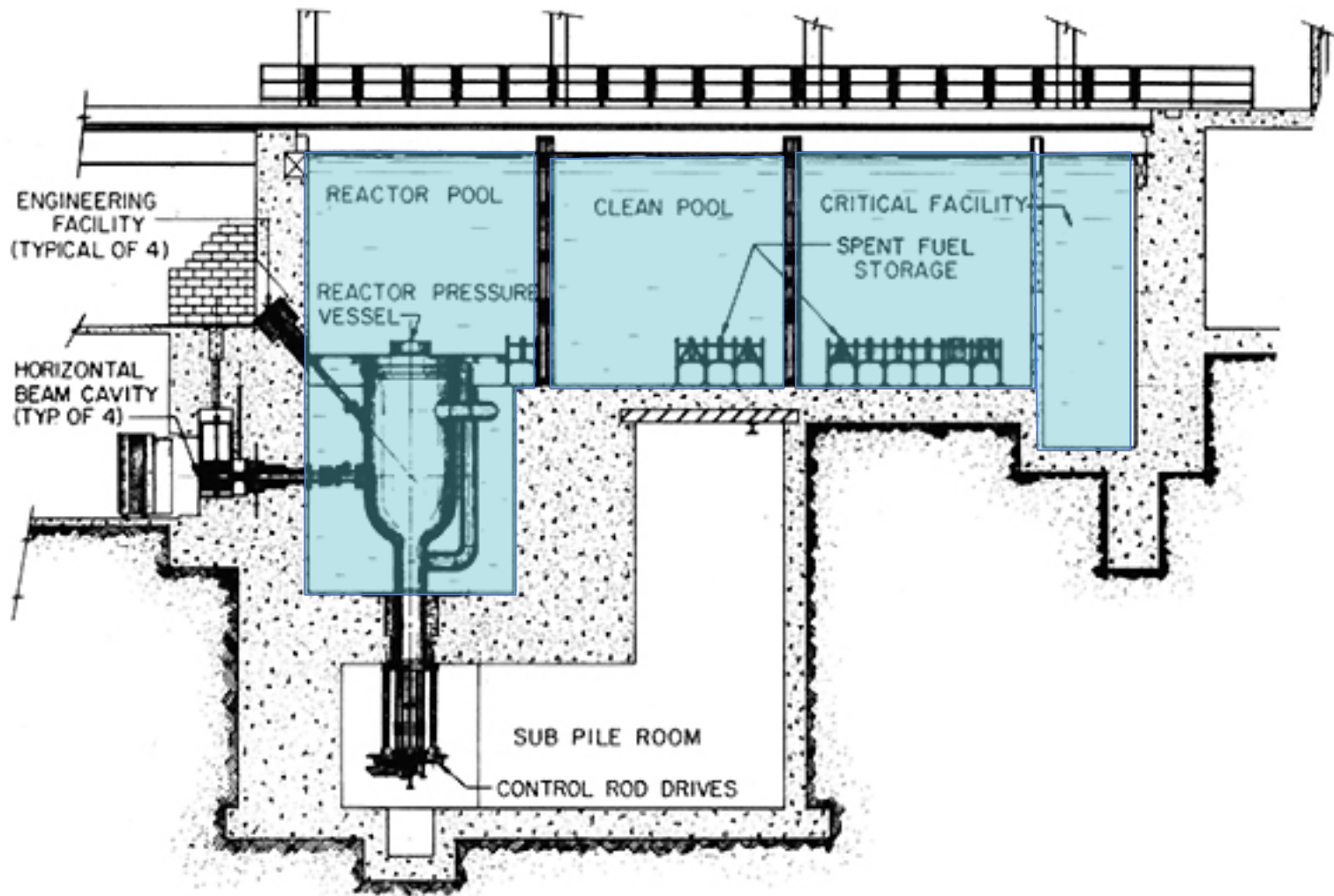


Figure 4. Layout of the HFIR and reactor pool areas. The red and blue outlines indicate the

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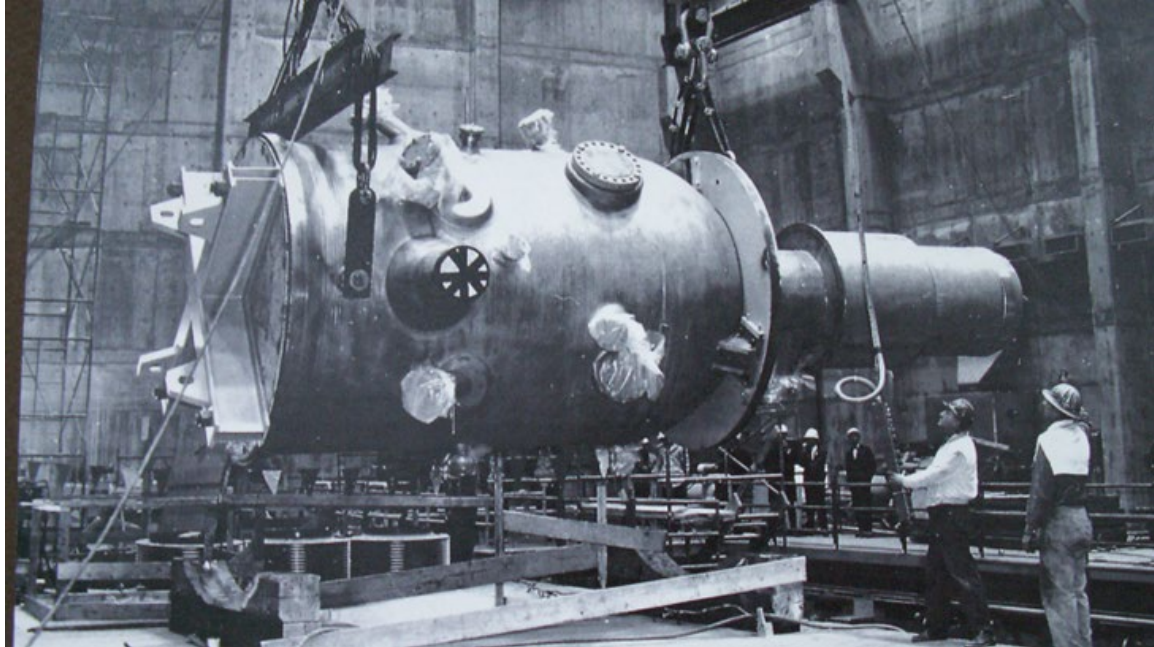


Figure 5. The original RPV being moved into position for installation in the HFIR Reactor Bay Truck Airlock Access.

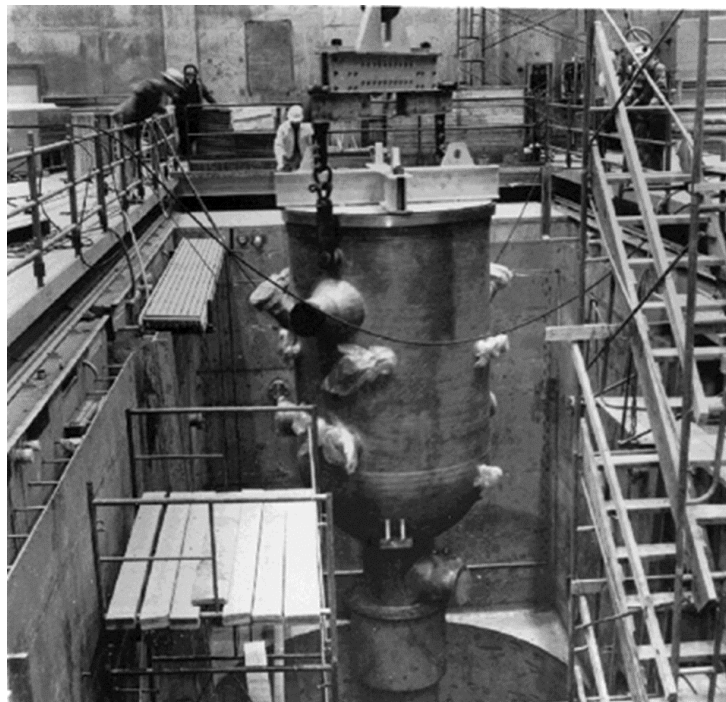


Figure 6. The original RPV being seated in the reactor building.

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Figure 7 Examples of radioactive and mixed waste stored at HFIR to be disposed of by Subcontractor.

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2.3 Goals for the Vessel Removal and Disposal Activities

Replacement of the HFIR RPV requires detailed long-term planning to ensure the operation is as efficient and effective as possible. Our primary goals are to minimize the amount of time that HFIR is shut down, minimize dose to personnel, reduce risks, optimize outage resources, and reduce costs. To minimize the time that HFIR is shut down, the vessel removal evolution should minimize the time spent in the HFIR reactor building and truck bay. This may require moving waste materials to another location for disposal preparations. Although this support activity is not focused on installing the new RPV, actions taken in the vessel removal and disposal phase can negatively impact our ability to install and/or operate with the new reactor vessel. Therefore, Subcontractor(s) must consider the downstream impacts of all activities.

To achieve our long-term planning goals, we are exploring our options for long-lead and high-cost evolutions, including planning for irradiated/contaminated components disposal; evaluation of the RPV radioactive material source term at time of final shut down; physical vessel removal, RPV storage, transportation, and disposal; and work area clean up and restoration of crucial areas (e.g., Clean Pools, beam hall). Again, our primary goal is to get HFIR back online as soon as possible. We ask that potential subcontractors take this opportunity to share their experience and make recommendations within the RFI response to achieve these goals. ORNL is open to either turnkey or specialized subcontractor responses according to the planned responsibilities.

2.4 Responsibilities Currently Planned to be Allocated to the Subcontractor(s)

At this time, ORNL plans to bring in Subcontractor(s) to be responsible for the following:

1. Planning for irradiated/contaminated components for disposal, including specification, design, testing and authorization/licensing (as necessary) of required packaging and ensuring the availability of conveyances for transportation
2. Characterization of the RPV source term at time of final shutdown and planning for its disposal, including specification, design, testing and authorization/licensing (as necessary) of required packaging and ensuring the availability of conveyances for transportation
3. Physical vessel removal, vessel packaging, storage, transportation, and disposal
4. Disposal of all project radioactive/mixed waste
5. Clean up and restoration of project work areas

The following sections provide an initial description of these activities as currently envisioned by HFIR. These may be expanded or modified, as recommended by the RFI respondents.

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The Subcontractor(s) will be responsible for ensuring any necessary equipment is available to perform the work. As an example, a small crane or A-frame will be needed in the reactor bay to rotate the vessel onto its transportation carriage; a 50 T crane will be needed outside to lift the old RPV once it is moved out of the reactor building. The Subcontractor(s) will be responsible for ensuring all necessary equipment is available and for interfacing with ORNL staff to ensure the equipment can enter the site. ORNL’s safety and compliance staff will require appropriate documentation and approvals prior to the activities. An NQA-1 program will be required for any Subcontractor(s) engaged in these activities.

2.4.1 Planning for irradiated/contaminated components for disposal

ORNL is developing a list of both radioactive and mixed waste items that will need to be disposed. An example listing is provided in Table 1. The subcontractor(s) will be responsible for specifying the disposal path, supplying packaging, selecting the disposal facility, providing the appropriate transportation and disposal paperwork, transportation, waste classification, accurately estimating the cost of disposal, etc. for each item on the list. The source term for each component must be accurately determined well in advance of the disposal to provide information for handling, storage, and disposal. The majority of the items are expected to be greater than Class C (GTCC) waste. Appropriate packaging must be available for storage, transport, and disposal.

Table 1 An Example of Waste Items for Disposal. Note that this list is incomplete, and the items are listed to provide representative information for purposes of the RFI and should not be assumed to be accurate.

Item description	Waste type / Class	Estimated dose on contact (R/hr)	Volume (cu ft)	Weight (lb)	Physical form
Co-60 sample tubing	Class A	2.5E04	6.00E-03	3.0	Activated stainless steel
Cut off section of PT-2 in vessel flight tube	Class A	1.0E04	4.00E-02	20.0	Activated stainless steel
Castle end cut off extension tube	GTCC	1.5E04	2.00E-02	10.0	Activated stainless steel
Piping section	Class B	2E02	1.0	480	Activated stainless steel
Vessel flanges	Class C	5E01	5.00E-02	200	Activated stainless steel
Semi-perm reflector plenum & hold-down t-handle	Class A	4.0E04	5.90E-02	10.0	Activated stainless steel
Specimen holder wheel for HB-1&3	Class A	1.5E04	2.00E-02	10.0	Activated stainless steel

2.4.2 Characterization and disposal planning of the RPV Source Term

The subcontractor(s) will be responsible for specifying the disposal path, supplying packaging, selecting the disposal facility, providing the appropriate transportation and disposal paperwork,

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transportation, waste classification, accurately estimating the cost of disposal, etc. for the RPV and its subcomponents (e.g., the RPV head).

ORNL has several options for assessing the expected source term of the pressure vessel at final shutdown, including detailed ORNL models of the reactor and its operating history, surveillance specimens irradiated in reactor, and historical dose measurements. ORNL expects the highest source term to be located at the beltline of the reactor near beamline the HB-2 nozzle at ~300 Ci. The source term estimates are crucial for safe execution of the outage workscope and to limit worker doses to ALARA, as well as for developing a disposal strategy. It is likely that the source terms will be updated several times prior to beginning the physical RPV removal process, during the outage, and potentially later, just prior to disposal.

A preliminary vessel characterization indicates that most of the material will be Class A waste. If the pressure vessel qualifies as Low Level Radioactive Waste, it can be disposed at commercial disposal sites, as well as DOE's Nevada site. When including the beltline area, the initially discharged vessel does not qualify as Low Specific Activity (LSA) waste due to locally high dose rates that exceed 49 CFR limits; however, it is likely that the dose can be greatly reduced by selective sub-sectioning of the RPV and/or removal of specific components (e.g., the vessel adaptor flanges)nozzles. ORNL expects that the beltline area that contains the beam nozzles and flanges will be NRC Class B waste and accounts for ~95% of the high activity material. Further, it is possible that the RPV itself can be justified as its own packaging, based on its service as a pressure vessel and considering the degree of leak tightness of the closures applied.

Removing the HB vessel adaptor flanges, studs, and nuts are expected to significantly reduce the vessel's total dose rate, based on a past vessel adaptor flange removal. In 2001, divers removed the HB-1, HB-2, and HB-4 vessel adaptor flanges and studs nuts within allowable personnel dose. After a decade of decay storage, the dose rates on the flanges remained high at <170 REM on contact, as shown in Figure 8. The HB-2 Vessel Adaptor Flange with rigging is ~200 lb of stainless steel. The

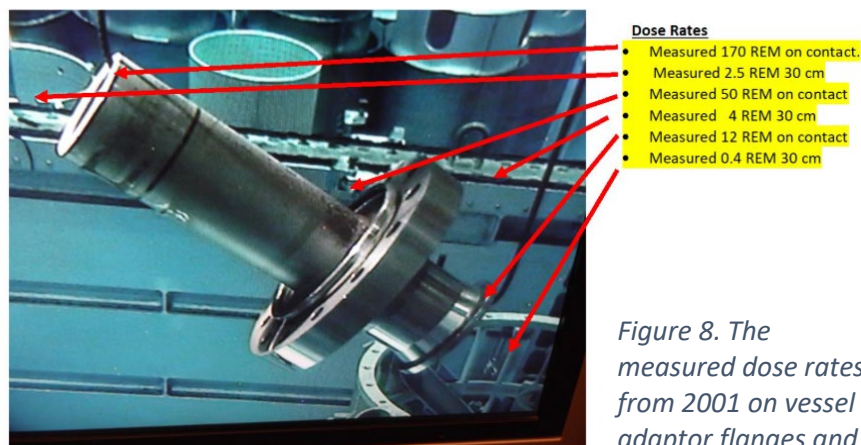


Figure 8. The measured dose rates from 2001 on vessel adaptor flanges and associated components.

reactor vessel nozzle dose rates dropped dramatically once the flanges were removed. For example, the dose rate at the plane of the stud ends dropped from 15 REM/hr to 0.9 REM/hr.

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Digital mapping and additional modeling with updated source terms are planned. Charpy coupons with dosimeter wires are located within the reactor and data from these vessel surveillance specimens and dosimeters can further refine the vessel source term. The vessel specimens, shown in Figure 9, are fabricated from actual vessel material. The next specimen and dosimeter retrieval is planned in late 2026 during the cycle 518 outage.

The pressure vessel can be segmented in place in the pool, or it can be removed as a single piece. As mentioned previously, hot spots around the RPV beltline could also be surgically removed to reduce the overall source term. After removal, it can be packaged and transported for immediate disposal, or it can be held in decay storage to reduce the radiation source term. The decision to remove the vessel as a single piece or to segment it in the pool is separate from the disposal decision but strongly influences it.

Segmentation of the pressure vessel is likely only feasible in the HFIR pool. The cutting process is expected to result in debris in the pool that will challenge our cleaning systems and approach or exceed system limits, increasing the time to get HFIR back online. Any unremoved material represents a risk of higher background dose rates, sources of systems damage, or potential fuel blockage / fretting failures in future.

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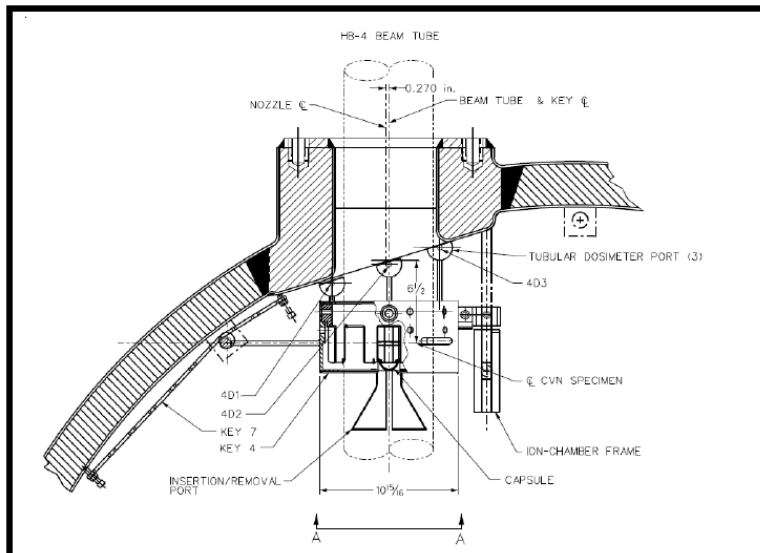
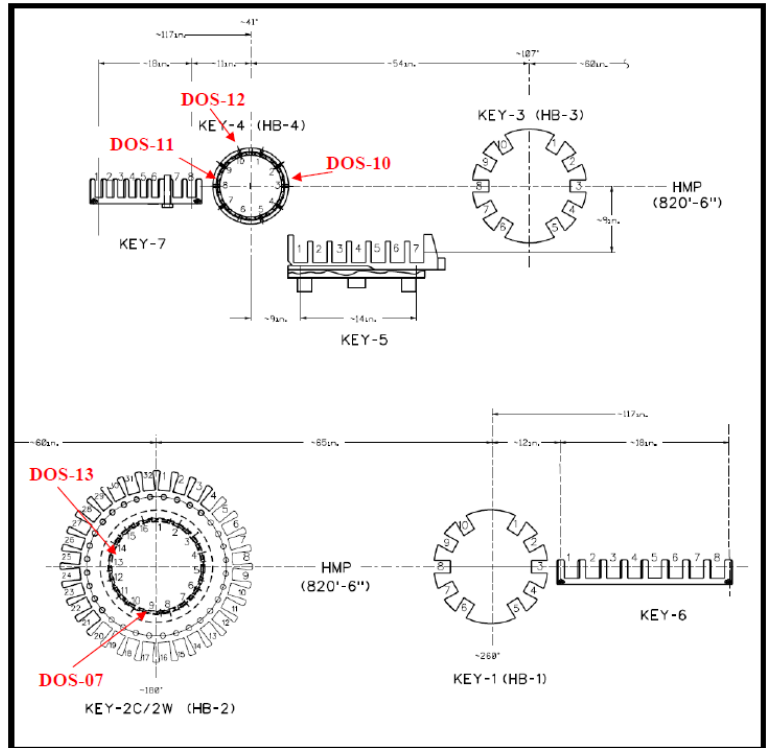
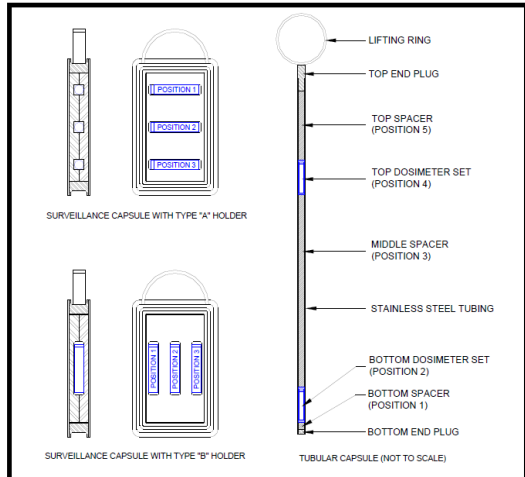


Figure 9. (a) Horizontal section of the HB-4 beam tube showing the locations of the dosimeter and Charpy coupons used to track vessel neutron dose. (b) A schematic view of the surveillance coupons. (c) Capsules for HFIR dosimetry.

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Whole vessel removal is a feasible option to segmentation. Removal of the vessel as a single piece is expected to reduce much of the debris and post-removal cleanup. It is also expected that this option will reduce the time in the reactor building/truck bay, as it defers or eliminates the long process of segmenting the highly radioactive vessel.

Immediate shipment of the intact or segmented RPV for disposal is possible. It is anticipated that all segmented waste would be shippable immediately (to be confirmed with details of segmentation), with lower activity sections (the majority of the pressure vessel) packaged and shipped for disposal in Type A or IP packaging. The middle ring of the vessel at the elevation of the beamlines has a higher activity and may need to be packaged and transported in Type B packaging. While it is feasible to ship the intact RPV for disposal, it is not easy because it will be classified as oversize and overweight, will require a DOT transportation exception, and will require a custom package which is expected to be cost prohibitive.

Decay Storage involves removal of the segmented or whole vessel to another area for storage. The vessel can be stored for a short period of time to avoid impacting other outage activities, or it can be stored for longer times. For example, it could be stored long enough to achieve the minimum decay time needed to meet the LSA definition (~15-20 years) or it could be stored until the HFIR is fully decommissioned. The decay storage option eliminates a large majority of personnel dose and mitigates transportation risks. The pressure vessel could be packaged for shipment prior to decay storage to avoid any future repackaging. The intact RPV will still be oversize/weight after decay storage, but it would not require DOT exception, and it would need much less shielding. Once the waste meets the LSA definition, it is transportable in an industrial packaging. If the pressure vessel is segmented during removal, it can be beneficial to place the hottest segmented pieces into decay storage.

2.4.3 Physical Vessel Removal, Vessel Storage, Transportation, and Disposal

The subcontractor(s) will take the lead on removing the old RPV, sectioning it into smaller pieces if necessary, packaging it appropriately, transporting it, storing it, and disposing of it.

Detailed planning activities are required for each step in the RPV removal process. For example, the RPV head will be removed early in the outage to allow access to the vessel internals (see Figure 3). The head can be disposed of separately from the vessel and can be packaged immediately for disposal, or, depending on whether there are efficiencies obtained by packaging later components with it, staged for disposal. Accommodations must be made for each component – either packaging for disposal or temporary safe storage for later reuse with the new RPV. Some of the internals will be disposed of, while others will be reused with the new pressure vessel.

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ORNL would prefer to minimize cutting activities in the reactor building to limit the amount of debris left in the reactor flow paths, and to reduce the amount of time required to move the old vessel out of the way. Work on the old vessel can be deferred or moved to a different location, as proposed by the Subcontractor(s). Some surfaces may be coated with fixatives to limit the spread of removable contamination.

Blind flanges and covers will be installed as needed to close the vessel. The upper RPV cover should be designed to mitigate the shine from the irradiated vessel clad around the core centerline. It should also have a hatch in its center to facilitate lowering a sump pump for final vessel draining operations. All cover closures should be designed to be leak tight. Engineered lifting points must be evaluated and qualified per ORNL's requirements. The original lifting trunnions are in place on the vessel and these may be used for lifting once evaluated for embrittlement. The upper RPV cover may also be used for lifting and may need to be designed to accommodate a vessel lifting harness. A lower RPV cover will also be needed. The RPV will be drained and dried and the Sub-contractor(s) will specify the method and acceptance criteria.

Detailed work instructions are to be developed for all activities conducted by the subcontractor(s) that address both the physical activities and the regulatory compliance components of the work, to be reviewed and approved by ORNL well in advance of the activity. For example, transportation of the waste over public highways will require compliance with the pertinent US Department of Transportation regulations.

The following is a notional sequence for removing the Reactor Vessel that is used as an illustration for the RFI respondent for the type and magnitude of work to be completed by the Subcontractor(s).

- Install a shield/confinement cover on the Vessel Top Flange. This cover should be designed to mitigate the shine from the irradiated vessel clad around the core centerline. It should also have a hatch in its center to facilitate lowering a sump pump for final vessel draining operations. All cover closures should be designed to be leak tight.
- Connect the vessel lifting harness to the vessel lifting lugs.
- Specify and/or perform any necessary in situ cutting (e.g., removal of hot spots or connections to other reactor components) or welding operations (e.g., caps on vessel nozzles). Note that divers will be available to perform selected operations.
- Unbolt the vessel support pads from the vessel supports.
- Drain the primary coolant system to the extent possible.
- Drain the remaining water from the RPV through the lower vessel head.
- Visually verify that the Vessel is empty and remove the sump pump.
- Perform drying, as needed.

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- Apply interior fixatives to the RPV, if deemed necessary.
- Disconnect all purge lines and seals and ensure all openings are now covered and exterior dose rates are acceptable.
- Ensure the vessel is not captured by any part or building feature.
- Lift the reactor vessel out of the reactor pool
- Move the RPV over the reactor bay.
- Using a second crane or A-frame, rotate the RPV to the horizontal position and set it on cribbing or an appropriate transport carrier.
- Move the RPV from the reactor bay to a temporary building, if needed, to complete remaining processing for packaging.

2.4.4 Work area clean up and restoration of crucial area

Following removal of the old RPV, HFIR reactor building and truck bay areas must be returned to a condition that supports the installation of the new RPV. Towards that end, the Subcontractor(s) must plan all tasks required for RPV removal and reactor pool and reactor bay cleanup.

The Subcontractor(s) should evaluate the need for segmentation of the RPV; segmentation may only be feasible in the HFIR pool. The cutting process is expected to result in debris in the pool that will challenge our cleaning systems and approach or exceed system limits, increasing the time to get HFIR back online. Any unremoved material represents a risk of higher background dose rates, sources of systems damage, or potential fuel blockage / fretting failures in the future.

Whole vessel removal, if feasible, is the preferred option to segmentation. Removal of the vessel as a single piece is expected to minimize the debris and required post-removal cleanup. It is also expected that this option will reduce the time required to get HFIR back online, as it defers or eliminates the potentially critical path process of segmenting the highly radioactive vessel.

These are only some of the actions needed to complete the Subcontractor(s) scope of work and planning for appropriate tasks that rely on the Subcontractor(s) and their staff. Again, this RFI is investigative in nature and our goal is to learn about interested Subcontractors, their organization, and experience level. This RFI is not meant to convey a complete task listing and scope of work; that will be developed for an RFQ that is planned to be issued in the next 3 to 5 years.

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3. RFI Tasks

The Subcontractor(s) shall provide a written letter of interest (LOI) which includes the information requested in the tasks and requirements described in Section 3.1 and 3.2 and the responsibilities outlined in Section 2.4 and its following subsections. The overall length of the LOI should be less than 20 pages and cover how the Subcontractor(s) would address the tasks and requirements, as well as the Subcontractor(s) experience associated with each of the tasks.

3.1 Task 1 – Experience and Capability Establishment

The Subcontractor shall provide:

1. Organization name, address, contact information.
2. The organization’s non-binding expression of interest in supporting the HFIR RPV removal and disposal project.
3. The year the organization was established.
4. A description of the organization’s ownership and physical location(s).
 - US Businesses¹ are preferred.
 - If applicable, the Contractor shall provide a written plan to address Foreign Ownership, Control or Influence concerns, including export control. This applies to both foreign owned/operated corporations and foreign owned US branch of a foreign owned corporation.
5. Organization capabilities, including number of available staff and physical assets that are usable for the anticipated work.
6. Existing NQA-1 certification.
 - The Contractor should have an existing, certified American Society of Mechanical Engineers (ASME) Nuclear Quality Assurance (NQA-1) program². If a certification is not available, please provide within the narrative the steps and timeline associated with establishing an NQA-1 program.
7. Organization and key staff experience
 - a. 10-year minimum experience in nuclear/radioactive material disposal fields; experience with commercial power reactor or research/test reactor decommissioning is preferred; experience in reactor fabrication, waste

¹ <https://www.ecfr.gov/current/title-31/subtitle-B/chapter-VIII/part-800/subpart-B/section-800.252>

² <https://www.asme.org/certification-accreditation/nuclear-quality-assurance-nqa1-certification>

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characterization, radioactive material packaging and disposal, or similar products is acceptable.

- b. The narrative should address the technical, operational, and management challenges associated with removal of the RPV while maintaining the remainder of the facility in good operating condition for reactor restart.
8. From the Subcontractor’s perspective, a discussion of applicable regulatory requirements and potential compliance considerations.
 9. Supporting staff certifications, e.g., packaging classification specialist, leak testing specialist, welding certifications, radiation protection, or other certifications that the Subcontractor(s) deem necessary to perform the work.
 9. Certification, or planned certification, of waste disposal containers³ supporting disposal of the RPV and other radioactive or mixed waste. If certification must be obtained, include in the narrative the licensing steps and timeline.

3.2 Task 2 – Subcontractor Solutions and Insights

The Subcontractor(s) should elaborate on the discussed approach and decision points to provide the most safe, efficient, and timely removal and disposal of the old RPV. Please include the following discussion points as related to responsibilities outlined in Section 2.4 and its following subsections:

1. Waste characterization and data needs
2. RPV segmentation and approach
3. RPV removal, handling, and lifting
4. RPV shielding and closures
5. Packaging and disposal approach
6. Decay storage (optional)
7. Considerations for maintaining cleanliness, reducing risk, and time efficiency
8. Other recommendations, including choice of contract type or types appropriate for the work.

3.3 Task 3 – Budgetary Price

³ <https://www.nrc.gov/reading-rm/doc-collections/cfr/part071/full-text.html>

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The Subcontractor(s) should provide a Rough Order of Magnitude (ROM) budgetary pricing estimate that includes Non-Recurring Engineering (NRE) cost and the scope of work by responsibility outlined in Section 2.4. The proposal should also identify any additional cost considerations that could affect the total project cost and that are relevant to planning for the anticipated RPV outage period (~2038-2040).

4. RFI Schedule

This RFI will close on April 16, 2026, at 5 p.m. EDT. All deliverables shall be via email to the ORNL Procurement Officer Bill Mitchum, mitchumwc@ornl.gov. Receipt will be confirmed via email.

5. Confidential Business Information

The Contractor shall mark all proprietary or business sensitive data. The information that is anticipated to need sharing is the high-level cost estimate, schedule, and technical approach.

ORNL may share RFI responses with the Department of Energy, any subcontractors involved in the project, and with any National Laboratory as required. Any response that includes information requiring a non-disclosure agreement (NDA) before dissemination and discussion with these parties must include a written notice of such restriction and agreement to negotiate any required NDA in good faith and as expeditiously as possible.