

No. 19-56531

UNITED STATES COURT OF APPEALS
FOR THE NINTH CIRCUIT

PUBLIC WATCHDOGS,
Plaintiff/Appellant,

v.

SOUTHERN CALIFORNIA EDISON COMPANY, et al.,
Defendants/Appellees.

Appeal from the United States District Court for the Southern District of California
No. 3:19-cv-01635 (Hon. Janis L. Sammartino)

ANSWERING BRIEF OF APPELLEE
U.S. NUCLEAR REGULATORY COMMISSION

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INTRODUCTION

Pursuant to a license from Defendant U.S. Nuclear Regulatory Commission (NRC), and under extensive ongoing oversight by the NRC, the private defendants are engaged in “decommissioning” activities at the San Onofre Nuclear Generating Station (SONGS), a nuclear power plant in San Clemente, California. These NRC-supervised activities are intended to safely complete the permanent shutdown of SONGS, which ceased operating in 2013. Plaintiff Public Watchdogs objects to the decommissioning activities, particularly to the transfer of spent nuclear fuel from one part of the plant to another, contending that this transfer is unsafe. It seeks an injunction against any additional fuel transfers at SONGS.

The district court correctly held that it lacked subject matter jurisdiction over Public Watchdogs’ claim against the NRC. The court determined that the claim primarily challenged a license amendment and a certificate of compliance; under the Hobbs Act, 28 U.S.C. § 2342, those orders may be challenged only in a court of appeals and only within 60 days of issuance. The district court recognized that Public Watchdogs purported to challenge other NRC actions relating to SONGS, but it held that those actions constituted enforcement decisions that were likewise covered by the Hobbs Act. The court held in the alternative that the challenged enforcement decisions were committed to agency discretion by law under the Administrative Procedure Act (APA) and therefore unreviewable. The district

court consequently dismissed the claim against the NRC and, concluding that Public Watchdogs was unlikely to succeed on the merits, denied its request for a preliminary injunction.

As elaborated herein, the aspect of the district court's judgment dismissing Public Watchdog's claim against the NRC is correct and should be affirmed.

STATEMENT OF JURISDICTION

(a) The district court lacked jurisdiction over the claim asserted against the NRC because exclusive jurisdiction was in the court of appeals under the Hobbs Act. *See supra* Parts I and II (pp. 19-37).

(b) The district court's judgment was final because it disposed of all claims against all defendants. 1 E.R. 1. This Court has jurisdiction under 28 U.S.C. § 1291.

(c) The judgment was entered on December 3, 2019. 1 E.R. 1. Public Watchdogs filed its notice of appeal on December 31, 2019. 2 E.R. 114-17. The appeal is timely under Federal Rule of Appellate Procedure 4(a)(1)(B).

STATEMENT OF THE ISSUES

1. Whether the district court correctly dismissed the single claim against the NRC for lack of jurisdiction, where Public Watchdogs primarily challenges final orders that, under the Hobbs Act, are reviewable exclusively in the courts of appeals within a long-expired 60-day window.

2. Whether challenges to any of the “Other Agency Actions” identified by Public Watchdogs may proceed in district court.

3. Alternatively, whether the “Other Agency Actions” are unreviewable exercises of enforcement discretion, either because Public Watchdogs forfeited the issue or because it failed to submit evidence sufficient to rebut the presumption of unreviewability of such exercises.

PERTINENT STATUTES AND REGULATIONS

All applicable statutes and regulations are contained in the addendum to the Opening Brief. For the Court’s convenience, the NRC has included in the Addendum the relevant pages from two publicly available agency documents that it cited below and in this brief.

STATEMENT OF THE CASE

A. Statutory and regulatory background

1. The NRC’s regulation of nuclear power plants

The NRC is an independent regulatory commission created by Congress in the Energy Reorganization Act of 1974, 42 U.S.C. § 5841. Pursuant to the Atomic Energy Act of 1954 (AEA), 42 U.S.C. §§ 2011 et seq., the agency licenses and regulates the Nation’s civilian use of radioactive materials to protect public health and safety and to promote the common defense and security. *See id.* § 2201(b). Pursuant to the AEA, the NRC has promulgated extensive and detailed regulations,

see 10 C.F.R. Parts 50, 52, that establish “requirements for the design, construction, operation, and security of U.S. commercial nuclear power plants,” NRC, 2019-2020 Information Digest at 34, NUREG-1350, Volume 31 (Aug. 2019), <https://www.nrc.gov/docs/ML1924/ML19242D326.pdf> (NRC Information Digest).¹ These regulatory requirements, as well as numerous other obligations imposed by statute, govern the NRC’s issuance of licenses to construct and operate nuclear power plants and fuel storage facilities and to possess nuclear materials.

A person who believes that a proposed license or license amendment is inconsistent with applicable legal requirements may request a hearing before the NRC. Section 189a of the AEA provides the opportunity for a hearing in all proceedings for the issuance, modification, suspension, or revocation of an NRC license. 42 U.S.C. § 2239(a). The NRC’s final order in such a proceeding, as well as any final order in a rulemaking proceeding for the “issuance or modification of rules and regulations dealing with the activities of licensees,” is subject to judicial review in the courts of appeals under the Hobbs Act. *Id.* § 2239(a)(1), (b); 28 U.S.C. § 2342.

¹ The NRC cited and relied on this publicly available agency document, as well as the “Spent Fuel Storage” document cited on the following pages, in its Motion to Dismiss the Amended Complaint. *See* ECF No. 47, at 2-3 (Oct. 4, 2019). For the Court’s convenience, the relevant pages from these documents are included in the Addendum to this brief.

Separate and apart from granting licenses and issuing rules, the NRC oversees licensees through inspections and enforcement actions. *See* NRC Information Digest at 5. The NRC's enforcement authority includes the authority to identify a minor or non-cited violation and to impose a civil penalty. 42 U.S.C. § 2282 (authorizing civil penalties); Revision of the NRC Enforcement Policy, 85 Fed. Reg. 2445 (Jan. 15, 2020) (adjusting maximum civil penalty amount for inflation to \$300,000 per violation).

Finally, the NRC also has authority to issue orders, for enforcement purposes or otherwise, amending, suspending, or revoking a license. 10 C.F.R. § 2.202. The NRC has created a process for the public to make requests, under 10 C.F.R. § 2.206, that the agency take such action.

2. The NRC's regulation of spent nuclear fuel

The AEA authorizes the NRC to regulate the interim storage of spent nuclear fuel (sometimes known as SNF), which is the radioactive waste generated from burning nuclear fuel in a nuclear reactor. Every reactor site in the United States generates spent fuel that operators must manage and store. NRC, Safety of Spent Fuel Storage at 1, NUREG/BR-052 (Apr. 2017), <https://www.nrc.gov/docs/ML1710/ML17108A306.pdf> (Spent Fuel Storage). Nuclear plants typically store the spent fuel onsite because no repository for the ultimate disposal of spent fuel is currently available. *Id.*; NRC Information Digest at 69, 72.

When the spent fuel is first removed from a reactor, it is stored in deep pools of continuously circulating water for cooling. NRC Information Digest at 70-71. It remains there until it is transferred to “dry” storage, either in casks or canister-based systems. Spent Fuel Storage at 2. Dry casks are “typically made of leak-tight, welded, and bolted steel and concrete surrounded by another layer of steel or concrete,” while canister-based systems “feature an inner steel canister that contains the fuel surrounded by 3 feet or more of steel and concrete.” NRC Information Digest at 68; *see also* Spent Fuel Storage at 2. The licensee typically stores casks or canisters on an interim basis in specially built facilities onsite called Independent Spent Fuel Storage Installations (“fuel storage installations”).

The NRC authorizes the onsite storage of spent nuclear fuel in one of two ways: (1) it grants the operator a site-specific license following a safety review of the technical requirements and operating conditions for a fuel storage installation; or (2) it issues a Certificate of Compliance for a specific dry storage system based on a similar safety review. NRC Information Digest at 68-69. When the NRC issues a Certificate of Compliance, it then adds the approved system to the Commission’s regulations. The NRC followed this process for the canister-based system at issue in this litigation, which is designed and manufactured by Holtec International Inc. (the Holtec System). 10 C.F.R. § 72.214 (listing approval of Certificate Number 1040 for the Holtec System).

Before the NRC grants a Certificate of Compliance for a dry storage system, it subjects the system to a rigorous approval process, including public scrutiny through notice-and-comment rulemaking. The NRC's technical and safety experts closely review each application, and the NRC's inspectors visit the designer's offices, fabricators, and spent fuel storage facilities to verify they meet the agency's safety standards. Spent Fuel Storage at 3.

In reviewing applications for dry storage systems, the NRC conducts technical evaluations that include: (1) examining materials used to construct the systems; (2) verifying confinement of radioactive material and evaluating radiation shielding; and (3) ensuring that the spent fuel will not reactivate chain reactions that occur when the fuel is used in normal reactor operations. *See id.* at 4-11. The NRC approves only those systems that meet its strict requirements for safely storing spent fuel. *Id.* at 3; *see also* 10 C.F.R. § 72.236 (specifying the licensing requirements for storage of spent fuel).²

² This certification process comports with Congress's directive that the NRC certify storage systems for use at reactor sites on a generic basis. In particular, Section 218(a) of the Nuclear Waste Policy Act of 1983 directed the Department of Energy to develop storage technologies that would "to the maximum extent practicable" eliminate the need for the Commission to grant site-specific approvals. 42 U.S.C. § 10198. Section 133 of the Act in turn directed the NRC to issue a rule providing procedures for licensing any technology approved under Section 218(a). 42 U.S.C. § 10153. The NRC's certification rules are an outgrowth of Congress's directive.

Under the terms of its operating license and the applicable Certificate of Compliance, a reactor licensee may store spent nuclear fuel onsite on an interim basis in dry storage systems certified by the NRC. 10 C.F.R. §§ 72.210, 72.212. The license to operate the plant includes authority to construct and operate a dry storage facility, including while the plant is operating. The licensee may incorporate the methods that it selects for spent fuel storage into its decommissioning and spent fuel management plans. 10 C.F.R. §§ 50.54(bb), 50.82(a)(4); Final Rule, Decommissioning of Nuclear Power Reactors, 61 Fed. Reg. 39,278, 39,279-80 (July 29, 1996).

B. Factual background

For purposes of resolving the motions to dismiss, the district court properly accepted as true the factual allegations in Public Watchdogs' Amended Complaint. 1 E.R. 4 n.1. A brief summary of the court's recitation of the allegations follows.

The San Onofre Nuclear Generating Station is located in Southern California within the Camp Pendleton military base. 1 E.R. 4. Three nuclear generating units operated there, with the first shutting down in 1992 and the other two shutting down in 2013. *Id.*

Public Watchdogs alleges that SONGS has had "numerous instances of poor safety and regulatory compliance" that led to an announcement that SONGS would be permanently shut down. 1 E.R. 5. It also alleges that the NRC "has repeatedly

failed to exercise any meaningful oversight of SONGS and has abdicated its role to regulate” what it calls the “Utility Defendants.” *Id.* (The Utility Defendants are Southern California Edison Company and San Diego Gas & Electric Company, which are the co-licensees for SONGS, and Sempra Energy, which is the parent company of San Diego Gas & Electric Company.) Public Watchdogs alleges that the NRC has granted several exemptions from emergency response regulations and allowed the Utility Defendant to use a \$4.7 billion decommissioning trust fund for purposes other than decommissioning activities. *Id.*

In light of cessation of operations at SONGS, the NRC granted a license amendment on July 17, 2015 that deleted certain obligations from the license (the License Amendment). 1 E.R. 5. To decommission SONGS, the co-licensees are removing the spent nuclear fuel currently in wet storage pools and burying it in an onsite fuel storage installation (the SONGS Storage Installation). *Id.* The SONGS Storage Installation is “located in a tsunami inundation zone located between two seismic fault lines and only 108 feet from the Pacific Ocean,” and it holds the waste in canisters. 1 E.R. 6.

As noted above, the NRC approved the Holtec System by rulemaking, and this approval took effect in 2015.³ The Holtec System at SONGS will hold a total

³ Certificate of Compliance No. 1040, effective Apr. 6, 2015, <https://www.nrc.gov/docs/ML1509/ML15093A509.pdf>; List of Approved Spent Fuel Storage Casks:

of 73 multi-purpose canisters of spent fuel. 1 E.R. 6. At present, many but not all of the canisters have been loaded. Public Watchdogs alleges that the Holtec canisters are not as safe as those used by many other nuclear decommissioning projects. *Id.* It also alleges that Holtec made design changes to the canisters without the NRC's authorization, which made four canisters already in use in the SONGS Storage Installation potentially defective, and that the NRC declined to impose a civil penalty on Holtec for failing to seek pre-authorization for the design change. *Id.*

The Utility Defendants began loading canisters into the Holtec system on January 31, 2018. *Id.* Workers discovered a defective canister in March 2018. *Id.* Public Watchdogs alleges that the Utility Defendants “negligently gouged and then buried twenty-nine (29) fully loaded canisters at SONGS,” which may lead to “deeper through-the-wall cracks” that may be exacerbated by “salt air, fog, rain, and salt water” in the canisters’ location near the Pacific Ocean. *Id.*

Public Watchdogs alleges that during the burial process, the Utility Defendants nearly dropped the 49-ton canisters several times, including during an

Holtec International HI-STORM Underground Maximum Capacity Canister Storage System, Certificate of Compliance No. 1040, 80 Fed. Reg. 12,073 (Mar. 6, 2015) (codified at 10 C.F.R. § 72.214); List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM UMAX Canister Storage System, Certificate of Compliance No. 1040, Amendment No. 1, 80 Fed. Reg. 35,829 (June 23, 2015) (direct final rule reflecting enhanced seismic analysis, effectiveness confirmed via notice published at 80 Fed. Reg. 53,691 (Sept. 8, 2015)).

incident on August 3, 2018, after which they voluntarily suspended transfer of the canisters. 1 E.R. 7. After its investigations, the NRC identified several safety violations and imposed a \$116,000 fine on one of the SONGS licensees, Southern California Edison Company. *Id.* Then, in July 2019, the Utility Defendants informed the public that they were resuming burial operations, which have continued while this action has proceeded. *Id.* at 8.

C. Proceedings below and related proceedings

The present case is the second of three federal court actions filed by Public Watchdogs attempting to stop the decommissioning activities at SONGS. Those court actions are summarized below in chronological order.⁴

1. *Watchdogs I*

In November 2017, Public Watchdogs filed suit in the United States District Court for the Southern District of California against various federal entities and officials (but not the NRC), Southern California Edison Company, and San Diego Gas & Electric Company. *See Public Watchdogs v. United States*, Complaint, ECF No. 1, No. 17-cv-2323-JLS (BGS) (S.D. Cal. Nov. 15, 2017) (*Watchdogs I*). In *Watchdogs I*, Public Watchdogs alleged that the storage of fuel at SONGS

⁴ The NRC is also aware of at least one state court action instituted by Public Watchdogs related to SONGS to which the NRC is not a party. *See Public Watchdogs v. California State Lands Commission*, Minute Order, No. 37-2019-00020624-CU-WM-NC (Cal. Super. Ct. Oct. 25, 2019).

contravened the terms by which the SONGS licensees lease land from the federal government. It alleged that if a canister in the Holtec System were to break open due to mishandling or corrosion, “tens of thousands of people within 50 miles of SONGS could be exposed to levels of radiation that would cause imminent death.” *Id.* ¶ 16.

The district court dismissed the complaint for lack of Article III standing, with leave to amend. *Watchdogs I*, Order at 7, ECF No. 24 (Aug. 30, 2018). Public Watchdogs filed an amended complaint, repeating its concerns about the safety of the Holtec System and adding allegations about events that had taken place at the site in July and August 2018. *See* Amended Complaint ¶¶ 16A-Q, ECF No. 25 (Sept. 28, 2018). The federal defendants again moved to dismiss. ECF No. 35 (Oct. 30, 2018). Before the court ruled on that motion, Public Watchdogs voluntarily dismissed its action. ECF No. 50 (July 3, 2019).

2. The present action: *Watchdogs II*

Less than two months later, in August 2019, Public Watchdogs filed the present action, this time against the NRC and four private companies. 6 E.R. 1211-60. Once again, Public Watchdogs alleged that the movement of spent fuel into the Holtec System is “risking the lives of millions of California residents” and creating “the prospect for irreparable harm to the environment.” 6 E.R. 1211, ¶ 1. Specifically, Public Watchdogs challenged the License Amendment that the NRC

had issued more than four years earlier, in July 2015. 6 E.R. 1249-51. Public Watchdogs also moved for a temporary restraining order or preliminary injunctive relief to stop the decommissioning process. 6 E.R. 1186-1205.

The NRC moved to dismiss the complaint, arguing that Public Watchdogs' challenge to the License Amendment could only have been brought in a court of appeals under the Hobbs Act, and that in light of the 60-day window in which such challenges must be filed, the time for doing so had long ago expired. ECF No. 19, at 5-8 (Sept. 6, 2019). The NRC further argued that Public Watchdogs had administrative remedies available to it to address the safety concerns that it had identified at SONGS, including a citizen petition pursuant to 10 C.F.R. § 2.206 and a petition for rulemaking pursuant to 10 C.F.R. § 2.802. ECF No. 19, at 9-10.

Public Watchdogs responded by filing an amended complaint, 2 E.R. 205-59, that sought to challenge additional NRC actions that it called "Other Agency Actions." 2 E.R. 246-47. The NRC filed a second motion to dismiss, asserting that the Amended Complaint still challenged final orders by the NRC that, under the Hobbs Act, could only be challenged in the courts of appeals within 60 days of the orders' issuance; to the extent the allegations challenged something other than the License Amendment or Certificate of Compliance, they were either time-barred, failed for lack of standing, or constituted challenges to enforcement

decisions that were committed to agency discretion by law. ECF No. 47, at 6-15 (Oct. 4, 2019).

The district court granted the motions to dismiss. 1 E.R. 3-38. It recognized that Public Watchdogs continued to challenge the 2015 License Amendment and held, therefore, that it lacked jurisdiction because the Hobbs Act required challenges a final order of the NRC issuing a license amendment to be filed within 60 days and directly in the court of appeals. 1 E.R. 18-21. The court held that the same jurisdictional defect barred Public Watchdogs' challenge to the NRC-issued Certificate of Compliance for the Holtec System. *Id.*

The court also held that it lacked jurisdiction to review what Public Watchdogs called "Other Agency Actions" of the NRC. *Id.* at 21-23. The court determined that, to the extent that the challenges were not time-barred and that Public Watchdogs had standing to pursue them, those actions "tend to touch on 'issues preliminary or ancillary to'" the License Amendment and the Certificate of Compliance, "rendering the Ninth Circuit the appropriate forum pursuant to the Hobbs Act." 1 E.R. 21. In the alternative, the court held that, under *Heckler v. Chaney*, 470 U.S. 821 (1985), the NRC's other actions were presumptively unreviewable exercises of the agency's enforcement discretion, and that Public Watchdogs had failed to rebut that presumption. 1 E.R. 22-23.

As to Public Watchdogs' challenge to the NRC's issuance of exemptions, the district court acknowledged the NRC's argument that it had issued several of the exemptions well outside the APA's 6-year statute of limitations and held that any challenges to these exemptions were untimely. 1 E.R. 13 n.3, 19, 21. As to the two more recent NRC exemptions identified by Public Watchdogs (regarding liability and financial assurance), the court held that Public Watchdogs lacked standing to challenge those actions because it had failed to identify a cognizable injury flowing from those exemptions. 1 E.R. 12-14.

The court also dismissed the claims against the Utility Defendants. 1 E.R. 23-39. Finally, the court denied Public Watchdogs' request for a preliminary injunction because Public Watchdogs was unlikely to succeed on the merits. 1 E.R. 39-40. Public Watchdogs timely appealed the judgment.

3. *Watchdogs III*

As the district court noted, while *Watchdogs II* (the present action) was pending, Public Watchdogs also decided "to seek the same relief—a temporary cessation of the decommissioning efforts at SONGS—simultaneously before [the district court], the NRC, and the Ninth Circuit," resulting in "duplicative" reviews in multiple forums. 1 E.R. 21 n.4.

Specifically, on September 24, 2019, Public Watchdogs filed a petition with the NRC under 10 C.F.R. § 2.206, requesting that the NRC immediately suspend

decommissioning operations at SONGS. Fewer than thirty days later, Public Watchdogs filed a mandamus action in this Court, asserting that the agency had unreasonably delayed responding to its 2.206 petition. *Public Watchdogs v. NRC*, Emergency Petition for Writ of Mandamus, ECF No. 1, No. 19-72670 (9th Cir. Oct. 22, 2019) (*Watchdogs III*). After briefing, this Court denied mandamus, holding that the 2.206 petition “has only been before the NRC for a short period of time, and the NRC has represented to the Court in its response that it is processing the petition and has not engaged in delay.” *Watchdogs III*, Order at 4, ECF No. 19 (9th Cir. Dec. 20, 2019) (per curiam).

4. *Watchdogs IV*

On February 26, 2020, the NRC informed Public Watchdogs that it had declined to take the action that Public Watchdogs had requested in the 2.206 petition. The day before this brief was due, Public Watchdogs filed a new petition for review in this Court challenging the NRC’s decision on the 2.206 petition. *Public Watchdogs v. NRC*, Petition for Review, ECF No. 1, No. 20-70899 (9th Cir. Mar. 30, 2020) (*Watchdogs IV*).

SUMMARY OF ARGUMENT

The district court correctly dismissed Public Watchdogs' single claim against the NRC for lack of subject matter jurisdiction. This Court should affirm.

1. The Amended Complaint primarily challenges the License Amendment that the NRC issued in 2015. The district court correctly held that under the Hobbs Act, such challenges to the NRC's final orders must be filed in the court of appeals, not in the district court, and only within a 60-day window that had expired four years earlier.

2. Public Watchdogs argues that the Hobbs Act should be read narrowly so as not to bar the district court's review of a vague collection of "Other Agency Actions" identified in its Amended Complaint. This argument lacks merit.

To the extent that Public Watchdogs is contending that some or all of the listed NRC actions constitute "exemptions"—a specific type of formal NRC action that the Second Circuit has held may fall outside the scope of the Hobbs Act—that argument is inapposite because none of the listed NRC actions involve the NRC's issuing exemptions. While there were some actual NRC exemptions addressed in Public Watchdogs' Amended Complaint, Public Watchdogs does not address them in its Opening Brief, much less identify any errors in the district court's reasons for dismissing challenges to those actual NRC exemptions.

To the extent that Public Watchdogs argues more generally that the “Other Agency Actions” fall outside the scope of the Hobbs Act because they are not specifically listed in Section 189a of the AEA, that argument likewise fails. The actions to which Public Watchdogs objects—NRC decisions not to take particular enforcement actions—must first be raised in a petition to the NRC under 10 C.F.R. § 2.206. Moreover, consistent with *Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 737 (1985), the Hobbs Act requires challenges to the NRC’s rejection of a 2.206 petition to be brought in the courts of appeals in the first instance.

3. Alternatively, under *Heckler v. Chaney*, 470 U.S. 821 (1985), the discretionary enforcement determinations that Public Watchdogs challenges are presumptively unreviewable actions committed to the NRC’s discretion by law. Public Watchdogs does not appear to challenge the district court’s holding that the presumption of unreviewability of enforcement discretion applies. Instead, Public Watchdogs contends only that the court should have held that it had successfully *rebutted* this presumption. But Public Watchdogs provides only a handful of bare record cites, in a single footnote, to support this argument. Even if those bare references somehow properly preserved the issue for this Court’s review, they fail to meet the demanding standard for rebutting the presumption of unreviewability. Far from establishing the NRC has consciously and expressly adopted a general policy so extreme as to amount to an abdication of its statutory responsibilities,

Public Watchdogs' Amended Complaint confirms that the NRC has actively investigated and pursued enforcement action at SONGS.

STANDARD OF REVIEW

This Court reviews the district court's dismissal for lack of subject matter jurisdiction *de novo*. *Nuclear Information & Resource Service v. U.S. DOT Research & Special Programs Administration*, 457 F.3d 956, 958 (9th Cir. 2006).

ARGUMENT

I. The district court lacked jurisdiction over the claim against the NRC because it challenged final orders subject to the Hobbs Act.

Public Watchdogs argues that the district court “largely misconstrued the claim” against the NRC “as a tardy challenge to the License Amendment issued by the NRC in 2015.” Opening Brief 37. To the contrary, the district court accurately recognized that Public Watchdogs sought to challenge the July 2015 License Amendment and the June 2015 Amendment to the Certificate of Compliance for the Holtec System. 1 E.R. 20. The court correctly held that it lacked jurisdiction to review those actions because they are final orders of the NRC that could only be challenged in the courts of appeals within 60 days of issuance. *Id.*

Public Watchdogs forfeited any challenge to this holding. Its Opening Brief (at 25-42) utterly fails to contest the district court's conclusion that the court lacked jurisdiction to review the License Amendment and Certificate of Compliance. *See Brookfield Communications, Inc. v. West Coast Entertainment Corp.*, 174 F.3d

1036, 1046 n.7 (9th Cir. 1999) (deeming appellant’s failure to argue issues in its opening appellate brief to constitute forfeiture of those issues); *All Pacific Trading, Inc. v. Vessel M/V Hanjin Yosu*, 7 F.3d 1427, 1434 (9th Cir. 1993) (holding that issue first raised as a basis for appeal in appellant’s reply brief was forfeited, even though appellant’s opening brief did “mention” the issue in its recitation of facts).

In any event, the district court’s ruling is correct. The Hobbs Act grants the courts of appeals “exclusive jurisdiction to enjoin, set aside, suspend (in whole or in part), or to determine the validity of . . . all final orders of the [NRC] made reviewable by section 2239 of title 42.” 28 U.S.C. § 2342(4). In turn, Section 2239 of Title 42, which is Section 189a of the AEA, provides for judicial review of any final order entered in any proceeding for the “granting, suspending, revoking, or amending of any license.” 42 U.S.C. §§ 2239 (a)(1)(A), (b)(1). A party seeking review under the Hobbs Act must file a petition for review within 60 days after entry of the final order being challenged. 28 U.S.C. § 2344.

With the Hobbs Act, “Congress intended to provide for initial court of appeals review of all final orders in licensing proceedings.” *Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 737 (1985). As this Court has recognized, *Lorion* held that the Hobbs Act “is to be read broadly to encompass all final [NRC] decisions that are preliminary or incidental to licensing.” *General Atomics v. U.S. NRC*, 75 F.3d 536, 539 (9th Cir. 1996) (discussing *Lorion*, 470 U.S. at 736, 745).

Accordingly, federal courts repeatedly and uniformly reject attempts like the one here to challenge NRC decisions through avenues other than the Hobbs Act. *See, e.g., id.* at 539 (affirming the district court’s conclusion that, under the Hobbs Act, it was without jurisdiction to entertain suit seeking to enjoin an NRC hearing regarding whether General Atomics, as parent company of a licensee, can be held responsible for cleanup costs); *Michigan v. United States*, 994 F.2d 1197, 1204 (6th Cir. 1993) (holding that the district court properly held that because Michigan was challenging NRC’s regulations, it must seek relief through a petition to the NRC, with review of any adverse agency action in the court of appeals).⁵

This authority compels the same outcome here. By its plain terms, Public Watchdogs’ claim against the NRC challenges the July 2015 License Amendment, allegedly issued in alleged violation of the APA, the AEA, and NRC regulations. 2 E.R. 246-49, ¶¶ 101-106. As Public Watchdogs alleges, the License Amendment is a “final enactment, subject to immediate challenge and action by reason of current, subsisting, and binding effect.” 2 E.R. 246, ¶ 102. And Public Watchdogs seeks to enjoin “the NRC from allowing the SONGS Defendants to proceed with

⁵ *Accord Center for Nuclear Responsibility, Inc. v. NRC*, 586 F. Supp. 579, 580-81 (D.D.C. 1984) (holding that an NRC finding was a final order reviewable under the Hobbs Act and thus “reviewable only in the Court of Appeals”); *City of West Chicago v. NRC*, 542 F. Supp. 13, 15 (N.D. Ill. 1982) (holding that court of appeals has exclusive jurisdiction to review attack on the validity of license amendment), *aff’d*, 701 F.2d 632 (7th Cir. 1983).

the decommissioning as provided for *in the License Amendment.*” 2 E.R. 249, ¶ 109 (emphasis added); *see also* 2 E.R. 249, ¶ 111 (“If not enjoined by this court, Defendant NRC will continue to allow the SONGS Defendants to rely on *the License Amendment* and Other Agency Actions to continue removing SNF from wet storage, transferring it to defective canisters, and entombing it along the coast for the foreseeable future.” (emphasis added)). Public Watchdogs’ lawsuit against the NRC is therefore a direct challenge to the agency’s decision to issue the License Amendment. Under the plain terms of the Hobbs Act and interpreting case law, a party must bring such a challenge in the court of appeals within 60 days of issuance of the License Amendment.

The Amended Complaint also challenges the safety and design of the Holtec System. 2 E.R. 228-34, ¶¶ 54-65. The NRC approved the Holtec System in the June 2015 Amendment to the Certificate of Compliance. The district court correctly held that the Certificate of Compliance is also a final order over which it lacked jurisdiction because any challenge should have been filed in the court of appeals within 60 days of issuance. 1 E.R. 19-21.

This does not mean that concerned citizens have no remedies in connection with licensing decisions or the NRC’s ongoing regulatory oversight of nuclear power plant operations. For example, any interested person could have challenged the License Amendment, and the NRC provided notice of this opportunity in

accordance with 42 U.S.C. § 2239(a)(2). *See* 79 Fed. Reg. 55,507, 55,508, 55,513 (Sept. 16, 2014) (notice of receipt of amendment request, upon which interested parties could request a hearing); *see also* 80 Fed. Reg. 46,345, 46,355 (Aug. 30, 2015) (notice of issuance of amendment). Neither Public Watchdogs nor any other entity commented upon the License Amendment request when the NRC published it in the Federal Register or requested a hearing on the amendment.

Similarly, any interested person could have participated in the rulemaking in which the NRC certified the Holtec System. *See* List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM Underground Maximum Capacity Canister Storage System, Certificate of Compliance No. 1040, 80 Fed. Reg. 12,073 (Mar. 6, 2015) (final rule, issued after notice and comment, certifying use of Holtec cask system used at SONGS); List of Approved Spent Fuel Storage Casks: Holtec International HI-STORM UMAX Canister Storage System, Certificate of Compliance No. 1040, Amendment No. 1, 80 Fed. Reg. 35,829 (June 23, 2015) (direct final rule reflecting enhanced seismic analysis, effectiveness confirmed by notice, 80 Fed. Reg. 53,691 (Sept. 8, 2015)). But Public Watchdogs failed to follow the Hobbs Act in challenging the NRC's certification of the Holtec System. *See* 42 U.S.C. § 2239(a)(1)(A); *id.* § 2239(b)(1) (final orders in proceedings for the promulgation of "rules and regulations dealing with the activities of licensees" are subject to judicial review in courts of appeals).

Public Watchdogs’ opportunity to bring safety concerns directly to the NRC has continued since the NRC issued the License Amendment. Under 10 C.F.R. § 2.206, a person may request that the NRC commence a proceeding to “modify, suspend, or revoke a license, or for any other action as may be proper,” and the courts of appeals have jurisdiction to review the NRC’s disposition of those requests. *Id.* § 2.206(a); *see also Lorion*, 470 U.S. at 746. And Public Watchdogs has pursued this avenue by submitting a 2.206 petition to the NRC and (the day before this answering brief was due) initiating the *Watchdogs IV* petition for review in this Court.

In short, Public Watchdogs is not without recourse. But it must follow Congress’s designated avenue for challenging NRC decisions. Because it failed to do so here, the district court lacked subject matter jurisdiction.

II. The district court likewise lacked jurisdiction over the “Other Agency Actions” challenged by Public Watchdogs.

In this Court, Public Watchdogs focuses on a subset of the vaguely defined “Other Agency Actions” first added in its Amended Complaint. *See* Opening Brief 37-38; 2 E.R. 246, ¶ 102. The district court correctly dismissed Public Watchdogs’ challenge to all of the Other Agency Actions, including the subset that it continues to challenge here. As elaborated below, the NRC actions that Public Watchdogs identifies here as a basis for district court subject matter jurisdiction are not “exemptions” like the NRC action that the Second Circuit addressed in *Brodsky v.*

NRC, 578 F.3d 175 (2d Cir. 2009). Moreover, the broader argument that Public Watchdogs advances—that the Hobbs Act does not apply to the NRC’s decision not to take enforcement actions—is foreclosed by *Lorion*, in which the Supreme Court held that the NRC’s decisions of that type *are* in fact covered by the Hobbs Act when the agency denies a 2.206 petition and therefore must be challenged in the court of appeals.

A. None of the NRC actions that Public Watchdogs identifies are “exemptions” that could be challenged in district court.

Public Watchdogs’ primary argument is that some of the “Other Agency Actions” are not covered by the Hobbs Act—and thus can be heard in district court—because they are not actions of a type to which Section 189a of the AEA specifically refers. Opening Brief 30-34, 41-42. And Public Watchdogs implies that at least some of these actions are “exemptions”—a type of NRC action that the Second Circuit has held fall outside the scope of the Hobbs Act, such that they are reviewable in the district court under the APA. *See* Opening Brief 30-32 (discussing *Brodsky*); *id.* at 38-39 (stating, with respect to two of the five NRC actions listed as the basis for district court subject matter jurisdiction, that NRC “exempted” Holtec and the SONGS Defendants, respectively, from certain NRC requirements). This Court need not decide whether *Brodsky* is correct because the instant appeal does not actually involve any NRC exemptions, rendering *Brodsky* inapposite. In other words, none of the NRC actions identified by Public

Watchdogs involves the NRC's actually granting an exemption. Therefore, Public Watchdogs' reliance on *Brodsky* as a basis for challenging NRC actions in district court must fail.

An NRC "exemption" is a specific formal NRC action that, as its name implies, officially relieves an NRC licensee going forward of the obligation to comply with one or more regulatory requirements that would otherwise apply without exposing itself to the risk of possible NRC enforcement action. *See, e.g., Brodsky*, 578 F.3d at 177-79 (describing formal request by an NRC reactor licensee, and the NRC's disposition of the request, for an exemption to an NRC requirement under NRC fire protection regulations); *Honeywell International, Inc. v. NRC*, 628 F.3d 568, 572-76 (D.C. Cir. 2010) (describing formal requests by an NRC source material licensee for time-limited exemptions and concluding that judicial review of the NRC's disposition of those requests was subject to exclusive review in the court of appeals under the Hobbs Act because the NRC treated the exemptions as a license amendment).

The NRC grants exemptions pursuant to specific provisions in its regulations. For example, the regulations that address licensing requirements for independent spent fuel storage installations authorize the agency to grant exemptions to those requirements. *See* 10 C.F.R. § 72.7 ("The Commission may, upon application by any interested person or upon its own initiative, grant such

exemptions from the requirements of the regulations in this part as it determines are authorized by law and will not endanger life or property or the common defense and security and are otherwise in the public interest.”); *see also id.* § 50.12 (authorizing and providing criteria and procedures for issuance of exemptions to regulations governing nuclear power plants). Public Watchdogs acknowledges that exemptions are NRC actions taken pursuant to particular regulations that authorize them. Opening Brief 31 n.11.

Importantly, unlike NRC decisions on whether or how to *enforce* regulatory requirements that *are* in place, the NRC’s grant of an exemption must comply with the criteria in the NRC’s regulations for granting exemptions. While those criteria grant the NRC discretion to decide whether to grant an exemption, *see* 10 C.F.R. § 72.7; *id.* § 50.12, they provide law to apply for purposes of judicial review. Accordingly, in cases such as *Brodsky* and *Honeywell*, judicial review of formal NRC exemptions issued under the NRC’s exemption regulations has not been foreclosed on the ground that they are committed to agency discretion by law within the meaning of the APA. *See* 5 U.S.C. § 701(a)(2).

But the NRC actions that Public Watchdogs contends constitute agency decisions that are reviewable in district court, Opening Brief 38-39, are not “exemptions” issued by the agency under 10 C.F.R. §§ 50.12 or 72.7 (or under any other NRC regulation authorizing exemptions). Instead, these actions all involve

the NRC's exercise of its enforcement functions regarding regulatory requirements that *do* apply to SONGS (that is, from which SONGS is *not* exempt). Public Watchdogs may use variations on the term "exemption" in describing some of the listed actions, but that does not make them so or bring them within *Brodsky's* reach. Indeed, none of the five actions identified by Public Watchdogs reflects the NRC's granting an actual exemption from its regulatory requirements.

First, Public Watchdogs asserts that "the NRC exempted Holtec from the requirement of seeking prior approval for its design change to the dry storage canister shim bolts." Opening Brief 38 (citing 2 E.R. 232, 234-35, 239-41).⁶ None of the allegations in the Amended Complaint, however, describes or references the NRC's issuance of an actual exemption concerning such a design change. Instead, they contain an allegation that "the NRC has been reluctant to censure the SONGS Defendants for their repeated disregard of NRC regulations and that the NRC considered fining SONGS but did not do so," 2 E.R. 232, as well as a discussion of the NRC's investigation of Holtec for potential violations of NRC regulations, 2 E.R. 239-41. Further, Public Watchdogs refers to a news article to support its assertions regarding the NRC's consideration of a fine, but the article does not mention any grant of an exemption by the NRC. *Id.* at 232. Thus, the NRC

⁶ Public Watchdogs' Corrected Opening Brief actually cites "ER 532, 234-351, 239-41." Those citations appear to be in error. Based on the uncorrected Opening Brief, the record cites should be the ones identified in the text above.

“action” identified by Public Watchdogs reflects the NRC’s considering whether and in what manner to enforce requirements applicable to SONGS.

Second, Public Watchdogs contends that “the NRC relieved Holtec from complying with the certificate of compliance” for canisters that had been “scuffed, scratched, and dented.” Opening Brief 38 (citing 2 E.R. 235-36, 246). But the Amended Complaint does not identify any NRC “exemption” issued regarding any certificate of compliance; indeed, there was none. Rather, after recounting that the NRC had issued an inspection report regarding the canisters in question, 2 E.R. 235, Public Watchdogs alleges that the NRC needed to investigate the matter more than it did, 2 E.R. 236. Public Watchdogs then argues that the NRC “accept[ed] amendments to certificates of compliance and grant[ed] exemptions from other statutory and regulatory requirements.” 2 E.R. 246. But Public Watchdogs fails to identify any actual exemption from a certificate of compliance. In fact, it suggests that any “exemptions” were from requirements *other than* certificates of compliance; but, again, no actual NRC-issued exemption is identified.

Third, Public Watchdogs argues that “the NRC exempted the SONGS Defendants from having to file an event report for the July 22 near drop event.” Opening Brief 38 (citing 2 E.R. 238-39). Yet, these allegations in the Amended Complaint do not describe the NRC’s issuing an actual exemption freeing SONGS, going forward, from a requirement to file event reports; and, in fact, no such

exemption was issued. Instead, Public Watchdogs appears to be objecting to the NRC's declining to take an enforcement action against SONGS for not filing the event report. 2 E.R. 239.

Fourth, Public Watchdogs asserts that the NRC “permitted Holtec—the subcontractor *directly responsible* for the nuclear incidents the prior year—to continue moving radioactive fuel out of wet storage and burying it in silos.” Opening Brief 39 (emphasis in original) (citing 2 E.R. 241-42). But while the allegations discuss the NRC's considering the issuance of violations to Holtec, they provide no discussion of the NRC's permitting Holtec to move spent fuel from wet storage to dry storage. Nor is there any mention, either in Public Watchdogs' Amended Complaint or in its Opening Brief, of the NRC's issuing an exemption that would permit this.

Fifth, Public Watchdogs contends that in “July 2019, the NRC permitted the SONGS Defendants to again begin moving, transferring, and burying spent nuclear fuel” at SONGS, “despite the two ‘Severity Level II’ incidents in 2018.” Opening Brief 39 (citing 2 E.R. 126, 139, 242-43). The Amended Complaint describes the NRC's issuance of a Notice of Violation that identified two safety violations and further alleges that on July 15, 2019, the SONGS Defendants “notified the public that Defendant Holtec was again moving [spent nuclear fuel] from wet storage to canisters” and that “Defendant NRC approved the [SONGS] request to continue

the transfer of [spent nuclear fuel] to Holtec canisters.” 2 E.R. 242. Again, no actual NRC “exemption” is identified, either in the Public Watchdogs’ description of this “action” in its brief or in the Amended Complaint.

Simply stated, Public Watchdogs has failed to identify an exemption that would provide a basis for jurisdiction in district court under *Brodsky*. In fact, as Public Watchdogs alleged in its Amended Complaint, the NRC issued a notice of violation to SONGS and imposed a monetary penalty in connection with some of the NRC actions about which Public Watchdogs complains. *See* 2 E.R. 242, ¶ 91. If the NRC had issued SONGS “exemptions” from the relevant requirements, as Public Watchdogs implies, the NRC would then have lacked a basis to issue a notice of violation or impose a fine.

B. The district court properly dismissed any challenge to the exemptions that the NRC did issue, and Public Watchdogs has forfeited any contrary argument.

The only NRC-issued exemptions that Public Watchdogs did identify in its Amended Complaint were (1) a series of exemptions issued by the NRC in 2001 and earlier, challenges to which plainly are outside of any applicable statute of limitations; and (2) two more recent ones (in 2014 and 2018, respectively) that exempted SONGS from certain requirements regarding decommissioning funding and liability, which that the district court correctly determined Public Watchdogs lacked standing to challenge. *See* 2 E.R. 220-22, ¶ 39a-g (listing exemptions).

The district court correctly dismissed challenges to the first category of exemptions as outside any applicable statute of limitations that might apply. 1 E.R. 13 n.3 (dismissing challenges to 2001-and-earlier exemptions as untimely). And the court correctly dismissed challenges to the 2014 and 2018 exemptions because Public Watchdogs failed to demonstrate that any of its members would suffer an Article III injury-in-fact caused by those two exemptions. 1 E.R. 12-14.

Those rulings are correct, and Public Watchdogs does not object to them. None of the NRC actions to which Public Watchdogs points refers to any of these exemptions. Opening Brief 38-39. And its brief is silent on the district court's ruling that it failed to comply with the statute of limitations and lacked Article III standing as to the NRC exemptions. Accordingly, Public Watchdogs has forfeited any challenges based on those exemptions.

C. A challenge to the NRC's purported decision *not* to take enforcement action is subject to the Hobbs Act.

The relief that Public Watchdogs sought in the district court included “a temporary halt to the transfer and movement of” spent fuel to the SONGS’ Storage Installation until an independent risk assessment is conducted and “a realistic plan for the safe transfer and long-term storage of spent nuclear fuel.” Opening Brief 4. In other words, Public Watchdogs seeks suspension of SONGS’ NRC license to conduct that decommissioning activity. As discussed above, this challenge is most properly viewed as a belated attempt to challenge the License Amendment and

Certificate of Compliance in the wrong court. In that sense, the district court construed the “Other Agency Actions” to be “issues preliminary or ancillary” to the License Amendment and the Certificate of Compliance, such that this Court would be the appropriate forum in which to address those actions under the Hobbs Act. *See* 1 E.R. 21 (citing *General Atomics*, 75 F.3d at 539, and other cases).

To the extent that Public Watchdogs now arguing that it nevertheless may file a challenge in the district court to the NRC’s decisions (as part of its ongoing regulatory oversight) not to take additional enforcement action or to suspend decommissioning activities, that argument is foreclosed by the Supreme Court’s decision in *Lorion*. There, the Court explained that Congress intended the Atomic Energy Act to mandate direct review in the court of appeals under the Hobbs Act even for NRC “decisions *not* to suspend, revoke, or amend” a license. 470 U.S. at 738 (emphasis in original). Accordingly, *Lorion* held that a judicial challenge to the NRC’s denial of a 2.206 petition seeking suspension of a nuclear power plant’s license to operate was covered by the Hobbs Act and thus properly brought in the court of appeals. *Id.* at 731-32, 746; *see also Safe Energy Coalition v. U.S. NRC*, 866 F.2d 1473, 1476-80 (D.C. Cir. 1989) (conducting direct review of challenge to NRC denial of 2.206 petition that asked the NRC to take various actions to address alleged deficiencies in a licensee’s quality assurance program); *Massachusetts Public Interest Research Group Inc. v. NRC*, 852 F.2d 9 (1st Cir. 1988)

(conducting direct review of challenge to NRC denial of 2.206 petition that asked the NRC to order a licensee to show cause as to why the licensee's nuclear plant should not remain closed or have its operating license suspended).

The NRC actions identified by Public Watchdogs as the basis for the district court's jurisdiction all amount to either (1) NRC decisions not to take enforcement action regarding SONGS' license; or (2) NRC decisions to take enforcement actions regarding SONGS' license, but not the enforcement actions that Public Watchdogs would prefer. Opening Brief 38-39; *see also id.* at 37 (“[A]ny fair reading of the *entire* Amended Complaint reveals that the APA challenge was to the recent failure of the NRC to halt the SONGS Defendants' dangerous movement and burial of spent nuclear fuel.” (emphasis in original)). But if Public Watchdogs seeks to challenge the NRC's enforcement actions, the proper course under the agency's regulations and *Lorion*, is to submit a 2.206 petition to the NRC seeking that action and then, if the NRC denies the petition, to file a challenge to that denial in the courts of appeals.

Indeed, that has happened here. After Public Watchdogs filed its Amended Complaint, it submitted a 2.206 petition to the NRC requesting that the NRC take the same enforcement action sought in this suit based on what Public Watchdogs concedes is an overlapping set of facts; the NRC has since declined to take that requested action. *See* 1 E.R. 9, 21 n.4; Opening Brief 18-20. And the day before

this brief was due, Public Watchdogs filed in this Court a new petition for review of the NRC's decision on the 2.206 petition (*Watchdogs IV*).

The fact that Public Watchdogs did not submit its 2.206 petition to the NRC until *after* it filed its Amended Complaint in the district court does not undermine the Hobbs Act's applicability here. In assessing whether the Hobbs Act covers a particular action, *Lorion* dictates that courts must look to the "subject matter of the [NRC] action." *Lorion*, 470 U.S. at 739. Accordingly, the Hobbs Act's coverage of a particular NRC action—and consequently whether judicial review of the action must be sought in the court of appeals rather than district court—does not depend on whether the litigant challenging the action in court chose first to pursue a particular procedural avenue before the NRC. *See Lorion*, 470 U.S. at 742 (reasoning that a "sorting process" for determining the proper court level based on whether relief was sought first at the NRC "would result in some final orders in licensing proceedings receiving two layers of judicial review and some receiving only one," and concluding that "[a]bsent a far clearer expression of congressional intent, we are unwilling to read the Act as creating such a seemingly irrational bifurcated system." (internal quotation marks omitted)).

Based on *Lorion*, then, Public Watchdogs cannot divert judicial review of an NRC enforcement decision from the court of appeals to the district court simply by declining to first file a 2.206 petition with the NRC. Instead, *Lorion* dictates that

challenges to an NRC decision not to suspend licensed operations at a facility must be brought in the court of appeals, regardless of the litigant's procedural choices before the agency.⁷ Public Watchdogs' judicial challenge to NRC determinations not to suspend decommissioning activities at SONGS is thus required, per the Hobbs Act, to be filed in the court of appeals following the agency's resolution of its 2.206 petition. The district court was therefore correct that it lacked subject matter jurisdiction to review this sort of challenge. *See* 1 E.R. 21-22 (explaining its holding based on the NRC actions involving "issues preliminary or ancillary to the July 2015 License Amendment and the Certificate of Compliance for the Holtec system," and citing *Lorion* and various other cases involving the NRC).

Public Watchdogs also raises several broad arguments about the Hobbs Act, with the apparent intent to suggest that the Court adopt a narrow reading of the Act that would exclude the listed NRC actions. Opening Brief 30-35. In addition to arguments already discussed, Public Watchdogs also points to two concurring opinions in *PDR Network, LLC v. Carlton & Harris Chiropractic, Inc.*, 139 S. Ct. 2051 (2019), in support of this generalized argument. Opening Brief 32-34.

⁷ Of course, a party's procedural choices before the agency are relevant to the *success* of any Hobbs Act petition for review in the court of appeals. For example, filing a 2.206 petition comports with basic administrative exhaustion principles by allowing the NRC to consider the petitioner's specific concerns, develop an associated record, and potentially even resolve the matter to the petitioner's satisfaction before judicial review is ever sought.

Neither of the cited opinions is apposite. The first of the two concurrences questioned the constitutionality of interpreting the Hobbs Act's jurisdictional bar to bar federal courts from questioning an agency's previously issued interpretation of a statute in a case that is within the court's jurisdiction. *See* 139 S. Ct. at 2056-57 (Thomas, J., concurring). But the instant case does not involve questions of judicial deference to agency-issued interpretive rules. Nor does Public Watchdogs explain any particular connection between that issue and the issues in the instant case (apart from the fact that both cases involve the Hobbs Act).

The second *PDR* concurrence reasons that where a party subject to an agency enforcement action challenges that action in the district court, the Hobbs Act does not preclude that court's review of an agency legal interpretation underlying the enforcement action, even if the Hobbs Act might have provided for *pre-enforcement* review of the agency interpretation in the court of appeals. *Id.* at 2057-67 (Kavanaugh, J., concurring). But the instant case does not involve the issue of judicial deference to agency interpretive rules, the issue at the center of *PDR Network*. Further, Public Watchdogs was not in district court challenging an enforcement action taken against itself; rather, Public Watchdogs sought *further* NRC enforcement action against *another party* (that is, the SONGS licensee). Once again, there is no apparent link between this concurring opinion and the instant appeal, apart from the fact that both cases involve the Hobbs Act.

Accordingly, the *PDF* concurrences have no bearing on the jurisdictional issues present in the instant case. As *Lorion* directs, NRC decisions declining to order the suspension of licensed activities that Public Watchdogs seeks are covered by the Hobbs Act, and judicial review of such actions must be sought in the court of appeals, not the district court, after the agency has denied a 2.206 petition.

Therefore, the district court lacked subject matter jurisdiction over the “Other Agency Actions” challenged by Public Watchdogs.

III. In the alternative, Public Watchdogs has failed to rebut the presumption of unreviewability concerning the NRC’s discretionary enforcement determinations.

In addition to holding that it lacked jurisdiction to review the “Other Agency Actions” challenged by Public Watchdogs because the Hobbs Act required review of the NRC’s final orders in the courts of appeals, the district court held that the NRC’s enforcement decisions at SONGS are presumptively unreviewable under *Heckler v. Chaney*, 470 U.S. 821 (1985), and that Public Watchdogs had failed to rebut that presumption. 1 E.R. 22-23. Public Watchdogs addresses the court’s alternative holding only in a footnote, and it raises no argument as to why the presumption does not apply. Opening Brief 42 n.14. It therefore either concedes that the presumption applies or has forfeited any such argument or both. In any event, the footnote fails to rebut the *Heckler* presumption. The district court’s judgment therefore may be affirmed on this independent ground.

A. The *Heckler v. Chaney* presumption of unreviewability applies to the NRC’s discretionary enforcement decisions.

The district court correctly held that the “Other Agency Actions” that Public Watchdogs now points to on appeal, Opening Brief 38-39, are discretionary enforcement decisions that are “committed to agency discretion by law.” 1 E.R. 22 (quoting 5 U.S.C. § 701(a)(2)). Thus, as the district court held, *Heckler v. Chaney*’s rebuttable presumption of unreviewability applies. *Id.*; see *City & County of San Francisco v. U.S. DOT*, 796 F.3d 993, 1001 (9th Cir. 2015) (“*Heckler* carved out a presumption of unreviewability of an agency’s decision not to take enforcement action”); *Sierra Club v. Whitman*, 268 F.3d 898, 903 (9th Cir. 2001) (agency’s “decision not to take enforcement measures, like a prosecutor’s decision not to indict, is one that is typically committed to the agency’s absolute discretion”); *Safe Energy Coalition*, 866 F.2d at 1476-80 (NRC’s decision declining to take enforcement action regarding alleged deficiencies in a licensee’s quality assurance program was not subject to judicial review); *Massachusetts Public Interest Research Group*, 852 F.2d at 14-19 (NRC’s decision declining to take enforcement action against nuclear facility, despite petitioner’s concerns relating to public health and safety, was not subject to judicial review).⁸

⁸ *Accord Arnov v. NRC*, 868 F.2d 223, 234-35 (7th Cir. 1989) (dismissing petition for lack of jurisdiction because, pursuant to the Atomic Energy Act, “Congress has entrusted the NRC with wide, unreviewable discretion in the area of agency

Importantly, Public Watchdogs only mentions the *Heckler* presumption of unreviewability in a single footnote, and it does *not* challenge the district court’s conclusion that the “Other Agency Actions” identified by Public Watchdogs are covered by that presumption. Opening Brief 42 n.14. Public Watchdogs therefore has conceded or forfeited any such argument. Accordingly, the only possible issue for the Court is whether Public Watchdogs has rebutted the presumption. As set forth below, it has not.

B. Public Watchdogs has failed to rebut the presumption of unreviewability.

Public Watchdogs argues only that the district court “erred by not allowing the case to proceed under the theory that the NRC had ‘consciously and expressly adopted a general policy’ that is so extreme as to amount to an abdication of its statutory responsibilities.” Opening Brief 42 n.14 (quoting *Heckler*, 470 U.S. at 833). Relying on *Riverkeeper, Inc. v. Collins*, 359 F.3d 156, 166-71 (2d Cir. 2004), the district court correctly held that Public Watchdogs failed to meet its burden to rebut the presumption. 1 E.R. 22.

enforcement,” and no NRC regulation otherwise provided court with a standard for judicial review), *overruling recognized in Kolton v. Frerichs*, 869 F.3d 532, 534 (7th Cir. 2017). The Seventh Circuit has since held that dismissal based on an un rebutted *Heckler* presumption of unreviewability is a dismissal on the merits, not for lack of subject matter jurisdiction. *Builders Bank v. Federal Deposit Insurance Corporation*, 846 F.3d 272, 274-75 (7th Cir. 2017). The end result of dismissal, however, remains the same.

Although Public Watchdogs has used the formula of an “extreme” “general policy,” it has identified no such NRC policy. Indeed, the Opening Brief contains no explanation whatsoever to support its assertion that Public Watchdogs has rebutted the presumption. Rather, it merely directs the Court, in a single footnote and without elaboration, to dig into a series of pages in the record that it claims involve “details [sic] factual allegations” supporting its rebuttal assertion. Opening Brief 42 n.14 (citing “*E.g.* ER 206, 210, 216-17, 280-336”). Thus, even as to the rebuttal question, Public Watchdogs has forfeited it as a ground for appeal. *See Carmickle v. Commissioner, Social Security Administration*, 533 F.3d 1155, 1161 n.2 (9th Cir. 2008) (“We do not address this finding because Carmickle failed to argue this issue with any specificity in his briefing.”); *Brookfield Communications*, 174 F.3d at 1046 n.7 (addressing forfeiture of grounds for appeal).

Even if Public Watchdogs has not forfeited this argument, examination of the record evidence identified in its footnote reveals that its allegations of agency “abdication” amounts to two documents. The first is a report issued in 1999 by a public interest group that took issue with the NRC’s historical approach to regulating. *See* 1 E.R. 210, 216 (allegations in Amended Complaint citing the 1999 report); 2 ER 280-336 (the 1999 report). The second is a 2002 NRC staff letter explaining, as a basis for the NRC’s resolution of a SONGS-related petition under 10 C.F.R. § 2.206, that the NRC had directed the licensee to conduct further

seismic evaluations, reviewed the “extensive study” the licensee developed, and concluded based on that review that seismic safety at SONGS was adequate to protect the public. *See* 1 E.R. 217 (Amended Complaint allegations citing 2002 NRC staff letter), 2 E.R. 352-53 (the 2002 NRC staff letter).

These allegations and two underlying documents do not support finding a policy of abdication, or even a policy that has anything to do with this case. Public Watchdogs’ claim against the NRC does not challenge NRC decisions made in the 1990s or early 2000s. Instead, the NRC actions that Public Watchdogs identifies as the basis for the district court’s subject matter jurisdiction are from 2018 and 2019. Opening Brief 38-39. Whatever support a 1999 report by a public interest group and an isolated 2002 letter from the NRC explaining its resolution of a 2.206 petition theoretically lend to a “general policy” inference as of the late 1990s or early 2000s, plainly they cannot alone serve as the basis to infer the existence of any general NRC enforcement policy two decades later. And the lone footnote on this topic in Public Watchdogs’ Opening Brief certainly provides no more. In sum, merely citing a handful of conclusory allegations in the Amended Complaint that trace back to two roughly two-decades-old documents fails to meet the very high hurdle described in *Riverkeeper* for rebutting the presumption of unreviewability on an “abdication” basis.

In any event, the NRC decisions described in the Opening Brief hardly suggest the NRC has “abdicated” its statutory responsibilities. As *Riverkeeper* explained, the possibility of rebutting the presumption of unreviewability does not “create[] jurisdiction on an ‘abdication’ basis every time an administrative agency declines to order demanded action on an asserted discrete, perceived problem within its area of statutory responsibility.” 359 F.3d at 169; *see also Safe Energy Coalition*, 866 F.2d at 1476-80 (declining to find NRC decision not to take particular enforcement action judicially reviewable); *Massachusetts Public Interest Research Group*, 852 F.2d at 14-19 (same). As *Riverkeeper* reasoned, “[s]uch an exception to the rule that failure to institute an enforcement action is generally not reviewable would threaten to devour the rule.” 359 F.3d at 169.

Here, while Public Watchdogs has pointed to certain discrete events where it disagreed with the NRC’s enforcement approach, Public Watchdogs has identified no “general policy” that the NRC “consciously and expressly adopted,” let alone one “so extreme as to amount to an abdication of its statutory responsibilities.” *Riverkeeper*, 359 F.3d at 166-67 (quoting *Heckler*, 470 U.S. at 833 n.4); *see also Big Country Foods, Inc. v. Board of Education*, 952 F.2d 1173, 1176-77 (9th Cir. 1992) (holding that there was no rebuttal of the presumption of unreviewability, whether based on an “abdication” theory or otherwise, regarding a Department of Agriculture decision not to enforce certain regulations against Alaska).

As Public Watchdogs conceded in its Amended Complaint, the NRC has actively investigated the events at the SONGS Storage Installation about which Public Watchdogs is concerned and has made various enforcement decisions, including finding violations of NRC requirements and imposing a civil monetary penalty. 2 E.R. 238-39. Public Watchdogs clearly would prefer that the NRC take more aggressive enforcement actions. But that reflects disagreement as to how the NRC is exercising its enforcement functions, not an “extreme” general NRC policy of abdicating its oversight responsibilities at SONGS.

In sum, Public Watchdogs’ sole footnote addressing the issue in its brief fails to show error in the district court’s holding that it lacked jurisdiction, based on an unrebutted presumption of unreviewability, over the subset of “Other Agency Actions” that Public Watchdogs identifies on appeal. The unrebutted presumption of unreviewability therefore constitutes a separate and independent basis (in addition to the Hobbs Act considerations addressed in Parts I and II above) for this Court to affirm the district court’s decision dismissing the claim against the NRC for lack of subject matter jurisdiction as to those “Other Agency Actions.”

CONCLUSION

For the foregoing reasons, the Court should affirm the district court's judgment dismissing Public Watchdogs' single claim against the NRC.

Respectfully submitted,

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March 31, 2020

DJ 90-1-0-15945

STATEMENT OF RELATED CASES

As discussed above (pp. 15-16), this case is related to *Watchdogs IV*, a new case that Public Watchdogs filed in this Court. *See Public Watchdogs v. NRC*, Petition for Review, ECF No. 1, No. 20-70899 (9th Cir. Mar. 30, 2020).

Form 8. Certificate of Compliance for Briefs

9th Cir. Case Number(s) 19-56531

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This brief contains 10,518 words, excluding the items exempted by Fed. R. App. P. 32(f). The brief's type size and typeface comply with Fed. R. App. P. 32(a)(5) and (6).

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[] is accompanied by a motion to file a longer brief pursuant to Cir. R. 32-2(a).

Signature s/ Justin D. Heminger

Date March 31, 2020

ADDENDUM

NRC, 2019-2020 Information Digest, NUREG-1350,
Volume 30 (Aug. 2019),
<https://www.nrc.gov/docs/ML1924/ML19242D326.pdf> 1a

NRC, Safety of Spent Fuel Storage, NUREG/BR-052 (Apr. 2017),
<https://www.nrc.gov/docs/ML1710/ML17108A306.pdf> 10a

NRC, 2019-2020 Information Digest
NUREG-1350, Volume 30 (Aug. 2019)



2019-2020

INFORMATION DIGEST



Major Activities

The NRC fulfills its responsibilities by doing the following:

- licensing the design, construction, operation, and decommissioning of commercial nuclear power plants and other nuclear facilities
- licensing the possession, use, processing, handling, exporting, and importing of nuclear materials
- establishing national policy and standards for the safe disposal of low-level radioactive waste
- certifying the design, construction, and operation of commercial transportation casks for radioactive materials and waste
- licensing the design, construction, and operation of spent fuel storage casks and interim storage facilities for spent fuel and high-level radioactive waste
- licensing nuclear reactor operators
- licensing uranium enrichment facilities
- conducting research to develop regulations and to anticipate potential reactor and other nuclear facility safety issues
- collecting, analyzing, and disseminating information about the safe operation of commercial nuclear power reactors and certain nonreactor activities
- issuing safety and security regulations, policies, goals, and orders that govern nuclear activities
- interacting with other Federal agencies, foreign governments, and international organizations on safety and security issues
- conducting criminal, civil, and administrative investigations of alleged violations by NRC licensees
- inspecting NRC licensees to ensure adequate performance of safety and security programs
- enforcing NRC regulations and the conditions of NRC licenses and imposing, when necessary, civil sanctions and penalties
- conducting public hearings on nuclear and radiological safety and security and on environmental concerns
- implementing international legal commitments made by the U.S. Government in treaties and conventions

NUCLEAR REACTORS

- investigating allegations of inadequacy or impropriety associated with NRC-regulated activities
- incorporating independent advice from the ACRS, which holds both full committee meetings and subcommittee meetings during each year to examine potential safety issues for existing or proposed reactors

Oversight of U.S. Commercial Nuclear Power Reactors

The NRC establishes requirements for the design, construction, operation, and security of U.S. commercial nuclear power plants. The agency ensures the plants operate safely and securely within these requirements by licensing the plants to operate, licensing control room personnel, establishing technical specifications for operating each plant, and inspecting plants daily.

Reactor Oversight Process

The NRC's Reactor Oversight Process (ROP) verifies that U.S. reactors are operating in accordance with NRC rules, regulations, and license requirements. If reactor performance declines, the NRC increases its oversight to protect public health and the environment. This can range from conducting additional inspections to shutting a reactor down.

The NRC staff uses the ROP to evaluate NRC inspection findings and performance records for each reactor and applies this information to assess the reactor's safety performance and security measures. Every 3 months, through the ROP, the NRC places each reactor in one of five categories. The top category is "fully meeting all safety cornerstone objectives," while the bottom is "unacceptable performance" (see Figure 15. Reactor Oversight Action Matrix Performance Indicators). NRC inspections start with detailed baseline-level activities for every reactor. As the number of issues at a reactor increases, the NRC's inspections increase. The agency's supplemental inspections and other actions (if needed) ensure licensees promptly address significant performance issues. The latest reactor-specific inspection findings and historical performance information can be found on the NRC's Web site (see the Web Link Index).

The ROP is informed by 50 years of improvements in nuclear industry performance. The process continues to improve approaches to inspecting and evaluating the safety and security performance of NRC-licensed nuclear plants. More ROP information is available on the NRC's Web site and in NUREG-1649, Revision 6, "Reactor Oversight Process," issued July 2016 (see Figure 16. Reactor Oversight Framework).

RADIOACTIVE WASTE

High-Level Radioactive Waste Management

Spent Nuclear Fuel Storage

Commercial spent nuclear fuel, although highly radioactive, is stored safely and securely throughout the United States. Spent fuel is stored in pools and in dry casks at sites with operating nuclear power reactors. Several storage facilities do not have operating power reactors but are safely and securely storing spent fuel. Waste can be stored safely in pools or casks for 100 years or more. The NRC licenses and regulates the storage of spent fuel, both at commercial nuclear power plants and at separate storage facilities.

See Appendices N and O for information about dry spent fuel storage and licensees.

Most reactor facilities were not designed to store the full amount of spent fuel that the reactors would generate during their operational lives. Facilities originally planned to store spent fuel temporarily in deep pools of continuously circulating water, which cools the spent fuel assemblies. After a few years, the facilities were expected to send the spent fuel to a reprocessing plant. However, in 1977, the U.S. Government declared a moratorium on reprocessing spent fuel in the United States. Although the Government later lifted the restriction, reprocessing has not resumed in the United States.



See Glossary for information on fuel reprocessing (recycling).

As a result, facilities expanded their storage capacity by using high-density storage racks in their spent fuel pools. To provide supplemental storage, some fuel assemblies are stored in dry casks on site (see Figure 34. Spent Fuel Generation and Storage After Use). These facilities are called independent spent fuel storage installations (ISFSIs) and are licensed by the NRC. These large casks are typically made of leak-tight, welded, and bolted steel and concrete surrounded by another layer of steel or concrete. The spent fuel sits in the center of the cask in an inert gas. Dry cask storage shields people and the environment from radiation and keeps the spent fuel inside dry and nonreactive (see Figure 35. Dry Storage of Spent Nuclear Fuel).

Another type of ISFSI is called a Consolidated Interim Storage Facility (CISF). A CISF would store spent fuel from multiple commercial reactors, including those that have ceased operation, on an interim basis until a permanent disposal option is available. Additional information on consolidated interim storage is available on the NRC's Web site (see the Web Link Index).

The NRC regulates facilities that store spent fuel in two different ways. The NRC may grant site-specific licenses after a safety review of the technical requirements and operating conditions for an ISFSI. The NRC has issued a general license authorizing nuclear power reactor licensees to store spent fuel on site in dry storage casks

that the NRC has certified. Following a similar safety review, the NRC may issue a Certificate of Compliance and add the cask to a list of approved systems through a rulemaking. The agency issues licenses and certificates for terms not to exceed 40 years, but they can be renewed for up to an additional 40 years (see Figure 36. Licensed and Operating Independent Spent Fuel Storage Installations by State).

Public Involvement

The public can participate in decisions about spent nuclear fuel storage, as it can in many licensing and rulemaking decisions. The Atomic Energy Act of 1954, as amended, and the NRC's own regulations call for public meetings about site-specific licensing actions and allow the public to comment on Certificate of Compliance rulemakings. Members of the public may also file petitions for rulemaking. Additional information on ISFSIs is available on the NRC's Web site (see the Web Link Index).



NRC Senior Resident Inspector James McGhee (right) takes time to discuss topics of interest at a public meeting held to discuss the performance of area nuclear power plants and their future decommissioning process.

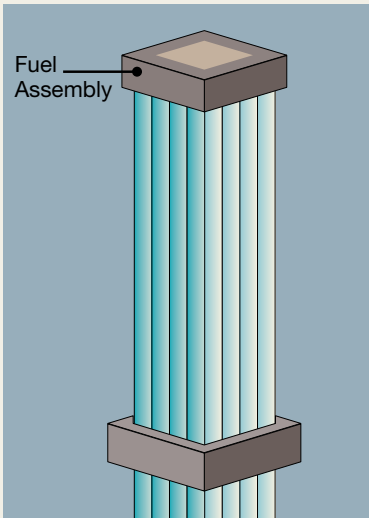
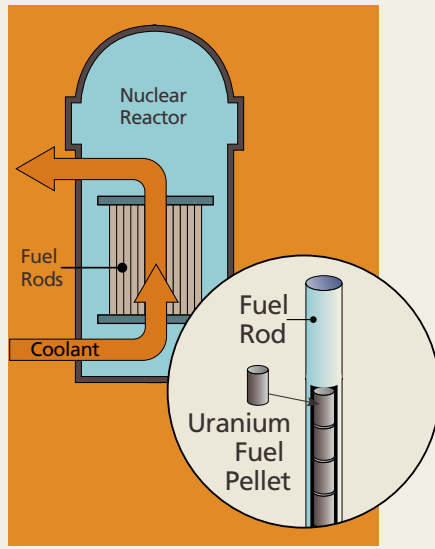
Spent Nuclear Fuel Disposal

The current U.S. policy governing permanent disposal of high-level radioactive waste is defined by the Nuclear Waste Policy Act of 1982, as amended, and the Energy Policy Act of 1992. These acts specify that high-level radioactive waste will be disposed of underground in a deep geologic repository licensed by the NRC. Because the timing of repository availability is uncertain, the NRC looked at potential environmental impacts of storing spent fuel over three possible timeframes: the short term, which includes 60 years of continued storage after a reactor's operating license has expired; the medium term, or 160 years after license expiration; and indefinite, which assumes a repository never becomes available. The NRC's findings—that any environmental impacts can be managed—appear in the 2014 report NUREG-2157, "Generic Environmental Impact Statement for Continued Storage of Spent Nuclear Fuel."

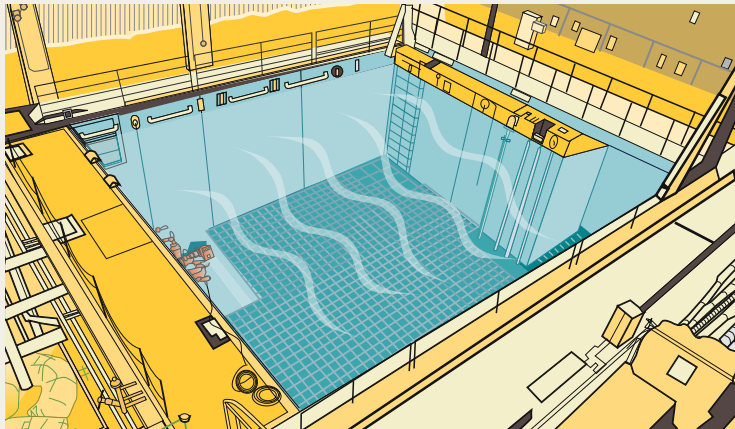
RADIOACTIVE WASTE

Figure 34. Spent Fuel Generation and Storage After Use

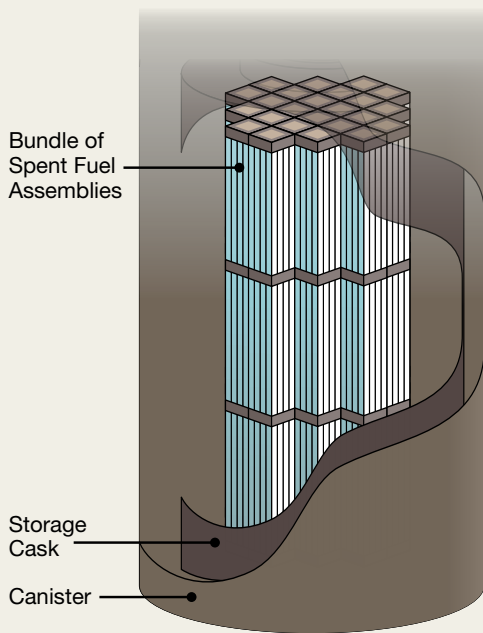
1 A nuclear reactor is powered by enriched uranium-235 fuel. Fission (splitting of atoms) generates heat, which produces steam that turns turbines to produce electricity. A reactor rated at several hundred megawatts may contain 100 or more tons of fuel in the form of bullet-sized pellets loaded into long metal rods that are bundled together into fuel assemblies. Pressurized-water reactors (PWRs) contain between 120 and 200 fuel assemblies. Boiling-water reactors (BWRs) contain between 370 and 800 fuel assemblies.



2 After 5–6 years, spent fuel assemblies (which are typically 14 feet [4.3 meters] long and which contain nearly 200 fuel rods for PWRs and 80–100 fuel rods for BWRs) are removed from the reactor and allowed to cool in storage pools. At this point, the 900-pound [409-kilogram] assemblies contain only about one-fifth the original amount of uranium-235.



3 Commercial light-water nuclear reactors store spent radioactive fuel in a steel-lined, seismically designed concrete pool under about 40 feet (12.2 meters) of water that provides shielding from radiation. Pumps supply continuously flowing water to cool the spent fuel. Extra water for the pool is provided by other pumps that can be powered from an onsite emergency diesel generator. Support features, such as water-level monitors and radiation detectors, are also in the pool. Spent fuel is stored in the pool until it is transferred to dry casks on site or transported off site for interim storage or disposal.



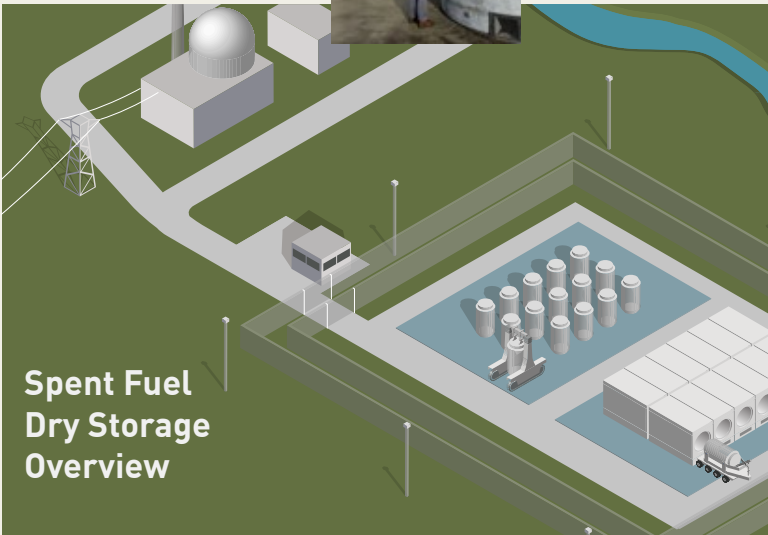
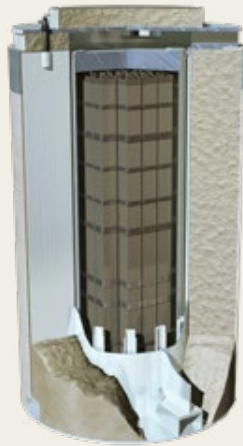
RADIOACTIVE WASTE

Figure 35. Dry Storage of Spent Nuclear Fuel

At nuclear reactors across the country, spent fuel is kept on site, typically above ground, in systems basically similar to the ones shown here. The NRC reviews and approves the designs of these spent fuel storage systems before they can be used.

1 Once the spent fuel has sufficiently cooled, it is loaded into special canisters that are designed to hold nuclear fuel assemblies. Water and air are removed. The canister is filled with inert gas, welded shut, and rigorously tested for leaks. It is then placed in a cask for storage or transportation. The dry casks are then loaded onto concrete pads.

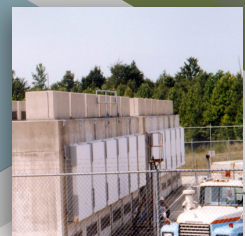
2 The canisters can also be stored in aboveground concrete bunkers, each of which is about the size of a one-car garage.



NRC, Safety of Spent Fuel Storage
NUREG/BR-052 (Apr. 2017)



Safety of Spent Fuel Storage



What Is Spent Fuel?

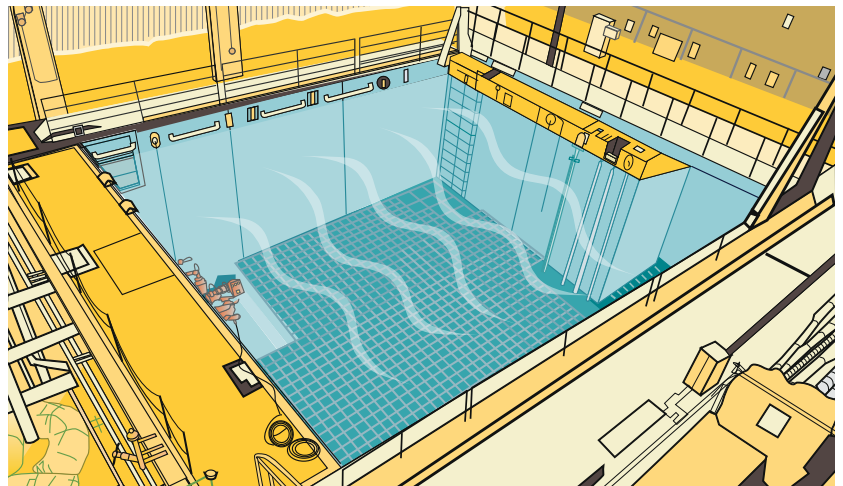
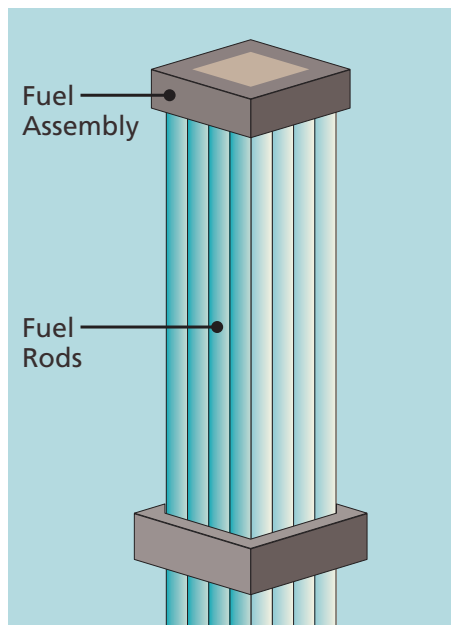
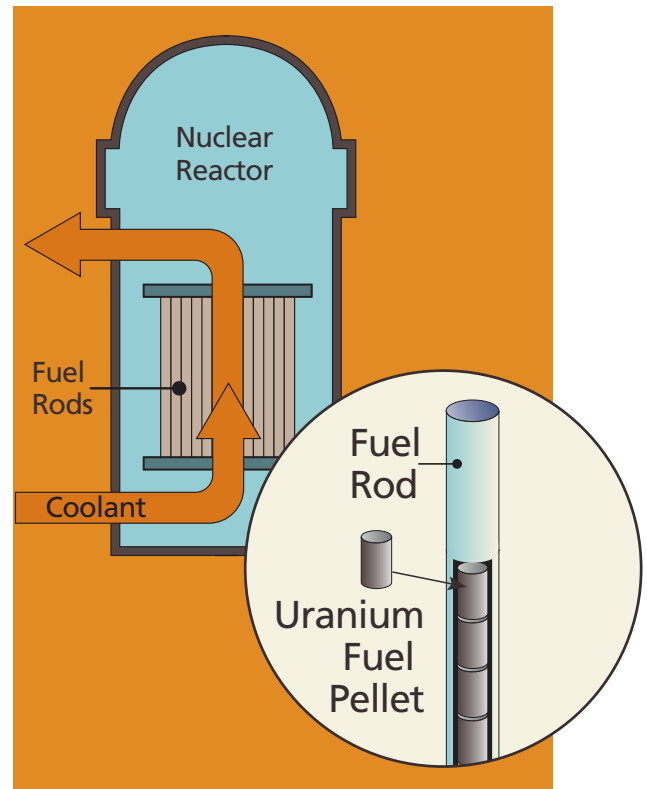
Nuclear reactors use uranium fuel rods bundled into fuel assemblies to generate the heat that turns generators. These generators produce electricity that powers people's homes.

As it burns in the reactor, this fuel becomes very hot and very radioactive. After about 5 years, the fuel is no longer useful and is removed. Reactor operators have to manage the heat and radioactivity that remains in this spent fuel.

In the United States, every reactor site has at least one pool on site for spent fuel storage. Plant personnel move the spent fuel underwater from the reactor to the pool. Over time, spent fuel in the pool cools as the radioactivity decays away.

These pools were intended to provide temporary storage. The idea was that after a few years, the spent fuel would be shipped offsite to be reprocessed, or separated so usable portions could be recycled into new fuel. But reprocessing did not succeed in the United States, and the pools began to fill up.

In the early 1980s, reactor operators began to look for ways to increase the amount of spent fuel they could store onsite. They began to place fuel in dry casks that could be stored in specially built facilities on their sites. Most nuclear plants today use dry storage.



Spent fuel pool

Dry Cask Storage—The Basics

A dry cask storage system is a cylinder that operators lower into the pool and fill with spent fuel. They raise the cylinder, drain, and dry it, before sealing and placing it outdoors on a concrete pad. There are many varieties of spent fuel storage casks. They all need to:

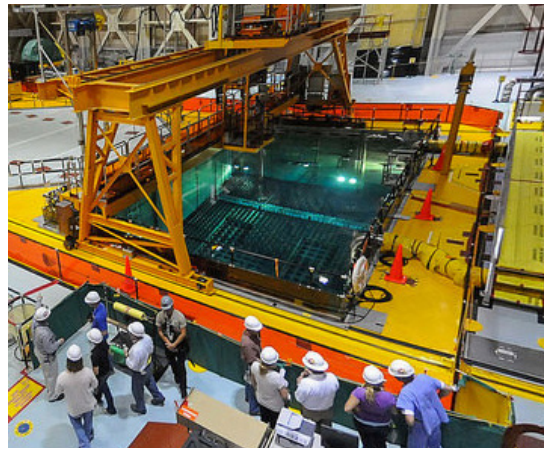
- Maintain confinement of the spent fuel
- Prevent nuclear fission (the chain reaction that allows a reactor to produce heat)
- Provide radiation shielding
- Maintain the ability to retrieve the spent fuel, if necessary
- Resist earthquakes, tornadoes, floods, temperature extremes, and other scenarios.

Casks come in different sizes. They are tall enough to hold spent fuel, which can be up to 14 feet long, and they can weigh up to 150 tons—as much as 50 midsize cars. Plants may need a special crane that can handle heavy loads to be able to lift a loaded cask full of water out of the pool for drying. After the casks are dried, robotic equipment is used to seal them closed to keep doses to workers as low as possible.

Two basic designs are in wide use today. Welded, canister-based systems feature an inner steel canister that contains the fuel surrounded by 3 feet or more of steel and concrete. The canisters may be oriented either vertically or horizontally. In bolted cask systems, there is no inner canister. Bolted casks have thick steel shells, sometimes with several inches of radiation shielding inside.

Plants use special transporters to move the loaded cask outdoors to where it will be stored. At that point, the radioactivity from the cask must be less than 25 millirem per year at the site boundary. That means the highest dose allowed to someone standing at the fence for a full year is about the dose someone would receive going around the world in an airplane. The actual dose at the site boundary is typically much lower.

Dry cask storage has proven to be a safe technology over the 30 years it has been used. Since the first casks were loaded in 1986, dry storage has released no radiation that affected the public or contaminated the environment. As of January 2017, more than 2,400 casks have been loaded and are safely storing 100,000 spent fuel assemblies. Tests on spent fuel and cask components after years in dry storage confirm that the systems continue to provide safe storage.



At least 23 feet of water covers the fuel assemblies in the spent fuel pool of Unit 2 at the Brunswick Nuclear Power Plant in Southport, NC. (Courtesy: Matt Born/Wilmington Star-News)



Loading spent fuel cask under water. (Courtesy: Holtec International)

The U.S. Nuclear Regulatory Commission (NRC) analyzed the risks from loading and storing spent fuel in dry casks. Two separate studies found the potential health risks are very, very small. To ensure continued safe dry storage of spent fuel, the NRC is further studying how the fuel and storage systems perform over time. The NRC is also staying on top of related research planned by the Department of Energy and the nuclear industry.



Workers prepare to load an AREVA-TN NUHOMS canister into a concrete storage module at the Calvert Cliffs Nuclear Power Plant in Lusby, MD. (Courtesy: Exelon)

What We Regulate and Why

The NRC oversees the design, manufacturing, and use of dry casks. This oversight ensures licensees and designers are following safety and security requirements, meeting the terms of their licenses, and implementing quality assurance programs.

Cask designers must show that their systems meet the NRC's regulatory requirements. The NRC staff reviews cask applications in detail. The agency will only approve a system that meets NRC requirements and can perform safely. NRC inspectors visit cask designer offices, fabricators and spent fuel storage facilities to ensure they are meeting all our regulations. Cask design applications, the NRC's documentation of reviews, and NRC inspection reports are available to the public on the agency website at www.nrc.gov.



The NRC's regulations appear in Chapter 10 of the Code of Federal Regulations, also known as 10 CFR.

There are strict security requirements in place to protect the stored fuel. Security has multiple layers, including the ability to detect, assess, and respond to an intrusion. Our general security requirements for dry cask storage are in 10 CFR Part 73 (<https://www.nrc.gov/reading-rm/doc-collections/cfr/part073/>). The specific requirements in NRC orders and the licensee's security plans are not available to the public, as they could give an adversary the ability to defeat the security measures and compromise the safety systems. There have been no known or suspected attempts to sabotage cask storage facilities.

The NRC's requirements for dry cask storage can be found in 10 CFR Part 72 (<https://www.nrc.gov/reading-rm/doc-collections/cfr/part072/>), which requires all structures, systems, and components important to safety to meet quality standards for design, fabrication, and testing. Part 72 and related NRC guidance on casks and storage facilities also detail specific engineering requirements.

The NRC has dozens of experts in different scientific and engineering disciplines whose job is to review cask applications (which can be hundreds of pages long) and the detailed technical designs they contain. The agency will only approve a storage cask design if these experts are satisfied that all the specific safety requirements in each discipline have been met.

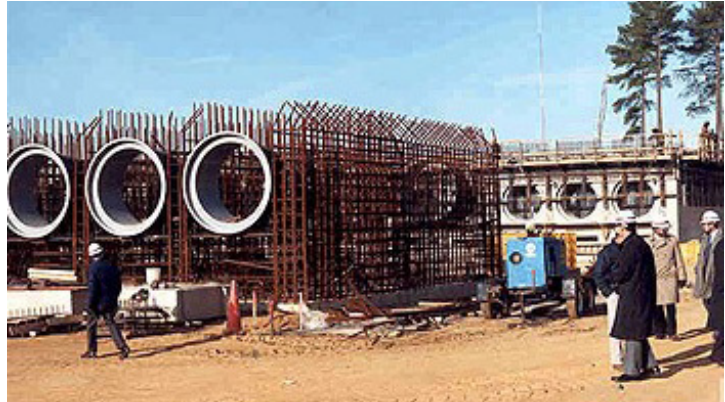


Cask transporter moves loaded spent fuel storage cask to storage pad.

The following sections discuss technical evaluations the NRC conducts during technical reviews of dry cask storage.

Materials

Materials—the stuff of which everything is made. In every case—the metal in a car door, the plastic used in airplane windows, or the steel used in elevator cables—the selection of appropriate materials is critical to safety.



NUHOMS horizontal spent fuel storage system under construction at the Calvert Cliffs Nuclear Power Plant in Lusby, MD.

Systems that transport and store spent nuclear fuel and other radioactive substances are made of a variety of materials. All of them are reviewed to confirm that those systems can protect the public and environment from the effects of radiation. The NRC does not dictate what materials are used. Rather, the NRC evaluates the choice of materials proposed by applicants. What makes a material “appropriate” to transport and store radioactive substances depends on a number of factors.

First, materials must be adequate for the job. In other words, the mechanical and physical properties of the materials have to meet certain requirements. For example, the steel chosen for a storage cask has to withstand possible impacts such as from tornadoes or earthquakes.

Next, when making a complex metal system, parts often are welded together—that is, partially melted—in a way that ensures that the joints themselves are adequate. The welder actually creates a new material at the joint with its own unique properties. That is why the NRC looks at how this is done, including the selection of weld filler metals, how heat is controlled to ensure good welds, and the use of examinations and testing to verify that no defects are present.

Finally, the NRC considers how materials degrade over time. Reviewers must take into account a material’s chemical properties, how it was manufactured, and how it reacts with its environment. Just as iron rusts and elastic materials become brittle over time, all materials can degrade. This degradation and its impact must be well understood. Materials must be selected based on their present condition and their projected condition throughout their lifetimes.



Loaded vertical HI-STORM 100 casks are storing spent fuel at the Diablo Canyon Power Plant in Avila Beach, CA.

Best practices for appropriately selecting materials and the processes used to join them often can be found in consensus codes and standards. These guidelines are typically developed over many years of operational experience, and through industrywide and government technical discussions and agreement. The NRC also relies on both historical operating experience and the latest materials performance and testing data.

Managing Heat

Keeping the spent fuel from getting too hot is one way to ensure casks will be safe. The NRC requires the cask and fuel to remain within a certain temperature range. These requirements protect the cladding (the metal tube that holds the fuel pellets). As the fuel cools, heat is transferred from inside the cask to the outside. NRC experts examine how that heat will move through the cask and into the environment.

The method used to remove heat has to be reliable and provable. It must also be passive—that is, without the need for electrical power or mechanical device. Casks use conduction, convection, and radiation to transfer the heat to the outside.

Conduction transfers heat from a burner through a pot to the handle. The process of heat rising (and cold falling) is known as convection. The heat coming from a hot stove is known as radiant heat.

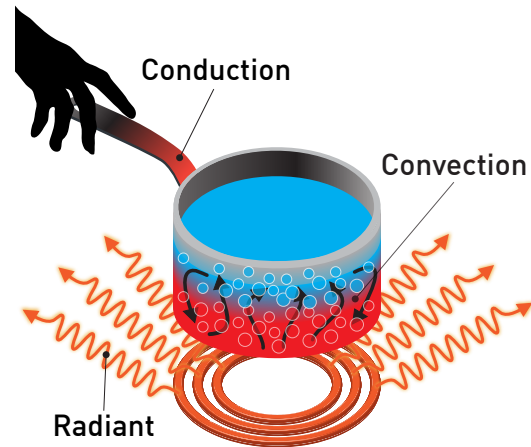
These methods work the same way in a storage cask. Where the structure containing the fuel touches the fuel assemblies, it conducts heat toward the outside of the cask. Most casks have vents that allow outside air to flow naturally into the cask and around the canister to cool it (convection). And most casks would feel warm to the touch from radiant heat, much like a home radiator.

The NRC also confirms that the pressure inside a cask is below the design limit so it will not impact the structure or operations. Technical experts review applications for cask designs carefully to verify that the fuel cladding and cask component temperatures and the internal pressure will remain below specified limits.

Each storage cask is designed to withstand the effects from a certain amount of heat. This amount is called the heat load. The NRC reviews whether the designer correctly considered how the heat load will affect cask component and fuel temperatures, and how this heat load was calculated. Cask designs must show that heat from spent fuel can be effectively transferred to the outside of the cask.

The NRC's review also verifies that the cask designer looked at all the environmental conditions that can be expected to affect cask components and fuel temperatures. These conditions may include windspeed and direction, temperature extremes, and a site's elevation. To make sure the right values are considered, the NRC verifies that they match the historical records for a site or region.

NRC reviewers consider all of the methods used to prove that the storage system can handle the specified heat loads. They verify computer codes, making sure they are the latest versions and have been endorsed by experts. They look at the values used in the codes, such as for material properties, and confirm calculations for temperature and pressure. The NRC might run its own analysis using a different computer code to see if those results match the application.

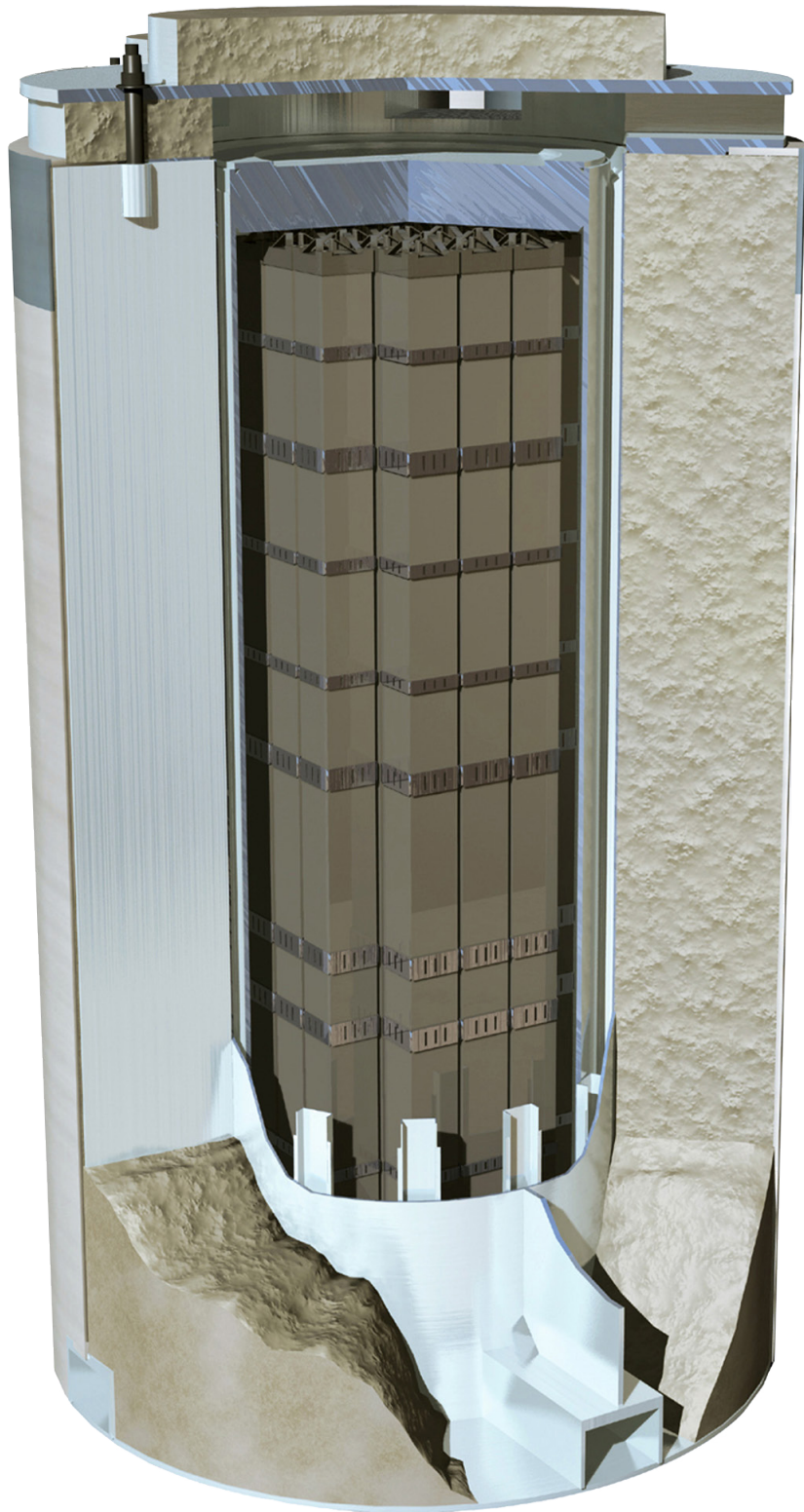


Three different methods transfer heat.

Making Sure Casks Will Hold Up

In its application, the cask designer must provide an evaluation that shows the system will be strong and stable enough to perform its safety functions even after experiencing a load, such as if the cask were dropped. NRC reviewers examine the structural design and analysis of the system under all credible loads for normal conditions—that is, planned operations and environmental conditions that can be expected to occur often during storage. They also look at accidents, natural events, and conditions that can be expected to occur from time to time, but not regularly.

The NRC review looks at whether the cask designer evaluated the proper loading conditions. It will also ensure the designer evaluated the system's response to those loads accurately and completely. Reviewers must verify whether the resulting stresses in the material meet the acceptance criteria in the appropriate code. The NRC's review also looks at several different realistic combinations of loads. These cases are analyzed to determine the stresses placed on the material used to construct the cask system. To be conservative, the NRC and the designers overestimate loads and underestimate material strength. Doing this enhances the NRC's assurance that the design is adequate.



Cutaway of spent fuel storage cask shows spent fuel assemblies surrounded by steel and thick concrete shielding.

Confinement

The cask design must prevent the release of radioactive material. This role is performed by the confinement boundary, which usually includes a metal canister with a lid that has at least two closures. Some casks have two separate lids that are each welded closed. Others are bolted and have two separate seals. Having both closures provides an extra layer of protection to ensure the radioactive materials remain confined.



Loaded spent fuel storage casks are in place on storage pad at the Haddam Neck Plant in Meriden, CT. (Courtesy: Connecticut Yankee)

The design must also keep the fuel assemblies in a protected, or “inert,” environment. This is important to keep the fuel cladding from degrading. Once the water is removed from inside the cask, it is filled with a gas such as helium that will not react with fuel cladding.

Cask users must monitor the confinement boundary. The monitoring requirements depend on whether a cask is bolted or welded. Bolted confinement boundaries with O-ring seals need to have alarms to alert the user if a seal starts to leak. In that case, the seal would need to be repaired or replaced to ensure the cask continues to have redundant confinement. Our experts review the proposed monitoring programs to make sure they are adequate. Welded closures do not need to be monitored in the same way. This is because the welds are examined closely after they are made to ensure they do not leak.

The NRC’s review of a cask’s confinement boundary looks at the “source term.” This is the inventory of radioactive material inside the cask. While the redundant closures and other requirements ensure the material will remain safely confined, the NRC requires cask designers to look at the dose rates in case some material were to come out. They also need to analyze how those dose rates compare to the NRC’s regulatory limits.



Loaded spent fuel storage cask on transporter is moved from the fuel handling building at the Surry Power Station in Surry, VA.

Finally, cask designers must provide an analysis of how the confinement boundary works. Casks must be designed and tested to meet criteria approved by the American National Standards Institute, or ANSI. The ANSI standard for leak tests on radioactive materials packages was put together by a committee of experts and went through a lengthy review and approval process before it was adopted.

Criticality Safety

The nuclear chain reaction used to create heat in a reactor is known as fission. In this process, uranium atoms in the fuel break apart, or disintegrate, into smaller atoms. These atoms cause other atoms to split, and so on. Another word for this process is criticality.

The potential for criticality is an important thing to consider about reactor fuel throughout its life. Fuel is most likely to go critical when it is fresh. The longer the fuel is in the reactor, the less likely it is to go critical. This is why it is removed from the reactor after several years—it loses energy and will no longer easily support a self-sustaining chain reaction. Once fuel is removed from the reactor, the NRC requires licensees to ensure it will never again be critical. This state is referred to as “subcriticality.”

Subcriticality is required whether the fuel is stored in a pool or a dry cask. It is required for both normal operating conditions and any accident that could occur at any time.

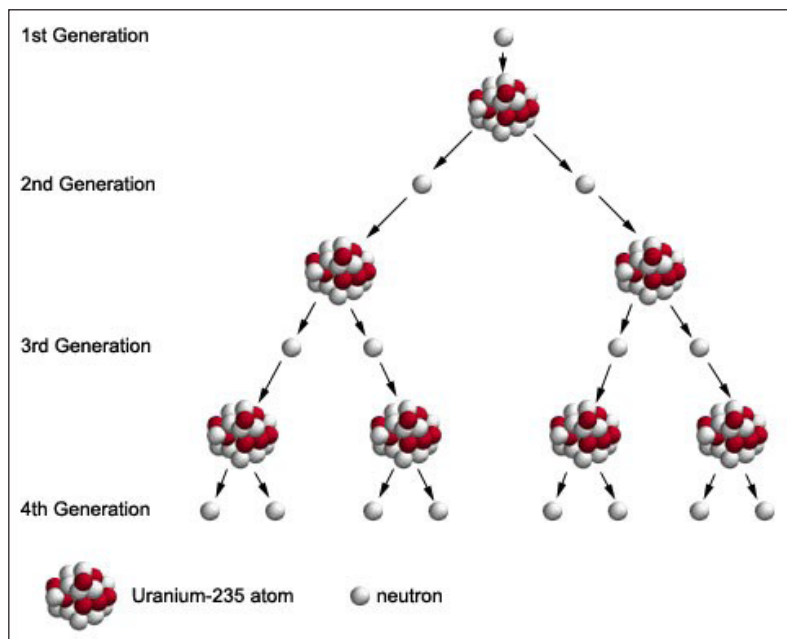
Many methods help to control criticality. The way spent fuel assemblies are positioned is an important one. How close they are to each other and the burnup of (or amount of energy extracted from) nearby assemblies all have an impact. This method of control is referred to as fuel geometry.

Certain chemicals, such as boron, can also slow down a chain reaction by absorbing neutrons released during fission, and keeping them from striking other uranium atoms.

Casks have strong baskets to maintain fuel geometry. They also have solid neutron absorbers, typically made of aluminum and boron, between fuel assemblies. A cask application must include an analysis of all the elements that contribute to criticality safety during both normal and accident conditions.

NRC technical experts review this analysis to verify several things:

- The factors that could affect criticality have been identified.
- The models address each of these factors in a realistic way.
- Any assumptions used in the models are conservative—they result in more challenging conditions than would actually be expected.



Neutrons cause uranium-235 atoms to split in a nuclear chain reaction.

Radiation Shielding

The fission process turns uranium into a number of other elements, many of which are radioactive. These elements continue to produce large amounts of radiation even when the fuel is no longer supporting a chain reaction. Shielding is necessary to block this radiation and protect workers and the public.

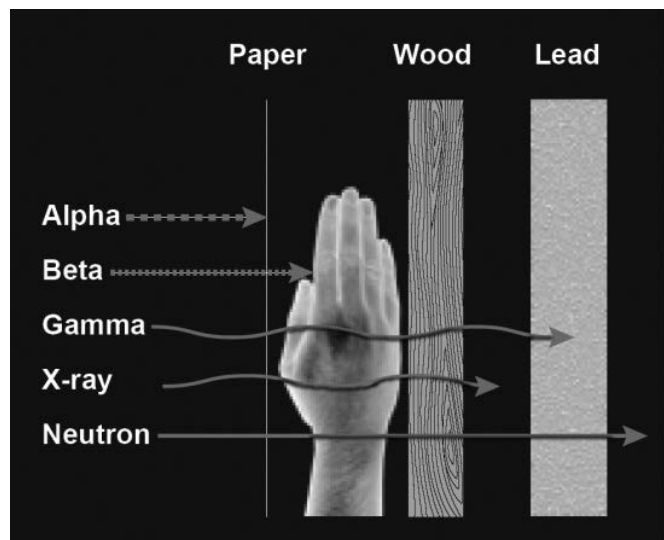
The four major types of radiation differ in mass, energy, and how deeply they penetrate people and objects. Alpha radiation—particles consisting of two protons and two neutrons—are the heaviest type. Beta particles—free electrons—have a small mass and a negative charge. Neither alpha nor beta particles will move outside the fuel itself.

But spent fuel also emits neutron radiation (particles from the nucleus that have no charge) and gamma radiation (a type of electromagnetic ray that carries a lot of energy). Both neutron and gamma radiation are highly penetrating and require shielding.

Shielding for the two main types of dry storage casks is configured in slightly different ways. For welded, canister-based systems, the thick steel-reinforced concrete vault that surrounds an inner canister provides shielding for both neutron and gamma radiation. Shielding in bolted cask systems comes from their thick steel shells that may have several inches of lead gamma shielding inside. These systems have a neutron shield on the outside consisting of low-density plastic material, typically mixed with boron to absorb neutrons.

The NRC's reviews ensure that dry cask designs meet regulatory limits on radiation doses at the site boundary, under both normal and accident conditions, and that dose rates in general are kept as low as possible.

Every applicant must provide a radiation shielding analysis. This analysis uses a computer model to simulate how radiation penetrates through the fuel and into thick shielding materials under normal operating and accident conditions. Reviewers ensure the analysis has identified all the important radiation-shielding parameters and models them conservatively, in a way that maximizes radiation sources and external dose rates.



Different types of radiation have different properties.



At right, a dry storage cask recently loaded with spent fuel is lifted from a horizontal transporter to be placed on a specially designed storage pad. (Courtesy: Sandia National Laboratories)

Inspections

As part of its oversight function, the NRC inspects the companies that design and fabricate dry storage casks and the facilities that use them. Inspectors from NRC headquarters and the four regional offices conduct these inspections and issue their findings in publicly available reports.

Cask designers are responsible for ensuring that the fabricated cask components comply with the design as approved by the NRC. To do this, they are required to have a quality assurance program that meets the 18 criteria described in NRC dry storage regulations. The NRC reviews and approves these programs.

The designers must make sure their quality assurance programs are properly implemented during both design and fabrication. The NRC conducts periodic safety inspections to independently assess and verify that the designers are doing so. Some inspections look at design activities carried out at corporate offices. At fabrication facilities, both in the United States and overseas, NRC inspectors look at controls for fabrication, the process for verifying that the fabricated components comply with the approved design, and how the designer ensures that the fabricator meets its quality assurance program.

Each licensee is responsible for ensuring that its storage facility meets NRC regulations during construction and operation. NRC inspectors verify that the licensees are properly implementing the regulations. These inspections cover the design and construction of the concrete pad or modules that support the storage casks, preoperational testing (also referred to as dry runs), cask loading, and routine monitoring of operating dry storage facilities.



Inspectors examine dry storage casks containing spent nuclear fuel.

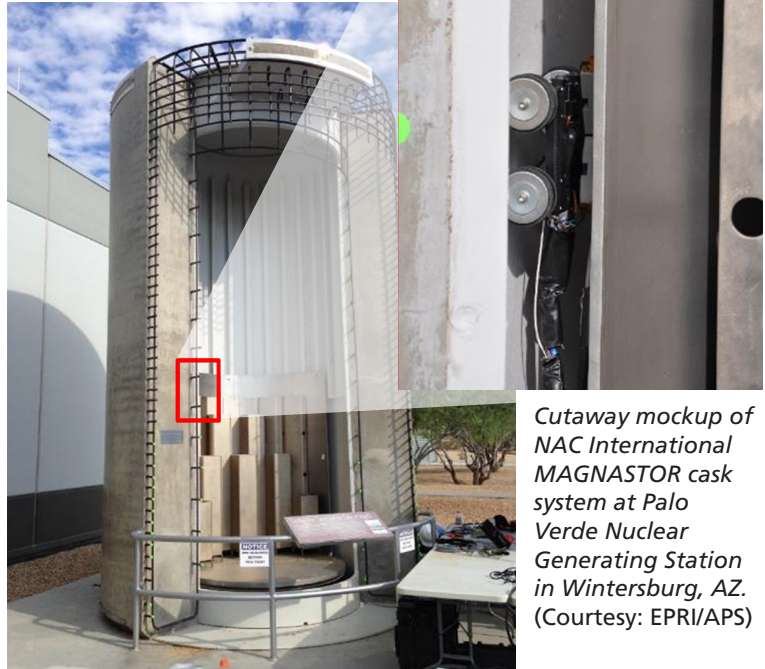


*Transportable spent fuel storage casks sit on a storage pad.
(Courtesy: Holtec International)*

Managing Aging

Cutting-edge robotic technology is making it easier to inspect inside spent fuel dry cask storage systems. As these casks remain in use for longer time frames, the ability to inspect canister surfaces and welds will become an important aspect of the NRC's confidence in their safety.

The techniques for inspecting canister surfaces and welds have been used for decades. These techniques are collectively known as nondestructive examination (NDE) and include a variety of methods, such as visual, ultrasonic, eddy current, and guided wave examinations.

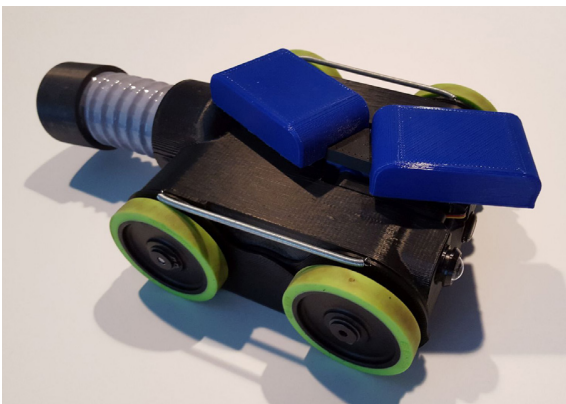


Cutaway mockup of NAC International MAGNASTOR cask system at Palo Verde Nuclear Generating Station in Wintersburg, AZ. (Courtesy: EPRI/APS)

Robots are being developed to apply these NDE techniques inside casks. These robots need to fit into small spaces and withstand the heat and radiation inside the cask. The state-of-the-art robot technology is evolving quickly.

The Electric Power Research Institute and cask manufacturers have successfully demonstrated robotic inspection techniques to NRC staff several times at different reactor sites. These demonstrations are helping to refine the robots' designs.

In one demonstration, a robot inside a spent fuel storage cask maneuvered a camera with a fiber optic probe, which meets the industry code for visual examinations. The robot was able to access the entire height of the canister, allowing the camera to capture images of the fabrication and closure welds. The welds showed no signs of degradation. The canister was intact and in good condition.



Prototype robotic delivery system. (Courtesy: EPRI/RTT)

The robot was also able to obtain samples from surfaces of the cask and canister. These samples were analyzed for atmospheric deposits that could cause corrosion.

If degradation is identified, cask users would select their preferred mitigation and repair option. They would have to meet the NRC's safety requirements before implementing it.

Cask inspections are important to ensure continued safe storage of spent nuclear fuel, and robots will continue to be a helpful tool in this important activity.