[PUBLISH]

IN THE UNITED STATES COURT OF APPEALS

FOR THE ELEVENTH CIRCUIT

No. 18-15033

D.C. Docket No. 4:18-cv-00058-WTM-JEG

FOSTER LOGGING, INC.,
AMERICAN GUARANTEE & LIABILITY INSURANCE COMPANY,
as subrogee of Foster Logging, Inc.,

Plaintiffs-Appellants,

versus

UNITED STATES OF AMERICA,

Defendant-Appellee.

Appeal from the United States District Court
for the Southern District of Georgia

(August 24, 2020)

Before JORDAN, TJOFLAT and HULL, Circuit Judges.

HULL, Circuit Judge:

Plaintiffs–Appellants Foster Logging, Inc. and American Guarantee & Liability Insurance Company ("American Guarantee") appeal the district court's dismissal of their complaint, pursuant to Fed. R. Civ. P. 12(b)(1), for lack of jurisdiction. Their complaint alleged negligence claims against Defendant–Appellee the United States under the Federal Tort Claims Act ("FTCA"). In response, the United States moved to dismiss the complaint based on the discretionary-function exception to the FTCA's waiver of sovereign immunity. On appeal, Plaintiffs argue the district court (1) improperly considered facts outside the allegations in the complaint, and (2) misapplied the discretionary-function exception to FTCA liability. After review and with the benefit of oral argument, we affirm.

I. PROCEDURAL BACKGROUND

A. The Complaint

In their complaint, Plaintiffs alleged that the Fort Stewart-Hunter Army Airfield Forestry Branch ("U.S. Forestry Branch") "negligently failed to observe, monitor[,] and maintain" a controlled fire burn in area B-20 near Fort Stewart, a military base in Georgia, resulting in damage to Foster Logging's property.[1] The

[1]We emphasize that our review of Plaintiffs' claims is limited to the Defendant's alleged negligence in failing to observe, monitor, and maintain the controlled burn. As we note below, Plaintiffs have never challenged the Defendant's decision to initiate the burn. And to the extent that Plaintiffs would purport to proceed under the theory that the Defendant negligently failed to warn them that it was initiating the burn, that argument is not properly before us. While at oral

complaint alleged that Plaintiff Foster Logging entered into a wood service contract with S.A. Allen, Inc., to cut and convert wood on the Fort Stewart Reservation near the Luzon Range in area B-19.5. Plaintiff American Guarantee provided insurance coverage for multiple items on Foster Logging's Schedule of equipment. On April 20, 2017, the U.S. Forestry Branch initiated a controlled fire burn in area B-20 adjacent to the area where Foster Logging was harvesting timber.

The following day, a Friday, Foster Logging parked its equipment and left area B-19.5 around 2:30 p.m. According to the complaint, the U.S. Forestry Branch "negligently failed to observe, monitor[,] and maintain said burn, allowing fire to escape area B-20 and to enter the land and pine trees on which [Foster Logging] was logging." As the fire entered area B-19.5, certain equipment and property of Foster Logging were burned and destroyed, causing loss of equipment, fuel, and harvested timber, among other things.

As a result of the damage to the property, Plaintiff Foster Logging was unable to harvest timber for three days and was required to rent equipment to continue harvesting timber in area B-19.5. Plaintiff American Guarantee, as Foster

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argument Plaintiffs' counsel briefly discussed failure to warn, it was not clearly raised in the complaint or at any point during the district court proceedings, nor was it sufficiently developed in Plaintiffs' brief on appeal. "Generally, [a]rguments raised for the first time on appeal are not properly before this Court." Waldron v. Spicher, 954 F.3d 1297, 1304 (11th Cir. 2020) (quotation marks omitted).

Logging's insurer, ultimately paid Foster Logging a total of $247,384.12 for its insured losses. Foster Logging also incurred $125,110.25 in out-of-pocket damages beyond the indemnity payments.

B. District Court Proceedings

Subsequently, the Plaintiffs Foster Logging and American Guarantee brought the instant suit. American Guarantee sought to recover $247,348.12, plus costs, as recompense for the payments it made to Foster Logging for the damage to its equipment, which American Guarantee alleged resulted from the U.S. Forestry Branch's failure to properly observe, monitor, and maintain the controlled burn. Foster Logging sought to recover the additional $125,120.52 in out-of-pocket spending for uncovered losses, plus costs.

The Defendant United States moved to dismiss the complaint under Fed. R. Civ. P. 12(b)(1), arguing the district court lacked jurisdiction to consider Plaintiffs' claims because the government retained its sovereign immunity. The Defendant argued that the complaint failed to allege a plausible claim that fell outside the discretionary-function exception to the FTCA's waiver of sovereign immunity. Citing United States v. Gaubert, 499 U.S. 315, 111 S. Ct. 1267 (1991), and applying the two-part test articulated in that decision, the Defendant argued the challenged conduct alleged in the complaint—the observation, monitoring, and

maintenance of the controlled burn—(1) involved an element of judgment or choice; and (2) was susceptible to policy analysis.

In response, the Plaintiffs argued the Defendant United States had waived its immunity under the FTCA because the U.S. Forestry Branch's failure to observe, monitor, and maintain the controlled burn in a safe manner was not a permissible exercise of policy judgment. Importantly, Plaintiffs did not dispute that the challenged conduct involved an element of judgment or choice. Rather, Plaintiffs focused their analysis solely on whether the U.S. Forestry Branch officials exercised that judgment in a permissible manner.

The district court ultimately granted the United States' motion and dismissed the complaint. The district court concluded that the negligence claim alleged in the complaint fell within the FTCA's discretionary-function exception, and thus the court lacked jurisdiction over the complaint. The district court reasoned that the U.S. Forestry Branch's decisions as to how to monitor and maintain the fire (1) involved an element of judgment or choice, and (2) implicated important policy considerations.[2] This appeal followed.

[2]As an alternative to denying the Defendant's motion to dismiss, Plaintiffs' response to the motion asked the district court to grant them leave to amend the complaint following a reasonable period within which to take limited discovery related to subject matter jurisdiction. On appeal, however, Plaintiffs do not argue that they were entitled to discovery or to amend the complaint prior to the district court's ruling.

They also do not argue that discovery perhaps would have led to some as-yet-unknown internal policy or directive of the U.S. Forestry Branch that would have removed all judgment or

II. STANDARD OF REVIEW

In reviewing the district court's dismissal of Plaintiffs' complaint, we accept the allegations in the complaint as true, and we review de novo the district court's application of the discretionary-function exception to the FTCA's waiver of sovereign immunity. Douglas v. United States, 814 F.3d 1268, 1273–74 (11th Cir. 2016); Cohen v. United States, 151 F.3d 1338, 1340 (11th Cir. 1998); see also JBP Acquisitions, LP v. United States ex rel. FDIC, 224 F.3d 1260, 1263 (11th Cir. 2000) ("We review de novo the district court's dismissal of an action for lack of subject matter jurisdiction and its interpretation and application of statutory provisions.").

We first outline the discretionary-function exception to the FTCA's waiver of sovereign immunity and the Supreme Court's two-part test in Gaubert.

III. DISCRETIONARY-FUNCTION EXCEPTION

Plaintiffs cannot sue the United States unless the United States unequivocally has waived its sovereign immunity.[3] See Zelaya v. United States, 781 F.3d 1315, 1321 (11th Cir. 2015) ("It is well settled that the United States, as a sovereign entity, is immune from suit unless it consents to be sued."). The FTCA

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choice in the first instance. Indeed, Plaintiffs have never contested the first part of Gaubert's test. See infra n.5.

[3]If sovereign immunity applies, a court lacks subject matter jurisdiction to consider a claim. Zelaya v. United States, 781 F.3d 1315, 1322 (11th Cir. 2015).

waives the United States' sovereign immunity from suit in federal courts for its employees' negligence. See 28 U.S.C. § 1346(b).

Congress, however, has carved out certain exceptions to that limited waiver, including the discretionary-function exception in 28 U.S.C. § 2680(a).[4] The discretionary-function exception provides that, notwithstanding § 1346(b), the United States preserves its sovereign immunity as to "[a]ny claim . . . based upon the exercise or performance or the failure to exercise or perform a discretionary function or duty on the part of a federal agency or an employee of the Government, whether or not the discretion involved be abused." 28 U.S.C. § 2680(a) (emphasis added). "[T]he purpose of the exception is to prevent judicial 'second-guessing' of legislative and administrative decisions grounded in social, economic, and political policy through the medium of an action in tort." Gaubert, 499 U.S. at 323, 111 S. Ct. at 1273 (quotation marks omitted).

The Supreme Court has developed a two-part test that courts must apply in determining whether challenged conduct falls within the discretionary-function exception to the FTCA's waiver of sovereign immunity. See id. at 322, 111 S. Ct. at 1273. First, a court examines the nature of the challenged conduct or act to determine whether it is "discretionary in nature," meaning that it involves "an

[4]The exceptions found in the Act are codified in 28 U.S.C. § 2680, and "must be strictly construed in favor of the United States." Zelaya, 781 F.3d at 1322 (quotation marks omitted).

element of judgment or choice." Id. at 322, 111 S. Ct. at 1273 (quotation marks omitted); see also Ochran v. United States, 117 F.3d 495, 499 (11th Cir. 1997) (quoting Gaubert). Second, if the challenged conduct involves an element of judgment or choice, a court then determines "whether that judgment is of the kind that the discretionary function exception was designed to shield." Id. at 322–23, 111 S. Ct. at 1273 (quotation marks omitted).

As to the first part of the test, "if a 'federal statute, regulation, or policy specifically prescribes a course of action for an employee to follow,'" there is no judgment or choice involved. Id. at 322, 111 S. Ct. at 1273 (quoting Berkovitz v. United States, 486 U.S. 531, 536, 108 S. Ct. 1954, 1958–59 (1988)); see also Phillips v. United States, 956 F.2d 1071, 1076 (11th Cir. 1992). The inquiry focuses on "whether the controlling statute or regulation mandates that a government agent perform his or her function in a specific manner." Hughes v. United States, 110 F.3d 765, 768 (11th Cir. 1997) (quotation marks omitted).

As an initial matter, there is no contention on appeal—nor has there been at any point in the proceedings—that the first part of the Gaubert test is not met in this case. Plaintiffs have not identified, either in the district court, in their briefs on appeal, or at oral argument, any "federal statute, regulation, or policy specifically prescrib[ing] a course of action" that U.S. Forestry Branch officials were to follow

after initiating a controlled burn.[5] See Gaubert, 499 U.S. at 322, 111 S. Ct. at 1273 (quotation marks omitted). Thus, there was at least some element of judgment or choice at play in how the U.S. Forestry Branch observed, monitored, and maintained the controlled burn.

In this particular appeal, our analysis is therefore limited to the second part of Gaubert's test: whether the judgment or choice that was exercised by the U.S. Forestry Branch is "the type of judgment that the discretionary function exception was designed to shield." Hughes, 110 F.3d at 768. Stated another way, the issue here is whether "the nature of the actions taken" by U.S. Forestry Branch officials in observing, monitoring, or maintaining the controlled burn were "susceptible to policy analysis." Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275. This inquiry is not concerned with "the subjective intent of the government employee" or whether he or she "actually weighed social, economic, and political policy considerations before acting." Ochran, 117 F.3d at 500.

Here, as to the second part of Gaubert's test, the district court concluded that the U.S. Forestry Branch's decisions related to its monitoring and maintenance of a controlled burn "involved an element of judgment and implicated important policy

[5]Plaintiffs do not argue that the U.S. Forestry Branch officials had no room to exercise judgment or choice (i.e., no discretion) in their decisions about how they observed, monitored, and maintained the burn. See supra n.2. Rather, Plaintiffs have steadfastly focused their argument on the second part of Gaubert's test, insisting that any negligent decisions that allowed the fire to spread to private property and destroy Plaintiffs' private equipment would not have been a permissible exercise of that judgment or choice.

considerations." The district court cited several policy implications the U.S. Forestry Branch employees might reasonably need to consider, including the safety of citizens in the area, the safety of those monitoring the fire, the management of limited resources used to control a fire, and the protection of surrounding natural resources, as well as unique security and military concerns due to the burn's proximity to the Fort Stewart Military Base.

IV. POLICY CONSIDERATIONS NOT ALLEGED IN THE COMPLAINT

As a threshold claim regarding the second part of Gaubert's test, Plaintiffs argue the district court's discussion of particular social, economic, political, and public policy considerations was improper because (1) the court should have limited its consideration to the allegations on the face of the Plaintiff's complaint, (2) the complaint did not include any allegations about the policy considerations at play, and (3) the complaint did not include any factual allegations as to what actions the U.S. Forestry Branch took in an effort to monitor or maintain the controlled burn. In the absence of such allegations, Plaintiffs contend it was improper for the district court (1) to speculate as to what policy concerns might have been at play, and (2) to adopt facts from other published court decisions where the government presented evidence that particular policy considerations actually were at play.

Plaintiffs' arguments misunderstand the pleading requirements and the relevant inquiry underlying the discretionary-function exception. To survive dismissal, Plaintiffs were required to "allege a plausible claim that falls outside the discretionary function exception." Douglas, 814 F.3d at 1276; see also Gaubert, 499 U.S. at 324–25, 111 S. Ct. at 1274–75 ("For a complaint to survive a motion to dismiss, it must allege facts which would support a finding that the challenged actions are not the kind of conduct that can be said to be grounded in the policy of the regulatory regime."). In other words, Plaintiffs' complaint must have alleged facts showing that a government employee engaged in conduct that, by its nature, is not the kind of conduct that is based on or grounded in considerations of public policy. Gaubert, 499 U.S. at 324–25, 111 S. Ct. 1274–75.

Here, the Plaintiffs' complaint identifies the challenged conduct as the U.S. Forestry Branch's negligent failure to "observe, monitor[,] and maintain" the controlled burn once the fire was started. The relevant question, then, is whether the decisions the U.S. Forestry Branch officials made in planning how to observe, monitor, and maintain the controlled burn, even if negligent, are the kind of conduct "susceptible to policy analysis." Id. at 325, 111 S. Ct. at 1275 (emphasis added). As to the second step of Gaubert, the issue is not whether the officials or employees actually weighed any particular policy considerations before taking (or declining to take) any particular action. See Ochran, 117 F.3d at 500; Hughes, 110

F.3d at 768. The inquiry here is not fact-based. See Autery v. United States, 992 F.2d 1523, 1530–31 (11th Cir. 1993). Rather, "Gaubert . . . cautions against conducting a fact-based inquiry into the circumstances surrounding the government actor's exercise of a particular discretionary function, urging courts instead to look to the nature of the challenged decision in an objective, or general sense, and ask whether that decision is one we would expect inherently to be grounded in considerations of policy." Id. (quotation marks omitted).

Further, as to the second part of Gaubert we are not aware of any precedent—and Plaintiffs cite none—indicating that at the motion-to-dismiss stage, a federal court must limit its discretionary-function-exception analysis to policy considerations a plaintiff's complaint chooses to expressly allege were at play. To the contrary, this Court previously has affirmed the dismissal of claims under the discretionary-function exception notwithstanding the apparent absence of any allegations or evidence concerning actual policy considerations undertaken by the government employees. See, e.g., Mesa v. United States, 123 F.3d 1435, 1438–39 (11th Cir. 1997) (discussing at length what considerations a DEA agent might hypothetically weigh in deciding how to locate and identify the subject of an arrest warrant).

We recognize that the district court referenced two particular court decisions in which the government presented evidence that certain policy considerations

actually were at play in controlling forest fires.[6] However, this in no way tainted the district court's analysis. If anything, the fact that government officials in analogous situations were found to have actually weighed public policy considerations in exercising their discretion is relevant to whether the challenged discretionary conduct here was "susceptible to policy analysis." See Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275.

For all of the above reasons, the district court committed no procedural error in its facial analysis of Plaintiffs' complaint. Before examining the substantive application of the discretionary-function exception to the U.S. Forestry Branch's conduct, we step back in time to discuss the Supreme Court's Rayonier decision in 1957.

V. RAYONIER IN 1957

While today we must apply Gaubert's above-described two-part test, Gaubert, 499 U.S. at 322–23, 111 S. Ct. at 1273–74, we review Rayonier Inc. v.

[6]The district court, in a footnote, cited Miller v. United States, 163 F.3d 591 (9th Cir. 1998) (involving a forest fire), and Thune v. United States, 872 F. Supp. 921 (D. Wyo. 1995) (involving a controlled burn) for the proposition that other courts have found that the government must consider a variety of policy implications when deciding how to control a spreading fire. In Thune, the government presented evidence of the Forest Service Manual, which covers "the conduct of both conducting controlled fires and fighting wildfires." See Thune, 872 F. Supp. at 924 (citing the Forest Service Manual, which "outlin[es] factors to be considered in controlled burns," as well as "elements to be weighed in efforts to control out of control fires"). The district court in Thune observed that "if the presence of negligence were allowed to defeat the discretionary function exception, the exception would prove a meager shield indeed against tort liability." Id. at 925 (quoting Kennewick Irrigation Dist. v. United States, 880 F.2d 1018, 1029 (9th Cir. 1989)).

United States, 352 U.S. 315, 77 S. Ct. 374 (1957), because it too involved an FTCA claim based on the government's negligent management of a forest fire that spread from government land and damaged plaintiffs' property. 352 U.S. at 315–17, 77 S. Ct. at 375. In Rayonier, the government allowed railway trains to run over a right of way that passed through the government land. Id. at 316, 77 S. Ct. at 375. The government negligently allowed highly flammable dry grasses, brush, and other materials to accumulate, and sparks from a railroad engine ignited fires "on the right of way and adjoining land." Id. at 316, 77 S. Ct. at 375. After the fire was "under control" and "substantially out," certain spots continued to burn and smolder, but the government kept only a few men guarding the fire, despite strong winds and the presence of a "tinder-dry" accumulation of debris and dead logs. Id. at 316, 77 S. Ct. at 375. The winds blew sparks from the smoldering embers, and the fire "exploded" and spread as far as 20 miles. Id. at 316, 77 S. Ct. at 375. The forest fire destroyed the plaintiffs' property. Id. at 316–17, 77 S. Ct. at 375.

In Rayonier, the Supreme Court held that the government could be subject to suit under the FTCA in cases involving the negligence of government employees in controlling forest fires. Id. at 317–18, 77 S. Ct. at 375–76. In holding the government subject to the FTCA suit, the Supreme Court reasoned that "[t]here is

no justification for this Court to read exemptions into the [FTCA] beyond those provided by Congress." Id. at 320, 77 S. Ct. at 377.

Rayonier is not controlling here for two reasons. First and foremost, Rayonier was not a discretionary-function case. The Supreme Court did not cite or address the discretionary-function exception in 28 U.S.C. § 2680(a).[7] The government did not argue that the decisions of U.S. Forestry Branch officials fell within that discretionary-function exception. Instead, the government asserted threshold claims about the scope of the FTCA's waiver of sovereign immunity. The government argued that: (1) the FTCA "did not waive the United States' immunity from liability for the negligence of its employees when they act as public firemen"; (2) the FTCA imposes liability on the United States only where "governmental bodies have traditionally been responsible for the misconduct of their employees"; and (3) neither common law nor the law of the state of Washington "imposes liability on municipal or other local governments for the negligence of their agents acting in the 'uniquely governmental' capacity of public firemen." Id. at 318–19, 77 S. Ct. at 376. The Supreme Court's decision in

[7]Section 2680 was enacted in June 1948, almost nine years before the Supreme Court decided Rayonier in January 1957. Act of June 25, 1948, ch. 646, § 2680(a), 62 Stat. 869, 984 (1948) (codified as amended at 28 U.S.C. § 2680). Although Congress has since amended portions of § 2680, the current language of the discretionary-function exception—as articulated in subsection (a)—is identical to the language Congress originally enacted. Compare id., with 28 U.S.C. § 2680(a).

Rayonier addresses the scope of the FTCA's waiver, not the discretionary-function exception to that waiver.

Second, and in any event, when Rayonier was decided in 1957, immunity for the negligence of government employees performing discretionary actions was analyzed under a different framework than it is today. In fact, Gaubert's now-ubiquitous two-part test is absent from the Supreme Court's early jurisprudence in this area. See, e.g., Indian Towing Co. v. United States, 350 U.S. 61, 68–69, 76 S. Ct. 122, 126–27 (1955); Dalehite v. United States, 346 U.S. 15, 41–42, 73 S. Ct. 956, 971 (1953). Rather, at the time of Rayonier, federal courts applying early discretionary-function precedent often relied on a distinction between (1) planning or policymaking decisions—to which the discretionary-function exception generally applied—and (2) operational conduct—where the exception's applicability was less clear. See, e.g., White v. United States, 317 F.2d 13, 17 (4th Cir. 1963) ("The application of [a] policy to [an] individual case is an administrative decision at the operational level which if negligently done will make the Government liable . . . ."); United States v. Hunsucker, 314 F.2d 98, 103–04 (9th Cir. 1962) ("[T]he distinction referred to in Dalehite between decisions made on the planning level as against decisions made on the operational level has been accepted by several courts.").

It was not until at least 1984, well after Rayonier, that the Supreme Court began to synthesize its prior precedent and to articulate the two-part test that federal courts apply today. See Berkovitz, 486 U.S. at 535–37, 108 S. Ct. at 1958–59; United States v. Varig Airlines, 467 U.S. 797, 813–14, 104 S. Ct. 2755, 2764–65 (1984); see also Gaubert, 499 U.S. at 322–24, 111 S. Ct. at 1273–74 (summarizing Varig Airlines and Berkovitz). In doing so, the Supreme Court rejected the existence of any bright-line dichotomy between planning or policymaking decisions and operational decisions implied by its prior precedent. Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275 ("A discretionary act is one that involves choice or judgment; there is nothing in that description that refers exclusively to policymaking or planning functions. . . . Discretionary conduct is not confined to the policy or planning level.").

Accordingly, Rayonier's holding does not resolve our inquiry as to whether, under Gaubert's two-part test, the discretionary-function exception in § 2680(a) protects the United States from FTCA liability for its alleged negligent failure to observe, monitor, and maintain a natural or controlled forest fire.[8] Because no

[8]Our colleague's dissent agrees Rayonier does not resolve our inquiry. Dissent at 2 ("Rayonier did not address the FTCA's discretionary function exception, so it does not control the precise issue before us."). At least one of our sister circuits also has concluded that Rayonier does not resolve whether the discretionary-function exception operates to bar suit for alleged negligence in failing to control a forest fire. Miller, 163 F.3d at 596–97 ("Because the Supreme Court in Rayonier did not have the question before it of whether the discretionary function

Supreme Court precedent resolves that issue, we next examine how our own Court has applied Gaubert's two-part test to government conduct.

VI. ELEVENTH CIRCUIT PRECEDENT APPLYING GAUBERT

Our decision in Autery v. United States is the most instructive here because it involved an FTCA claim alleging negligent conduct by the U.S. National Park Service. 992 F.2d at 1524. As a result of the Park Service's alleged negligence, a rotten tree fell and struck a vehicle, injuring a passenger and killing the driver. Id. at 1524. There was no mandatory statute, regulation, or policy controlling the Park Service's process for inspecting and maintaining trees, so the first part of Gaubert's test was satisfied. Id. at 1530.

In applying the second part of Gaubert's test, our Court in Autery identified several policy considerations that justify reliance on the discretionary-function exception. The Park Service, we noted, likely needed to balance several competing interests, including "the risk of harm from trees in various locations, the need for other safety programs, the extent to which the natural state of the forest should be preserved, and the limited financial and human resources available." Id. at 1531. We refused to engage in any "judicial 'second-guessing'" of the Park Service's

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exception applied, and because it did not apply the two-step analysis now followed, Rayonier does not control our decision.").

The dissent also cites Anderson v. United States, 55 F.3d 1379, 1384 (9th Cir. 1995), but that decision, although decided after Gaubert, also does not discuss at the all the discretionary-function exception to the FTCA's general waiver of sovereign immunity.

balancing of those interests. Id. (quoting Varig Airlines, 467 U.S. at 814, 104 S. Ct. at 2765). We concluded the choices involved in implementing a tree inspection plan were "grounded in social, economic and public policy," such that the discretionary-function exception applied. See id. at 1530–31. We therefore upheld the application of the exception to bar relief for the government's allegedly negligent failure to detect and remove hazardous, rotten trees in a national park. Id. at 1524, 1531.

Similarly, in Hughes v. United States, our Court applied the discretionary-function exception to bar recovery for the U.S. Postal Service's alleged negligent failure to provide adequate security and monitor its parking lot. 110 F.3d at 766, 768–69. Two assailants shot plaintiff Hughes who was in her car in a post office parking lot, and she sustained serious bodily injury. Id. at 766. We found no applicable statute, regulation, or policy that prescribed a specific course of conduct for the U.S. Postal Service to follow and thus concluded the first part of Gaubert's test was satisfied. Id. at 768.

In applying the second part of Gaubert's test, our Court in Hughes refused to second guess the resource-allocation decisions of the U.S. Postal Service employees, who were faced with deciding how best to "serve customers in a prompt, reliable, and efficient manner." Id. at 768–69. Citing to Gaubert, we recognized that "[d]ay-to-day management . . . regularly requires judgment as to

which of a range of permissible courses is the wisest." Id. at 768 (alteration in original) (quoting Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275). Post-Gaubert, the discretionary-function exception protects certain decisions even at the operational or day-to-day level. Id.; see also Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275. And as the Supreme Court has long recognized, the discretionary-function exception's scope extends beyond high-level policymakers and includes government officials at any rank exercising discretion. See Varig Airlines, 467 U.S. at 813, 104 S. Ct. at 2764. "[I]t is the nature of the conduct, rather than the status of the actor, that governs whether the discretionary function exception applies in a given case." Id. at 813, 104 S. Ct. at 2764.

In yet another case, Cranford v. United States, our Court applied the discretionary-function exception to decisions of U.S. Coast Guard officials in marking and choosing not to remove a submerged shipwreck. 466 F.3d 955, 956 (11th Cir. 2006). Importantly, the government had, years previously, deliberately sunk the ship in question to serve as a breakwater. Id. at 957. The Coast Guard placed a marker to signal the presence of the shipwreck, but the plaintiffs, whose motor boat struck the submerged ship, alleged the marking was inadequate. Id. at 956–57.

In Cranford, our Court concluded the Coast Guard's decisions related to the manner of marking the submerged shipwreck inherently involved "elements of

judgment or choice." Id. at 959. We reasoned that "decisions in marking a wreck involve social, political, and economic policy considerations, such as taking into account the knowledge and customs of international mariners, balancing the needs of pleasure and commercial watercraft, and evaluating agency resource constraints." Id. at 960. We acknowledged that financial considerations, on their own, do not necessarily render a decision one that is "susceptible to policy analysis," since "budgetary constraints are almost always important to government decisions." Id. (quotation marks omitted) (quoting Ochran, 117 F.3d at 502). But as we noted, there were considerations at play beyond financial ones, and even the resource-allocation considerations were not wholly financial in nature. Id. (noting that the relevant concerns about "resource constraints . . . include but are not limited to financial concerns").

In the past, our Court also has identified instances in which a government employee's exercise of judgment or choice is not "susceptible to policy analysis." The most notable case is Swafford v. United States, which involved the government's alleged failure to properly maintain a staircase on a campground owned and operated by the U.S. Army Corps of Engineers. 839 F.3d 1365, 1367–68 (11th Cir. 2016). Plaintiff Swafford walked from Campsite 23, where he was staying on the campground, to Campsite 26. Id. at 1367. He then fell and injured himself while descending the site's wooden stairway. Id. The Corps had

contracted with a third party, Anderson Construction Company, "to provide all maintenance, repair, and operations of facilities, vehicles, and equipment" on the campground. Id. at 1368 (quotation marks omitted). The Corps's contract specifically provided for Anderson's "complete inspection, maintenance, and repair of all campsites and stairways necessary to keep them in safe working condition." Id. (quotation marks omitted).

Plaintiff Swafford alleged that the Corps "negligently and carelessly caused, allowed, and/or permitted a hazardous condition to exist and remain as to the steps at Campsite 26." Id. (quotation marks omitted). He further alleged that any negligence on Anderson's part was imputable to the Corps and that the Corps had "ratified Anderson's negligent failure to inspect and/or repair the steps at Campsite 26 . . . by not requiring the repair of the defective and hazardous steps." Id. (quotation marks omitted).

In Swafford, our Court determined that, under the first part of Gaubert's test, the maintenance of the stairs involved the exercise of judgment and discretion, as there was no evidence that a federal statute, regulation, or policy specifically required that the Corps inspect, maintain, and repair the previously built stairways at Campsite 26. Id. at 1370. Under the second part of Gaubert's test, however, our Court rejected the idea that the Corps could simply choose not to maintain the stairs in a safe condition after explicitly undertaking responsibility for doing so,

noting that "the Corps's decision to build and 'operate' a staircase on the Campground gives rise to a[n] . . . obligation to inspect and maintain that staircase in a safe condition." Id. at 1371. While the Corps's initial decision to build and undertake responsibility for maintaining the staircase was a discretionary judgment, the Corps's subsequent failure to maintain the staircase in a safe condition was not a permissible exercise of policy judgment. Id. at 1371–72.

The Swafford Court acknowledged that the Supreme Court had disavowed any bright-line discretionary-function rule that relies on "a dichotomy between 'discretionary functions' and 'operational functions.'" Id. at 1371. But plaintiff Swafford's argument, this Court reasoned, did not rely on any such distinction; rather, Swafford argued that "once the Corps exercised its discretion to build and maintain the stairs, failure to maintain them in a safe condition [was] simply not a permissible exercise of policy judgment." Id. at 1371–72. Agreeing with Swafford, our Court noted that the Corps's contract with Anderson "specifically required Anderson to inspect, maintain, and repair the Campground's stairways as necessary to keep them in safe working condition." Id. at 1372 (quotation marks omitted). As a result, "[w]hatever range of choice the Corps may have had in supervising Anderson, 'choosing' to 'accept' a dangerously unsafe stairway [was] simply not a permissible exercise of discretion any more than . . . choosing to drive carelessly on official business." Id.

With this background in mind, we now turn to the challenged conduct in this case.

VII. APPLYING GAUBERT'S SECOND PART

Again, Plaintiffs do not contend that, under the first part of Gaubert's test, the U.S. Forestry Branch's challenged conduct involved no "element of judgment or choice." See Gaubert, 499 U.S. at 322, 111 S. Ct. at 1273 (quotation marks omitted). Nor do they challenge the U.S. Forestry Branch's decision to initiate the controlled burn. Our inquiry, then, is whether, under the second part of Gaubert's test, the U.S. Forestry Branch employees' choices and decisions as to how to observe, monitor, and maintain the burn are "susceptible to policy analysis." Id. at 325, 111 S. Ct. at 1275. In other words, are those choices and decisions made in executing the controlled burn necessarily "grounded in social, economic, and political policy." Gaubert, 499 U.S. at 323, 111 S. Ct. at 1273. We conclude that they are.

As the Defendant points out, numerous policy considerations come into play regarding whether and to what extent a U.S. Forestry Branch employee or official might take a particular action during the monitoring or maintaining a controlled burn. For example, an official might need to consider and balance the following factors in planning and during the controlled burn: (1) the safety of U.S. Forestry Branch personnel, as well as members of the public; (2) what specific level of

safety measures to take during the controlled burn, such as how many employees and how much equipment to use and where to use it in monitoring the execution of the controlled burn; (3) the allocation of financial resources for fire suppression costs; (4) the need to encourage ecological development; (5) potential risk to private and public property; and (6) how best to balance the need for the controlled burn against the inherent risk to persons and property. Additionally, because the controlled burn here took place in close proximity to a U.S. military base, Forestry Branch employees had to weigh additional important policy considerations related to military personnel and operations. See OSI, Inc. v. United States, 285 F.3d 947, 953 (11th Cir. 2002) ("The nature of the military's function requires that it be free to weigh environmental policies against security and military concerns.").

These are precisely the sort of social, economic, political, and public policy concerns our Court has recognized as justifying the applicability of the discretionary-function exception. See, e.g., Cranford, 466 F.3d at 960–61 (acknowledging federal officials' need to take into account the interests of various private actors, along with agency resource constraints, both personal and financial); Hughes, 110 F.3d at 768–69 (recognizing the need to balance safety concerns with the limited resources available and noting that "[d]ay-to-day management . . . regularly requires judgment as to which of a range of permissible courses is the wisest" (alteration in original) (quoting Gaubert, 499 U.S. at 325,

111 S. Ct. at 1275)); Autery, 992 F.2d at 1531 (accepting the Park Service's need to balance environmental and safety concerns, as well as the limited financial and human resources available). Given these numerous and complex policy implications, the conduct at issue here is far afield from the example used in Swafford of an employee simply "choosing" to carelessly drive a car on official business. See Swafford, 839 F.3d at 1372.

Notably, two of our sister circuits have applied the discretionary-function exception to bar FTCA lawsuits arising from government officials' response to naturally occurring wildfires. See Hardscrabble Ranch, L.L.C. v. United States, 840 F.3d 1216, 1222–23 (10th Cir. 2016) (reasoning as to the second part of Gaubert's test, that a Forest Service decision to only partially suppress a wildfire required a "balancing of the needs to protect private property, ensure firefighter safety, reduce fuel levels, and encourage natural ecological development," and that "[t]he nature of the [Forest Service's] actions in fighting the . . . [f]ire are susceptible to a policy analysis grounded in social, economic, or political concerns"); Miller v. United States, 163 F.3d 591, 595–96 (9th Cir. 1998) (concluding, as to the second step in Gaubert's test, that "the decision regarding how to best approach the . . . fire . . . required consideration of fire suppression costs, minimizing resource damage and environmental impacts, and protecting private property," as well as safety, and that "the Forest Service's decision

is susceptible to a policy analysis grounded in social, economic, or political concerns").[9]

True, these two decisions involved naturally occurring fires as opposed to controlled burns initiated by the U.S. Forestry Branch. But this distinction does not meaningfully affect our Gaubert analysis. As Plaintiffs themselves concede, there is no contention here that the U.S. Forestry Branch acted negligently, or otherwise improperly, in exercising its discretion to start the fire in the first place. And once the fire was burning, the U.S. Forestry Branch employees tasked with controlling the fire were faced with the same competing policy interests and considerations recognized by our sister circuits as satisfying the second step in Gaubert's two-part test. The origin of the fire is therefore largely irrelevant to the precise issue before us: whether the government's measures and conduct in observing, monitoring, and maintaining of a forest fire are "susceptible to policy analysis." See Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275.

[9]It is also true, as Plaintiffs point out, the district courts in these cases had before them evidence of particular policy considerations that were at play. But as we have emphasized, under the second part of Gaubert's test, we are not concerned with the subjective intent of the government employees who oversaw the burn or whether those employees actually weighed particular policy considerations. See Ochran, 117 F.3d at 500; Autery, 992 F.2d at 1530–31 ("Gaubert . . . cautions against conducting a fact-based inquiry into the circumstances surrounding the government actor's exercise of a particular discretionary function . . . ."). The inquiry is not fact-based; rather our concern is whether the nature of the challenged decision, in an objective or general sense, is "susceptible to policy analysis." See Hughes, 110 F.3d at 768 (quotation marks omitted).

Plaintiffs rely heavily on our statement in Swafford that "once the Corps exercised its discretion to build and maintain the stairs, failure to maintain them in a safe condition [was] simply not a permissible exercise of policy judgment." Swafford, 839 F.3d at 1372. Plaintiffs argue that, similarly, once the U.S. Forestry Branch "exercised its discretion to conduct [the] controlled burn and to observe, monitor and maintain it, the [government's negligent] failure to maintain the burn in a safe manner, within the confines and/or perimeters as intended, is simply not a permissible exercise of policy judgment." They insist that "choosing not to control a prescribed burn is not a permissible exercise of discretion."

At bottom, Plaintiffs' argument effectively collapses the discretionary-function exception into a question of whether the government was negligent, implying that the mere presence of alleged negligence can defeat the exception. But negligence is irrelevant at this point in the Gaubert inquiry. Only after concluding that the government has waived its sovereign immunity would a court consider whether a particular government employee negligently executed the controlled burn. Framing the question as the government's negligent failure in executing the controlled burn thus begs the question. The relevant conduct at issue here is the U.S. Forestry Branch's planning and policy decisions about what measures and conduct to take during the controlled burn itself, not their ultimate negligent acts during the controlled burn.

Further, Plaintiffs' analogy to Swafford is unpersuasive because it assumes maintaining a staircase and monitoring a fire are analogous activities with similar risks and attendant policy concerns. This is not the case. It is one thing to say that government officials may decline to maintain an already built and static set of stairs in a safe condition, where the alleged policy considerations essentially come down to a determinate budget allocation and where the government has hired a subcontractor to maintain the stairs in good working condition. Here, in contrast, and as discussed above, myriad other factors come into play when dealing with an ongoing and quickly evolving forest fire—whether natural or controlled—such as those listed above and recognized by two Courts of Appeals. See Hardscrabble Ranch, 840 F.3d at 1222–23; Miller, 163 F.3d at 596. Controlled burns are exponentially more complicated, dangerous, and unpredictable than repairing a fixed, static set of stairs. Controlled burns require the consideration and weighing of significantly more factors and elements. The conduct and policy judgment in Swafford are materially different from the conduct and judgment in this case.

Plaintiffs do not address head-on the existence or importance of the social, economic, political, or public policy concerns identified by the Defendant. The necessary implication of Plaintiffs' argument is that Swafford stands for the broad proposition that, wherever the government "exercise[s] its discretion" to affirmatively undertake a particular task, the discretionary-function exception

cannot apply to except the government from liability for any subsequent negligence. But to read Swafford as broadly as Plaintiffs suggest would come close to resurrecting the strict planning-versus-operational dichotomy rejected by the Supreme Court. See Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275; see also Cranford, 466 F.3d at 959 ("The [plaintiffs] would have us rule that the discretionary function exception does not apply to the execution of a governmental decision, but this argument merely restates the operational conduct distinction rejected in Gaubert.").

Moreover, that reading of Swafford does not square either with our prior precedent applying the discretionary-function exception or with other circuits' decisions applying the exception to the monitoring and maintenance of naturally occurring fires. After all, even where a forest fire begins naturally, the government can still be said to have "exercised its discretion" to undertake the task of "observ[ing], monitor[ing,] and maintain[ing]" the fire. See Hardscrabble Ranch, 840 F.3d at 1222–23; Miller, 163 F.3d at 596. The same can be said for, say, the government's decision to maintain and remove rotten trees in a national park, Autery, 992 F.2d at 1524, or to operate a post office it elected to place in a particular area, Hughes, 110 F.3d at 766, or to mark the location of a submerged ship it deliberately sank, Cranford, 466 F.3d at 956–57.

We assume, as we must at this stage, that U.S. Forestry Branch officials were negligent in their observation, monitoring, and maintenance during the controlled burn itself as alleged in the complaint. But that alleged conduct—the steps and measures taken to safely execute a controlled burn—by its nature, involves an exercise of discretion and considerations of social, economic, political, and public policy. See Hughes, 110 F.3d at 767 n.1 ("Our concern under the discretionary function exception is not whether the allegations of negligence are true; instead, our concern is whether the nature of the conduct involves judgment or choice and whether that judgment is of the kind that the exception was designed to protect."). The government's decisions about how to monitor and maintain a controlled burn are shielded from judicial second-guessing by the discretionary-function exception to the FTCA. Accordingly, we conclude that Plaintiffs failed to "allege a plausible claim that falls outside the discretionary function exception." See Douglas, 814 F.3d at 1276. Because the discretionary-function exception applies here, the United States has not unequivocally waived its sovereign immunity, and the district court therefore lacked jurisdiction over Plaintiffs' FTCA claims against Defendant United States. See Fed. R. Civ. P. 12(b)(1); Zelaya, 781 F.3d at 1322.

VIII. DISSENT

In his dissent, our colleague concludes: (1) "I do not think that we can hold, on a facial challenge to the complaint, that the discretionary function exception necessarily applies"; (2) "[t]he district court should have denied the government's facial challenge, permitted discovery, and decided the applicability of the discretionary function exception at summary judgment"; and (3) "[t]he majority has been too quick in pulling the trigger on the applicability of the discretionary function exception."[10] Dissent at 1, 10, 12.

With all due respect, the dissent ignores the actual factual and procedural background of the appeal before us in four material ways. First, as the Majority Opinion already notes in footnote 2, the Plaintiffs on appeal do not argue that they were entitled to take any discovery prior to the district court's ruling on the Defendant's motion to dismiss. While Plaintiffs suggested discovery in the district court, Plaintiffs do not raise that claim on appeal. The dissent does not dispute that fact.

Second, Plaintiffs also do not challenge the district court's ruling on the first part of Gaubert's test. They do not argue, nor have they ever argued, that the U.S.

[10] As discussed, supra n.8, the dissent agrees that the Supreme Court's 1957 Rayonier decision does not control because it did not discuss the discretionary-function exception as all. As a result, there is no precedent from the Supreme Court or our Court that resolves the Gaubert step-two issue before us as to forest fires or controlled burns.

Forestry Branch officials responsible for the controlled burn had no room to exercise "judgment or choice" in their decisions about how they observed, monitored, and maintained the burn. Accordingly, in this particular appeal, our analysis is limited to only the second part of Gaubert's test: whether "the nature of the actions taken" by the U.S. Forestry Branch officials as to the controlled burn were "susceptible to policy analysis." Majority Op. at 9 (quoting Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275); see also Autery, 992 F.3d at 1530–31.

Third, the Plaintiffs' complaint, their response to the Defendant's motion to dismiss in the district court, and their brief on appeal nowhere cite the two documents attached as an 84-page appendix to the dissent. Those documents are published by the National Wildfire Coordinating Group (NWCG) and are entitled: (1) the July 2017 "Interagency Prescribed Fire Planning and Implementation Procedures Guide"; and (2) the March 2018 "Prescribed Fire Plan Template." The Plan and Guide documents describe the NWCG as follows:

> The National Wildfire Coordinating Group (NWCG) provides national leadership to enable interoperable wildland fire operations among federal, state, tribal, territorial, and local partners. NWCG operations standards are interagency by design; they are developed with the intent of universal adoption by the member agencies. However, the decision to adopt and utilize them is made independently by the individual member agencies and communicated through their respective directives systems.

(emphasis added). The dissent does not indicate whether the U.S. Forestry Branch has adopted or utilized the NWCG's standards, in whole, in part, or not at all. The record does not tell us as no one cited, much less discussed, the Plan or the Guide.

The dissent argues that, "[g]iven the Plan and the Guide, it is difficult to understand how or why the majority believes that all government conduct associated with a prescribed burn is shielded by the discretionary function exception." Dissent at 5–6. But again, what the dissent fails to acknowledge is that Plaintiffs do not challenge the district court's ruling on the first part of Gaubert's test. Indeed, the Plaintiffs have never pointed to any "federal statute, regulation, or policy specifically prescribe[ing] a course of action" the Forestry Branch officials were required to follow in conducting the controlled burn. Majority Op. at 8 (quoting See Gaubert, 499 U.S. at 322, 111 S. Ct. at 1273). Nor do the Plaintiffs claim they should have been allowed discovery to find any potentially applicable directive that specifically prescribed a course of conduct that the U.S. Forestry Branch employees were bound to follow in observing, monitoring, and maintaining the burn. The Plaintiffs have not done so because they do not challenge on appeal the district court's conclusion that the U.S. Forestry Branch's decisions as to how to observe, monitor, and maintain the fire involved an element of judgment or choice.

Fourth and finally, because the narrow appellate issue before us involves only the second part of Gaubert's test, our inquiry is only whether the nature of the decisions made by the U.S. Forestry Branch—even assuming officials were negligent in deciding how to observe, monitor, and maintain the controlled burn—were "susceptible to policy analysis." Majority Op. at 9 (quoting Gaubert, 499 U.S. at 325, 111 S. Ct. at 1275). The documents attached to the dissent, if anything, confirm the Majority's conclusion that social, economic, political, and public policy considerations are all at play in what actions the U.S. Forestry Branch takes in an effort to observe, monitor, and maintain a controlled burn. The Plan and Guide address funding, safety, personnel, resources, environmental concerns, and numerous other public policy issues.

The dissent perhaps begins to educate future plaintiffs in FTCA–controlled burn cases about the first part of Gaubert's test and the need to look for potential directives that may specifically prescribe a course of conduct, to ascertain whether such directives were adopted by a federal agency at some point relevant to the case, and to argue that those directives removed the range of discretionary choices available to the U.S. Forestry Branch at the first part of Gaubert's test. However, the dissent fails to take into account that the instant issue on appeal involves only the second step in Gaubert's two-part test and whether the inherent nature of the actions taken were "susceptible to policy analysis." Gaubert, 499 U.S. at 325, 111

S. Ct. at 1275. Pursuant to precedent, the Majority has looked at "the nature of" the challenged actions in an objective or general sense and concluded they are inherently grounded in social, economic, political, and public policy concerns.

IX. CONCLUSION

For the foregoing reasons, we affirm the district court's dismissal of Plaintiffs' FTCA complaint for lack of subject matter jurisdiction.

AFFIRMED.

JORDAN, Circuit Judge, dissenting:

The government may ultimately be right that the negligence claims of Foster Logging Inc. and American Guarantee & Liability Insurance Company will be barred by the discretionary function exception to the Federal Torts Claims Act. *See* 28 U.S.C. § 2680(a). But I do not think that we can hold, on a facial challenge to the complaint, that the discretionary function exception necessarily applies.

I

As a general principle, it is well settled that the government can be liable under the FTCA for the negligence of its employees in fighting or controlling a fire. *See Rayonier Inc., v. United States*, 352 U.S. 315, 319–20 (1957). In *Rayonier*, a fire started on government-owned land and spread for 20 miles, destroying the plaintiff's property. *See id*. at 316–17. The complaint alleged that the government had been negligent by, among other things, "not properly suppressing the spot fires" and "failing to quench and prevent the spread of the fire when it was under control." *Id*. at 317. The district court dismissed the complaint on the ground that the government could not be sued for the Forest Service's negligence in combating a fire, and the Ninth Circuit affirmed. *See id*. The Supreme Court reversed. *See id*. at 321. Explaining that the FTCA was enacted to help share the burden of injured parties

who are left "destitute or grievously harmed" by the government's negligence, the Court held that the FTCA allowed the government to be sued for its employees' negligence in managing a fire, and vacated the dismissal of the complaint. *See id*.

Rayonier did not address the FTCA's discretionary function exception, so it does not control the precise issue before us. But it does show that there are scenarios in which the government can be sued under the FTCA for its negligence in failing to control a fire. That reality is confirmed by later cases like *Anderson v. United States*, 55 F.3d 1379, 1384 (9th Cir. 1995) (holding that the FTCA supported a negligence claim against the government for failing to manage a prescribed burn in a national forest). And that reality, as explained below, matters.

II

Our pleading rules require only "a short and plain statement of the claim showing that the pleader is entitled to relief," Fed.R.Civ.P. 8(a)(2), and the Supreme Court has told us that "they do not countenance dismissal of a complaint for imperfect statement of the legal theory supporting the claim asserted." *Johnson v. City of Shelby*, 574 U.S. 10, 11 (2014). To survive a motion to dismiss, therefore, a complaint need only "plead facts sufficient to show that [the] claim has substantive plausibility." *Id*. at 12.

"[A] motion to dismiss for lack of subject matter jurisdiction pursuant to [Rule] 12(b)(1) can be based upon either a facial or factual challenge to the

complaint." *McElmurray v. Consol. Gov't of Augusta-Richmond Cty.*, 501 F.3d 1244, 1251 (11th Cir. 2007). If the challenge is facial, the district court must afford the plaintiff "safeguards similar to those retained when a Rule 12(b)(6) motion to dismiss for failure to state a claim is raised." *Id.* The court need only "look and see if the plaintiff's complaint has sufficiently alleged a basis of subject matter jurisdiction, and the allegations in [the] complaint are taken as true for the purposes of the motion." *Houston v. Marod Supermarkets, Inc.*, 733 F.3d 1323, 1335–36 (11th Cir. 2013) (citation and internal quotation marks omitted).

A

The "discretionary function exception applies only to conduct that involves the permissible exercise of policy judgment." *Berkovitz v. United States*, 486 U.S. 531, 539 (1988). It is inapplicable "if a government policy specifically prescribes an action and that policy is violated." *Hart v. United States*, 894 F.2d 1539, 1546 (11th Cir. 1990). *See also Douglas v. United States*, 814 F.3d 1268, 1273 (11th Cir. 2016) (laying out the two-part test for the discretionary function exception).

Where, as here, the government mounts a facial challenge to the complaint based on the discretionary function exception, the plaintiff need only "allege a plausible claim that falls outside the . . . exception." *Douglas*, 814 F.3d at 1276. But we have also held that the government has the burden of "production of the policy

considerations that might influence the challenged conduct." *Ochran v. United States*, 117 F.3d 495, 504 n.4 (11th Cir. 1997).

B

As noted earlier, the FTCA generally allows claims against the government for negligence in failing to control a fire. *See Rayonier*, 352 U.S. at 319–20; *Anderson*, 55 F.3d at 1384. The complaint here easily pled a claim covered by the FTCA, as the plaintiffs alleged that the government had "conducted a [prescribed] burn in area B-20" and then "negligently failed to observe, monitor, and maintain" that burn, "allowing fire to escape area B-20" and causing damage to Foster Logging's equipment in area B-19.5. *See* D.E. 1 at 3 ¶ 12.

The Supreme Court made clear in *United States v. Gaubert*, 499 U.S. 315, 325 n.7 (1991), that not all discretionary acts are covered by the discretionary function exception. "There are obviously discretionary acts performed by a Government agent that are within the scope of his employment but not within the discretionary function exception because these acts cannot be said to be based on the purposes that the regulatory regime seeks to accomplish." *Id*. The majority assumes that there is no way that the government's alleged negligence can fall outside the discretionary function exception, and makes the incredibly broad statement that the "government's decisions about how to monitor and maintain a prescribed burn are shielded from

second-guessing by the discretionary function exception to the FTCA." Maj. Op. at 31. That statement is not only unnecessarily broad, it is demonstrably mistaken.

The majority's assertion that all conduct relating to a prescribed burn is shielded by the discretionary function exception is wrong. Prescribed fires are highly regulated, and federal agencies involved with prescribed burns (including the National Park Service, the U.S. Fish and Wildlife Service, the Bureau of Land Management, and Bureau of Indian Affairs, and the U.S. Forest Service) must adhere to the "minimum mandates" articulated in the Prescribed Fire Plan. *See* Robert H. Palmer III, *A New Era of Federal Prescribed Fire: Defining Terminology and Properly Applying the Discretionary Function Exception*, 2 Seattle J. Envtl. L. 279, 310 (2012).

The current version of the Plan, published by the National Wildfire Coordinating Group, is the March 2018 NWCG Prescribed Fire Plan Template, PMS 484-1 (found at www.nwcg.gov/publications/484-1 [last visited July 27, 2020]). The Plan is now a supplement to another document, the July 2017 Interagency Prescribed Fire Planning and Implementation Guide, PMS 484 (found at www.nwcg.gov/sites/default/files/publications/pms484.pdf [last visited July 27, 2020]). The Guide, also published by the NWCG, is a comprehensive 53-page document which sets out, among other things, "standardized procedures" for the "planning and implementation of prescribed fire." *Id.* at 1. It describes "what is

minimally acceptable for prescribed fire planning and implementation." *Id.* (emphasis in original). Given the Plan and the Guide, it is difficult to understand how or why the majority believes that all government conduct associated with a prescribed burn is shielded by the discretionary function exception. *See* Palmer, *Prescribed Fire*, 2 Seattle J. Envtl. L. at 315 (arguing that, because a "prescribed fire plan and implementation is not discretionary," the "discretionary function exception should not bar a claim for damages resulting from a prescribed fire").[1]

C

On a facial challenge, we are required to view the complaint in the light most favorable to the plaintiffs and draw all reasonable inferences in their favor. Under this standard, the complaint should not have been dismissed.

Assume, for example, that the government decided as part of its prescribed burn plan to dig a trench at the boundary of area B-20 in order to prevent the fire from spreading to area B-19.5. Assume further that, once that decision was made and communicated to the employees who were assigned the task of digging the trench, those employees simply forgot to do the job or dug the trench in the wrong place. In other words, they were negligent in carrying out the policy decision that

[1] Copies of the Plan and the Guide are attached as Appendices A and B. We can take judicial notice of the Plan and the Guide as agency documents or reports under Federal Rule of Evidence 201(b)(2). *See Dimanche v. Brown*, 783 F.3d 1204, 1213 n.1 (11th Cir. 2015); *Terrebonne v. Blackburn*, 646 F.2d 997, 1000 n.4 (5th Cir. 1981).

had been made. Although the discretionary function exception would shield the initial decision to dig the trench as a way to contain the fire, it would not immunize the negligence of the employees in carrying out that directive. Such negligence would not involve an element of judgment or choice, nor would it be grounded in considerations of public policy.[2]

A district court case, *Florida Department of Agriculture & Consumer Servs. v. United States*, 2010 WL 3469353, at *4 (N.D. Fla. Aug. 30, 2010), is instructive in this regard. In that case, which likewise involved an FTCA claim based on the government's alleged negligence in carrying out a prescribed burn, the district court denied the government's motion for summary judgment. *See id.* at *5. As relevant here, the court held that the discretionary function exception did not apply because the government had admitted during discovery that it had not followed the prescribed burn plan. *See id.* at *4 (explaining that the evidence showed a "clear disobedience to mandates that are not discretionary"). And it explained that, although the government "may have had discretion as to the analysis conducted within the Burn Plan, [it] had no judgment or choice whether to complete a Plan and then follow it once approved." *Id.*

[2] The majority proclaims that the government employees involved with the prescribed burn here "were faced with the same competing policy interests and considerations recognized by our sister circuits[.]" Maj. Op. at 27. But unless the majority has a crystal ball into the past, I do not see how it can make this factual assertion.

Florida Department of Agriculture, moreover, is not an outlier. In other FTCA cases, our sister circuits have reversed dismissals of complaints when it was not clear that the challenged action was covered by the discretionary function exception. *See, e.g.*, *Rich v. United States*, 811 F.3d 140, 147 (4th Cir. 2015) (reversing the district court's dismissal of an FTCA complaint pursuant to the discretionary function exception because, even though prison officials had discretion in instituting a pat-down policy, the way that the pat-downs were conducted was not discretionary and could have been completed negligently); *Palay v. United States*, 349 F.3d 418, 432 (7th Cir. 2003) (reversing dismissal of FTCA complaint by a prisoner, who alleged that he was injured in a gang fight due to the negligence of prison employees, because without discovery it was impossible to tell whether the discretionary function exception applied: "[T]he government presumes that the circumstances . . . were the result of discretionary decisions by prison officials charged with making such policy choices—for example, judgments about housing inmates affiliated with rival gangs in the same housing unit. . . . Certainly that is possible. But one can also imagine that negligence having nothing whatsoever to do with discretionary judgments that enabled the fight to break out.").

III

In *Swafford v. United States*, 839 F.3d 1365 (11th Cir. 2016), the plaintiff sued the government under the FTCA for injuries he suffered when he fell down a set of

stairs at a federally-owned campground. *See id*. at 1368. The district court granted summary judgment in favor of the government on several grounds, including the discretionary function exception. *See id*. We reversed that aspect of the district court's order. *See id*. at 1372. Because the plaintiff "submitted no evidence that a federal statute, regulation, or policy specifically requires the inspection, maintenance, and repair of the stairs" at the campground, we concluded that, on the record before us, "deciding whether to engage in these tasks involves an element of judgment or choice." *Id*. at 1370. But we ruled that this judgment was not the sort of discretionary choice that the discretionary function exception was meant to shield. We explained that the government's decision to build and operate a staircase on the campground gave rise to an obligation to "inspect and maintain that staircase in a safe condition." *Id*. at 1371. Indeed, the government's contract with a construction company required the company to inspect, maintain, and repair the campground's stairways as needed to keep them in a safe working condition. *See id*. at 1372.

As I read *Swafford*, it supports reversal of the district court's dismissal order. The plaintiffs' failure here to point to a mandatory regulation or directive in their complaint is not fatal. As set out earlier, the NWCG's Plan and Guide provide minimal requirements that federal agencies must follow with respect to prescribed burns. Moreover, under *Swafford* it is possible that the government's decision to carry out a prescribed burn in Area B-20 gave rise to an obligation to limit its spread.

In my view, it is inappropriate to require the plaintiffs to specifically allege in their complaint exactly what type of negligence the government committed. First, the Supreme Court has said that this sort of detailed pleading is unnecessary. *See Johnson*, 574 U.S. at 11. Second, we know that the "facial plausibility" standard "is not akin to a 'probability requirement[.]'" *Aschcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (citation omitted). Third, the government has the burden of production with respect to the policies that might trigger the discretionary function exception. *See Ochran*, 117 F.3d at 504 n.4. Fourth, as the Seventh Circuit has aptly noted, the "government, not the plaintiff, will generally have superior access to the information that might trigger" the discretionary function exception. *See Bunch v. United States*, 880 F.3d 938, 942 (7th Cir. 2018).

The district court should have denied the government's facial challenge, permitted discovery, and decided the applicability of the discretionary function exception at summary judgment. Where the government's motion to dismiss is really based on "factual contentions that go right to the merits of the case," the district court should "find that jurisdiction exists and deal with the objection as a direct attack on the merits of the plaintiff's case." *Douglas*, 814 F.3d at 1275. At the very least, the district court should have ordered limited jurisdictional discovery to develop the record so it could determine whether the government's alleged conduct falls within the discretionary function exception. As things stand, "we lack

a developed record that would permit us to decide as a matter of law whether the actions that allegedly resulted in [the fire escaping to area B-19.5] reflected the exercise of discretionary policy judgments." *Palay*, 349 F.3d at 432.[3]

IV

As I acknowledged at the beginning, it may well be that the plaintiffs' claims will be barred by the discretionary function exception. The government might be correct that the conduct at issue here was "influenced by considerations such as the promotion of military training and operations activities at Ft. Stewart, the conservation and rehabilitation of its natural resources, and the risk of harm to military personnel and private citizens." Br. for Appellee at 13. But we can only make that decision at summary judgment on a fully developed record, and not on a facial challenge to the complaint where we must draw all reasonable inferences in favor of the plaintiffs.

That is how things played out in *Hardscrabble Ranch, LLC v. United States*, 840 F.3d 1216 (10th Cir. 2016), a case involving not a prescribed burn but the Forest Service's alleged negligence in fighting a fire started by lightning. The Tenth Circuit

[3] Our sister circuit courts have allowed discovery when it is unclear whether the discretionary function exception applies. We should follow suit here. *See Snyder & Assocs. Acquisitions LLC v. United States*, 859 F.3d 1152, 1162 (9th Cir. 2017) (reversing the district court's dismissal of an FTCA complaint so that the parties could conduct discovery on the applicability of the discretionary function exception); *Ignatiev v. United States*, 238 F.3d 464, 466–67 (D.C. Cir. 2001) (explaining the difficulties that an FTCA plaintiff faced in drafting a complaint, and concluding that discovery was the only tool he had to advance his claim).

affirmed the district court's grant of summary judgment to the government based on the discretionary function exception because discovery revealed that (1) the Forest Service's "decision checklist" conferred discretion on decisionmakers as to what factors to consider, and what steps to take, in fighting a fire, and (2) the "nature" of the Forest Service's actions in fighting the fire were "susceptible to a policy analysis grounded in social, economic, or political concerns." *Id.* at 1220–21, 1222–23. *Accord Miller v. United States*, 163 F.3d 591, 597 (9th Cir. 1998) (affirming summary judgment in favor of the government on FTCA claim relating to failure to control fires started by lightning—discretionary function exception applied because the "decision how to allocate resources in a multiple fire situation involved discretion and the consideration of competing economic and social policies").

The majority has been too quick in pulling the trigger on the applicability of the discretionary function exception. With respect, I dissent.[4]

[4] The majority says that I am educating future FTCA plaintiffs in cases involving the government's alleged negligence in prescribed burns. My aim is different—to hopefully persuade other courts to avoid the mistakes the majority makes today.

Appendix A

A publication of the
National Wildfire Coordinating Group

NWCG Prescribed Fire Plan Template

PMS 484-1 MARCH 2018

NWCG Prescribed Fire Plan Template

March 2018
PMS 484-1

The *NWCG Prescribed Fire Plan Template* is supplemental to the *Interagency Prescribed Fire Planning and Implementation Guide*, PMS 484. The plan is the site-specific legal implementation document that provides the agency administrator the information needed to approve the prescribed fire plan and the prescribed fire burn boss the information needed to implement the prescribed fire plan.

The *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, establishes national interagency standards for the planning and implementation of prescribed fire. The guide is available at: https://www.nwcg.gov/publications/484.

Element 1: Signature Page

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT NAME(S):_____

PRESCRIBED FIRE NAME:
Prescribed Fire Unit (Ignition Unit):_____

PREPARED BY:
Name (print):_____ Qualification/Currency:_____

Signature:_____ Date:_____

TECHNICAL REVIEW BY:
Name (print):_____ Qualification/Currency:_____

Signature:_____ Date:_____

COMPLEXITY RATING: _____

MINIMUM BURN BOSS QUALIFICATION: _____

APPROVED BY:
Name – Agency Administrator (print):_____

Signature – Agency Administrator:_____ Date**:**_____

_____

Element 2A: Agency Administrator Ignition Authorization

Instructions: The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Prior to signature the agency administrator should discuss the following key items with the fire management officer (FMO) or burn boss. Attach any additional instructions or discussion documentation (optional) to this document.

Key Discussion Items

A.	Has anything changed since the Prescribed Fire Plan was approved or revalidated? *Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.*
B.	Have compliance requirements and pre-burn considerations been completed? *Such as preparation work, NEPA mitigation requirements, cultural, threatened and endangered species, smoke permits, state burn permits/authorizations.*
C.	Can all of the elements and conditions specified in Prescribed Fire Plan be met? *Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.*
D.	Are processes in place to ensure all internal and external notifications and media releases will be completed?
E.	Have key agency staffs been fully briefed about the implementation of this prescribed fire?
F.	Are there circumstances that could affect the successful implementation of the plan? *Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity*
G.	Have you communicated your expectations to the Burn Boss and FMO regarding if and when you are to be notified that contingency actions are being taken?
H.	Have you communicated your expectations to the Burn Boss and FMO regarding decisions to declare the prescribed fire a wildfire?

Implementation Recommended by:
FMO or Prescribed Fire Burn Boss Signature:_____Date:_____

I am authorizing ignition of this prescribed fire between the dates of _____ and _____. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary.

Additional Instructions or Discussion Documentation attached (Optional): Yes ☐ No☐

Ignition Authorized by:
Agency Administrator Signature and Title:_____Date:_____

Element 2B: Prescribed Fire Go/No-Go Checklist

Preliminary Questions	**Circle YES or NO**
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If **NO** proceed with the Go/NO-GO Checklist below, if **YES** go to item B.	YES NO
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If **YES**, proceed with checklist below. If **NO, STOP: Implementation is not allowed. An amendment is needed.**	YES NO
GO/NO-GO Checklist	**Circle YES or NO**
Have ALL permits and clearances been obtained?	YES NO
Have ALL the required notifications been made?	YES NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable?	YES NO
Are ALL prescription parameters met?	YES NO
Are ALL smoke management specifications met?	YES NO
Are ALL planned operations personnel and equipment on-site, available and operational?	YES NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available?	YES NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES NO

If all the questions were answered "**YES**" proceed with a test fire. Document the current conditions, location and results. If any questions were answered "**NO**", DO NOT proceed with the test fire: Implementation is not allowed.

After evaluating the test fire, in your judgment can the prescribed fire be carried out according to the prescribed fire plan and will it meet the planned objective? **Circle: YES or NO**

Burn Boss Signature:_____ Date:_____

Element 3: Complexity Analysis Summary and Final Complexity

Replace this page with the signed:
Summary and Final Complexity Worksheet
PMS 424-1

The worksheet is a separate file that needs to be copied and pasted from *Summary and Final Complexity Worksheet*, PMS 424-1. On the completed worksheet; highlight the entire worksheet area to be copied, right click, click on 'copy'. On this page, delete this text, right click, choose 'picture' as a paste option, and resize as necessary to fit to page.

An alternate solution is to print the *Summary and Final Complexity Worksheet*, 424-1, and insert into the final plan.

Fill out Elements 4 through 21 based on the guidance provided in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Element 4: Description of Prescribed Fire Area

A. Physical Description

1. Location**:**
2. Size:
3. Topography:
4. Project area:
5. Ignition units:

B. Vegetation/Fuels Description:

1. On-site fuels data:
2. Adjacent fuels data:
3. Percent of vegetative type and fuels model(s):

C. Description of Unique Features, Natural Resources, Values:

D. Maps–Attach in Appendix A

1. Vicinity (Required)
2. Project/Ignition Unit(s) (Required)
3. Values (Optional): ☐ Included ☐ Not Included
4. Significant or Sensitive Features (Optional): ☐ Included ☐ Not Included
5. Fuels or Fuel Model(s)(Optional): ☐ Included ☐ Not Included
6. Smoke Impact Area (Optional): ☐ Included ☐ Not Included

Element 5: Objectives

A. Resource Objectives:

B. Prescribed Fire Objectives:

Element 6: Funding

A. Cost:

B. Funding Source:

Element 7: Prescription

A. Prescription Narrative:

1. Describe how fire behavior will meet objectives

B. Prescription Parameters:

1. Environmental or fire behavior (or both)

2. Fire Modeling or empirical documentation (or both)

Element 8: Scheduling

A. Implementation Schedule:

1. Ignition Time Frames or Season(s) (or both)

B. Projected Duration:

C. Constraints:

Element 9: Pre-burn Considerations and Weather

A. Considerations:

1. On-site

2. Off-site

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

Element 10: Briefing

A. Briefing Checklist; including, but not limited to: (additional items may be added)

- ☐ Burn organization and assignments
- ☐ Prescribed Fire objectives and prescription
- ☐ Description of prescribed fire project area
- ☐ Expected weather and fire behavior
- ☐ Communications
- ☐ Ignition plan
- ☐ Holding plan
- ☐ Contingency plan and assignments
- ☐ Wildfire declaration
- ☐ Safety and medical plan
- ☐ Aerial ignition briefing (if aerial ignition devices will be used)

Element 11: Organization and Equipment

A. Positions:

B. Equipment:

C. Supplies:

Element 12: Communication

A. Radio Frequencies:

1. Command frequency(ies):

2. Tactical frequency(ies):

3. Air operations frequency(ies):

B. Telephone Numbers:

Element 13: Public and Personnel Safety, Medical

A. Safety Hazards:

B. Mitigation: Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency Facilities:

Element 14: Test Fire

A. Planned Location:

B. Test Fire Documentation:

1. Weather conditions on-site

2. Test fire results

Element 15: Ignition Plan

A. Firing Methods:

1. Techniques, sequences and patterns

B. Devices:

C. Minimum Ignition Staffing:

Element 16: Holding Plan

A. General Procedures for Holding:

B. Critical Holding Points and Actions:

C. Minimum Organization or Capabilities Needed:

Element 17: Contingency Plan

Management Action Points or Limits:

(Optional MAP Table Format)

Management Action Point–Documentation Element	Management Action Point Narrative
Designator and Description:	
Condition:	
Management Intent:	
Recommended Action(s) to Consider:	
Recommended Resources:	
Time Frame:	
Describe the consequences of not taking the recommended action(s) (Optional):	
Responsibility:	
Date Each Action is Initiated (Optional):	

(if you need to include more MAPs, copy and paste the above template)

B. Actions Needed:

C. Minimum Contingency Resources and Maximum Response Time(s):

Element 18: Wildfire Declaration

A. Wildfire Declared By:

B. IC Assignment:

C. Notifications:

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression (Optional):

Element 19: Smoke Management and Air Quality

A. Compliance:

B. Permits to be Obtained:

C. Smoke-Sensitive Receptors:

D. Potential Impacted Areas:

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

Element 20: Monitoring

A. Fuels Information Required and Procedures:

B. Weather Monitoring (Forecasted and Observed) Required and Procedures:

C. Fire Behavior Monitoring Required and Procedures:

D. Monitoring Required to Ensure that Prescribed Fire Plan Objectives are Met:

E. Smoke Dispersal Monitoring Required and Procedures:

Element 21: Post-burn Activities

A. Post-Burn Activities that must be Completed:

Prescribed Fire Plan Appendices

Appendix A: Maps: Vicinity, Project or Ignition Units (or both), Optional: Significant or Sensitive Features, Fuels or Fuel Model, Smoke Impact Areas

Appendix B: Technical Reviewer Checklist

Appendix C: Complexity Analysis

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)

Appendix A: Vicinity Map

Insert your vicinity maps here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Project (Ignition Units) Maps

Insert your project (ignition unit) map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Optional Maps (Fuels, Significant or Sensitive Features/Values, Smoke Receptors, etc.)

Insert your significant or sensitive values and or feature map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Fuels or Fuel Model: (Optional) Maps

Insert your fuel or fuel model map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix A: Smoke Impact Areas: (Optional) Maps

Insert your significant or sensitive feature map(s) here. Refer to Element 4D in *the Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix B: Technical Reviewer Checklist

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484. Rate each element in the following table with an "S" for Satisfactory or "U" for Unsatisfactory. Use Comment field as needed to support the element rating.

PRESCRIBED FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature Page		
2. A. Agency Administrator Ignition Authorization		
2. B. Prescribed Fire GO/NO-GO Checklist		
3. Complexity Analysis Summary		
4. Description of Prescribed Fire Area		
5. Objectives		
6. Funding		
7. Prescription: Prescription Narrative and Prescription Parameters		
8. Scheduling		
9. Pre-Burn Considerations and Weather		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Declaration		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-Burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment		
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation		
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)		
Other		

☐ **Approval is recommended** subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

☐ **Recommendation for approval is not granted**. Prescribed Fire Plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Signature: _____

Qualification and Currency: _____

Date Signed:_____

Appendix C: Complexity Analysis

Please refer to Element 3: Complexity Analysis Summary in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, and the procedures in *the Prescribed Fire Complexity Analysis Rating System Guide*, PMS 424, to fill out this appendix.

Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment

Please refer to your specific agency guidance to fill out this appendix.

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Refer to Element 7: Prescription, in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

Appendix F: Smoke Management Plan and Smoke Modeling Documentation

(OPTIONAL)

Refer to the *NWCG Smoke Management Guide for Prescribed Fire*, PMS 420-2, and Appendix A. Basic Smoke Management Practices in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

The *NWCG Prescribed Fire Plan Template* is developed and maintained by the Fire Use Subcommittee (FUS), under the direction of the Fuels Management Committee (FMC), an entity of the National Wildfire Coordinating Group (NWCG).

Previous editions: 2014.

While they may still contain current or useful information, previous editions are obsolete. The user of this information is responsible for confirming that they have the most up-to-date version. NWCG is the sole source for the publication.

This publication is available electronically at: https://www.nwcg.gov/publications/484-1.

Comments or questions regarding the plan should be directed to the appropriate agency representative on the FUS. The roster is available at: https://www.nwcg.gov/committees/fire-use-subcommittee/roster.

Appendix B

A publication of the
National Wildfire Coordinating Group

Interagency Prescribed Fire Planning and Implementation Procedures Guide

PMS 484 JULY 2017

Interagency Prescribed Fire Planning and Implementation Procedures Guide

July 2017
PMS 484

The *Interagency Prescribed Fire Planning and Implementation Procedures Guide* establishes national interagency standards for the planning and implementation of prescribed fire. These standards:

- Describe what is minimally acceptable for prescribed fire planning and implementation.
- Provide consistent interagency guidance, common terms and definitions, and standardized procedures.
- Make clear that firefighter and public safety is the first priority.
- Ensure that risk management is incorporated into all prescribed fire planning and implementation.
- Support safe, carefully planned, and cost-efficient prescribed fire operations.
- Support use of prescribed fire to reduce wildfire risk to communities, municipal watersheds and other values, and to benefit, protect, maintain, sustain, and enhance natural and cultural resources.
- Support use of prescribed fire to restore natural ecological processes and functions, and to achieve land-management objectives.

The *Prescribed Fire Plan*, PMS 484-1, is supplemental to the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484. The plan is the site-specific legal implementation document that provides the agency administrator the information needed to approve the prescribed fire plan, and the prescribed fire burn boss the information needed to implement the prescribed fire plan. The *Prescribed Fire Plan*, PMS 484-1, is located at: https://www.nwcg.gov/publications/484-1.

The National Wildfire Coordinating Group (NWCG) provides national leadership to enable interoperable wildland fire operations among federal, state, tribal, and local partners. NWCG operations standards are interagency by design; they are developed with the intent of universal adoption by the member agencies. However, the decision to adopt and utilize them is made independently by the individual member agencies and communicated through their respective directives systems.

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Summary of Changes

The *Interagency Prescribed Fire Planning and Implementation Guide* was revised to reflect changes to the 2017 *Prescribed Fire Complexity Rating System Guide*, PMS 424. Significant changes and new standards include:

- Identifies and describes how to mitigate risks to values during the prescribed fire planning and implementation.
- Clarifies the purpose for the Complexity Analysis in Element 3: Complexity Analysis Summary.
- Requires more robust agency administrator involvement in prescribed fire planning.
- Clarifies qualifications required for recommending and signing the final complexity and prescribed fire plan.
- Requires that Prescribed Fire Plan amendments consider effects to prescribed fire complexity.
- Requires that the *Prescribed Fire Summary and Final Complexity Worksheet*, PMS 424-1, is signed and dated by the prescribed fire plan preparer, the technical reviewer and agency administrator.

Introduction

Fire is an essential ecological process in many fire-dependent ecosystems. In large areas of the country, fire exclusion from these ecosystems has led to unhealthy forest, woodland and rangeland conditions. These areas are at risk of intense, severe wildfires that threaten communities and cause significant damage to key ecological components.

As one component of fire management, prescribed fire is used to alter, maintain, or restore vegetative communities; achieve desired resource conditions; and to protect life, property, and values that would be degraded or destroyed by wildfire.

Purpose

The purpose of the PMS 484 is to provide consistent interagency guidance, promote common terms and definitions, and provide standardized procedures, for the planning and implementation of prescribed fire.

The PMS 484 describes what is **minimally** acceptable for prescribed fire planning and implementation. Agencies may choose to provide more restrictive standards and policy direction, but must adhere to these **minimums**.

The PMS 484 outlines the activities to develop single unit, multiple unit and programmatic plans where the intent is to ignite a unit or units with active perimeter control. Single units are usually implemented over the course of a few days. Multiple or large single units are usually implemented over the course of many days or weeks. Programmatic plans are implemented as single or multiple units. Large single or multiple unit and programmatic projects may span years.

Plans for long-duration, landscape-scale prescribed fires, where the intent is to ignite portions of the unit and allow fire to move across the project area over time may require supplemental information and analysis. This supplemental information and analysis is needed to address long-term planning needs and implementation actions for the prescribed fire where management actions may be dependent on fire growth and seasonal changes. Guidance for elements of the

prescribed fire plan that may require additional attention is identified in the applicable element section.

Scope

The PMS 484 develops common language and unified direction or guidance for federal agency manuals, directive handbooks, and guidelines to be issued as agency policy. The PMS 484 describes what is minimally acceptable for prescribed fire planning and implementation. Agencies may choose to provide more restrictive standards and policy direction, but must adhere to these minimums. The PMS 484 is not intended to address interagency business rules. Reference individual agency's business rules for direction.

The National Wildfire Coordinating Group (NWCG) member agencies agree with the principles identified in the PMS 484. Other federal and non-federal agencies may find it useful, but are not required to use the PMS 484.

Authorities

Federal prescribed fire programs are guided by the principles of the 1995 *Federal Wildland Fire Management: Policy and Program Review* (USDA, USDI, 1995) and the 2001 update (USDA, USDI, et al, 2001). Federal wildland fire policy is guided by the 2009 *Guidance for Implementation of Federal Wildland Fire Management Policy* (USDA, USDI, et al, 2009). Collectively these principles establish that wildland fire programs be implemented equally, consistently and concurrently, as a means to protect, maintain, and enhance resources. Firefighter and public safety are emphasized as priorities in the planning and implementation of all fire management activities.

The PMS 484 supports the 2009 Guidance for Implementation of Federal Wildland Fire Management Policy and replaces the 2008 Interagency Prescribed Fire Planning and Implementation Procedures Guide in its entirety. It provides unified direction and guidance for prescribed fire planning and implementation for the U.S. Department of the Interior's Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service and the U.S. Department of Agriculture Forest Service. The National Wildfire Coordinating Group member agencies agree with the principles identified in the PMS 484.

The PMS 484 develops common language and unified direction or guidance for federal agency manuals, directive handbooks, and guidelines to be issued as agency policy. The PMS 484 describes what is minimally acceptable for prescribed fire planning and implementation. Agencies may choose to provide more restrictive standards and policy direction, but must adhere to these minimums. All use of prescribed fire will be supported by a Land/Resource Management Plan (L/RMP) or Fire Management Plans (FMP) or by both. Prescribed fire projects can only be implemented through an approved prescribed fire plan. Specific authorities exist for each agency to use prescribed fire. All project decisions to use prescribed fire are subject to the agency's analysis, documentation, and disclosure requirements for complying with the National Environmental Policy Act (NEPA), National Historical Preservation Act (NHPA) and Endangered Species Act (ESA) requirements.

During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications. The minimum qualifications standard is the current *Wildland Fire Qualification System Guide*, PMS 310-1. State employees, local cooperators, and contractors working on federal agency prescribed fires must meet PMS 310-1 standards unless local agreements or contracts specify otherwise. The main reference glossary for the PMS 484 is the

Glossary of Wildland Fire Terminology, https://www.nwcg.gov/committees/data-standards-and-terminology-subcommittee

Prescribed Fire Planning Documents

This section describes common planning documents used to ensure quality and setting the right objectives for prescribed fire plans.

Land/Resource Management Plan

Overall direction is provided to the wildland fire management program by Land/Resource Management Plan (L/RMPs). These plans serve as the document to initiate, analyze, and provide the basis for using prescribed fire to meet resource management objectives.

Fire Management Plan

All burnable acres will be covered by a fire management plan (FMP). The FMP is the cornerstone plan for managing a wildland fire management program and should flow directly from the L/RMP. FMPs may be developed for a fire planning unit (FPU) that crosses jurisdictional boundaries. Where the wildland fire management program crosses jurisdictional boundaries, the FMP will require interagency coordination.

Environmental Compliance required by the National Environmental Policy Act

Objectives for specific prescribed fire projects are evaluated and analyzed in the National Environmental Policy Act (NEPA) analysis. The entire prescribed fire project area must be approved under NEPA. NEPA document types that identify and analyze the effects of using or not using prescribed fire treatment projects may include Environmental Impact Statements (EIS), Environmental Assessments (EA), and Categorical Exclusions (CE).

Other authorities that may be used to guide analysis and determination of NEPA compliance are Healthy Forest Restoration Act (HFRA), the Tribal Forest Protection Act (TFPA) and the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy) (USDA, USDI, et al, 2011).

Prescribed fire planning, and related NEPA analysis, should always occur at the largest possible spatial and temporal scales.

Project NEPA analysis and decisions should consider a risk analysis that examines the trade-offs among various alternatives including the no-action alternative. There is an inherent risk in not taking action and it should not be assumed that the no-action alternative is the least-risk alternative.

Lessons Learned

Two categories of problems can arise on prescribed fires:

- Problems as a result of poor planning of a prescribed fire
- Problems that occur during implementation of the prescribed fire

The effect of all errors related to these two categories is cumulative. Together, these errors can diminish the probability of success. Planning problems are often the easiest to overcome because they are typically not time sensitive. The PMS 484 provides the framework to overcome planning problems.

A variety of methods and techniques have been used to review and analyze outcomes and identify “lessons learned”. To promote organizational learning and improve both organizational

and individual performance in prescribed fire planning, "Lessons Learned" have been incorporated into sections of the PMS 484. The lessons learned are not an all-encompassing compendium, but represent a synthesis of significant events, interactions and discussions with individual burn bosses and other subject matter experts.

Lessons learned sections are identified by the following format:

Lessons Learned:

How Lessons Learned are used in the PMS 484

The lessons learned presented in the PMS 484 are not policy requirements. There is no expectation that the statements contained in the "Lessons Learned" sidebars be addressed in prescribed fire plans. They are included as reminders for consideration and discussion as the plan is being prepared or implemented on the ground.

Additional prescribed fire lessons learned and other materials to improve organizational learning are available from the Wildland Fire Lesson Learned Center at https://www.wildfirelessons.net/.

Implementation Organization and Qualifications

The minimum qualifications standard is *Wildland Fire Qualifications System Guide*, PMS 310-1. State employees, local cooperators and contractors working on federal agency prescribed fires must meet the PMS 310-1 standards unless local agreements specify otherwise. During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications.

No less than the minimum implementation organization described in the approved Prescribed Fire Plan may be used for implementation. The complexity of each prescribed fire or phase of fire(s) determines the organization(s) needed to safely achieve the objectives specified in the prescribed fire plan.

The prescribed fire complexity rating is determined using the required *Prescribed Fire Complexity Rating System Guide*, PMS 424. The minimum supervisory position qualifications determined by prescribed fire complexity are identified in Table 1.

Table 1. Qualifications requirements related to Prescribed Fire Complexity

Position	High Complexity	Moderate-Low Complexity	Low Complexity
RXM1	Optional	Optional	Optional
RXM2	Not Allowed	Optional	Optional
RXB1	Required	Optional	Optional
RXB2	Not Allowed	Required	Optional
RXB3	Not Allowed	Not Allowed	Required
FIRB	Optional	Optional	Optional

Holding Function: Holding will be managed by personnel qualified at the appropriate Incident Command System (ICS) wildland fire operations position as required by complexity, assigned resources, and operational span-of-control. For some projects, there may be no holding requirements or the holding duties are assumed by the Burn Boss.

Refreshers: To Maintain Qualifications

Agency or local policy may establish annual or biennial refresher requirements to maintain certification and meet agency currency requirements for RXB1 and RXB2.

The primary intent of the burn boss refreshers is to update practitioners. Suggested core topics include:

- Prescribed fire policy updates
- Weather and climate expectations and trends
- Smoke management requirements, modeling improvements and techniques
- National, regional, tribal, state and local issues of importance to prescribed fire practitioners

Other topics may include:

- Lessons learned from prescribed fire planning and implementation
- Prescribed fire problems and how to avoid them
- Prescribed fire successes and how to repeat them
- Innovations in prescribed fire planning and implementation

Prescribed Fire Burn Boss Type 3

The RXB3 is not included in the PMS 310-1. The RXB3 is included in this document for those wanting to employ the position.

A Prescribed Fire Burn Boss Type 3 (RXB3) will only be allowed to conduct low complexity prescribed fires where the final complexity is rated low. The requirements for Prescribed Fire Burn Boss Type 3 are identified in Table 2.

Table 2. Requirements for Prescribed Fire Burn Boss Type 3

Category Requirement	Requirement(s) for Each Category
Required Training:	Intermediate Wildland Fire Behavior (S-290)
Required Experience:	Satisfactory performance as Incident Commander, Type 5 (ICT5) **OR** Firefighter Type 1 (FFT1) + Successful position performance as a Prescribed Fire Burn Boss Type 3 (RXB3)
Physical Fitness Level:	Moderate
Positions That Maintain Currency For RXB3:	Prescribed Fire Burn Boss Type 2 (RXB2) Prescribed Fire Burn Boss Type 1 (RXB1) Prescribed Fire Manager Type 1 (RXM1) Prescribed Fire Manager Type 2 (RXM2)
RXB3 Maintains Currency	Firefighter Type 1 (FFT1) Firefighter Type 2 (FFT2)
Other Training That Supports Development of Knowledge and Skills:	Ignition Operations (S-219) Wildland Fire Chain Saws (S-212) Portable Pumps and Water Use (S-211) Smoke Management and Air Quality for Land Managers Online Training[1]

Responsibilities

Prior to prescribed fire implementation, thorough planning and review processes must be conducted. All prescribed fire actions must be developed from resource/fire management objectives carried forward from L/ RMPs or FMPs (or both). A prescribed fire plan must be completed, reviewed, and approved before ignition can begin. The agency administrator has final approval authority for all prescribed fire plans, unless special circumstances warrant higher review and concurrence (such as may occur during higher preparedness levels or for extremely large, complex projects). In addition, the agency administrator approves and signs the *Agency Administrator Ignition Authorization* (Element 2A *Prescribed Fire Plan*). The prescribed fire burn boss has the responsibility to complete and sign the *Prescribed Fire GO/NO-GO Checklist*

[1] https://www.frames.gov/partner-sites/emissions-and-smoke/educational-resources/tutorial/

(Element 2B Prescribed Fire Plan). The prescribed fire burn boss ensures that all prescription, staffing, equipment, and other plan specifications are met before, during and after the prescribed fire.

Every prescribed fire plan must receive a technical review. The technical reviewer and prescribed fire plan preparer must be qualified or have been previously qualified as a prescribed fire burn boss at an experience level equal to or higher than the complexity being reviewed. Either the technical reviewer or the prescribed fire plan preparer must be current in their qualification, minus the physical fitness requirement.

Only a RXB1 can review plans at high complexity. Either an RXB1 or RXB2 can review plans of moderate-to-low complexity. An RXB3 is allowed to function as a prescribed fire plan preparer for a low-complexity plan, but not a technical reviewer.

Agency or individual unit policy may require additional reviews.

Interagency mixed ownership prescribed fire plans require a technical review, then approval from each agency administrator.

Lessons Learned: The success of a prescribed fire depends on the continuity of open and comprehensive conversations among the agency administrator, planners, cooperators, dispatch centers, and those actually implementing the prescribed fire plan. Gaps or weaknesses in coordination and communication greatly increase the probability of failure of the prescribed fire.

Prescribed fire and implementation position roles and responsibilities are listed below.

Agency Administrator

The agency administrator is the line officer (or designee) of the agency or jurisdiction that has been delegated or assigned the authority and responsibility for the prescribed fire. These usually include the NPS park superintendent, BIA agency superintendent, tribal administrator, USFS forest supervisor or district ranger, BLM district or field office manager, or USFWS project leader or refuge manager.

Agency administrator responsibilities:

- Review and approve the final complexity rating.
- Approve prescribed fire plans, and understand the risks and benefits associated with it.
- Agency administrator's approval signature (Element 1 Signature Page, *Prescribed Fire Plan*) indicates that the prescribed fire plan meets agency policy, reflects the conditions specified in the project's NEPA decision and necessary agreements are in place.
- Ensure only trained and qualified personnel participate in planning and conducting the prescribed fire.
- Ensure projects are monitored, evaluated, and documented in the project file.
- Discuss the conditions under which the prescribed fire is to be conducted with the burn boss and sign, date and establish an implementation time period on the Element 2A Agency Administrator Ignition Authorization, *Prescribed Fire Plan*.
- Ensure coordination with neighbors, cooperators and air quality regulators has occurred.
- Ensure all prescribed fires are conducted in accordance with the approved prescribed fire plan and established standards and guidelines.

- Ensure periodic reviews and inspections of the prescribed fire program are completed. Specify when the agency administrator is to be notified that contingency actions are being taken.
- Report all wildfires resulting from prescribed fires through the chain of command.
- Provide for the timely declaration of prescribed fire as wildfire.
- Ensure prescribed fires declared as wildfires are reviewed according to established guidelines.
- Ensure prescribed fires that receive a National Ambient Air Quality Standards (NAAQS) Notice of Violation (NOV) are reviewed according to established guidelines.

Fire Management Officer or Fire Program Manager or Fuels Program Manager

As delegated and assigned, the fire management officer (FMO) or fire or fuels program manager is responsible to the agency administrator for the planning, implementing and monitoring of the prescribed fire program in accordance with agency policy and direction.

FMO, Fire or Fuels Program Manager Responsibilities:

- Ensure compliance with national, regional, tribal and local fire policy and direction, as well as applicable state and local laws.
- Ensure an approved prescribed fire plan exists for each prescribed fire project.
- Ensure all prescribed fires are conducted in accordance with the approved prescribed fire plan and established standards and guidelines.
- Plan the prescribed fire program of work based on the Unit's budget and work plan.
- Ensure the National Interagency Mobilization Guide direction is followed at Preparedness Levels IV and V. See the National Interagency Mobilization Guide for details (USDA, USDI, et al, 2013).
- Ensure both the prescribed fire plan preparer and the technical reviewer are qualified or qualified less currency at the level of complexity or higher.
    - Ensure at least one of either the technical reviewer or prescribed fire plan preparer qualification is current, minus the physical fitness requirement.
- Ensure trained and qualified personnel are available to participate in the prescribed fire program.
- Assign the prescribed fire burn boss.
- Ensure the unit can implement the project(s) and order additional resources as needed.
- Participate in prescribed fire to wildfire conversion declarations, if necessary and if responsibility is assigned in the plan.
- Act as liaison to the agency administrator, and update them on the progress of prescribed fires as needed. May act as liaison to other agencies, news media, air quality authorities, transportation agencies and safety officials.
- Provide coordination, oversight and direction to the prescribed fire manager or prescribed fire burn boss (or both), dispatch office or other designated fire management personnel.
- Ensure projects are monitored, evaluated, and documented as a part of the project file.

- Ensure project accomplishments are reported through the local office and comply with agency and local reporting requirements.
- Ensure periodic reviews and inspections of the prescribed fire program are completed.

Prescribed Fire Plan Preparer

The prescribed fire plan preparer is the individual responsible for the preparation of the prescribed fire plan. Several people may be involved in preparation of the prescribed fire plan, but the prescribed fire plan preparer is responsible for the final plan content.

Any qualified prescribed fire burn boss or trainee may develop the initial complexity analysis and participate in the development of the prescribed fire plan. The preparation of the final complexity analysis and prescribed fire plan must be overseen, recommended, and signed by a burn boss qualified at the appropriate level as defined in Table 1 above. (Element 1 Prescribed Fire Plan). Burn boss trainees can be co-signers as preparer of a prescribed fire plan if their work was overseen by a fully qualified burn boss. At a minimum, NWCG qualifications will be accepted.

Prescribed fire plan preparer responsibilities:

- Prepare the prescribed fire plan in accordance with the PMS 484, agency policy and direction and NEPA decision document.
- Coordinate with the resource management or technical specialists (or both) to ensure that the plan meets resource management and operational objectives.
- Interact with the technical reviewer to ensure that all plan elements are adequately addressed.
- Complete and sign the complexity analysis.
- Brief agency administrator and gain approval of the final complexity rating by signature.

Technical Reviewer

The technical reviewer is responsible for reviewing each prescribed fire plan element for content as well as evaluating the risk and complexity analysis to ensure that the goals and objectives can be safely and successfully achieved. The technical reviewer must be qualified or previously qualified as a burn boss at or above the level of project complexity. At a minimum, NWCG qualifications will be accepted. The technical reviewer should have local knowledge of the area, experience burning in similar fuel types, or have previous experience conducting an on-site review (or all three). The technical reviewer must be someone other than the prescribed fire plan preparer.

Technical reviewer responsibilities:

- Ensure prescribed fire plans meet agency policy and direction.
- Ensure the complexity analysis accurately represents the project, so the agency administrator understands the risks to identified values and ensures adequate mitigation is provided in the prescribed fire plan to justify the pre and post risk ratings. This may require on-site review in Wildland Urban Interface (WUI) or high-complexity situation by the technical reviewer.
- Provide concurrence with the calculated prescribed fire complexity determination.

- Check the prescription parameters by fuel types to ensure that the project, as planned, has a reasonable chance or realistic opportunity of meeting the resource management objectives.
- Ensure the fire behavior calculations or prescription parameters are appropriate and within the acceptable range (or both).
- Ensure the ignition, holding and contingency plans are consistent with the predicted fire behavior and fuel types inside and outside the planned ignition unit(s).
- Complete and sign Appendix B Technical Reviewer Checklist, *Prescribed Fire Plan* and the Element 1 Signature Page, *Prescribed Fire Plan*.

Prescribed Fire Manager

The prescribed fire manager (RXM1/RXM2) is responsible for implementing and coordinating assigned prescribed fire activities. A prescribed fire manager may be assigned during periods when multiple, simultaneous prescribed fires are being conducted; when multiple prescribed fires will be conducted within a short time or simultaneously; or when there is complex interagency involvement.

Prescribed fire manager responsibilities:

- Review prescribed fire plans prior to implementation.
- Monitor all prescribed fire operations.
- Ensure all operations are conducted in a safe manner and in accordance with the approved plan(s) and standards and guidelines.
- Act as coordinator or liaison among the burn organization(s), unit FMOs and other offices, agencies, air quality authorities, news media, transportation agencies, safety officials and interested publics.
- Declare a prescribed fire a wildfire, if necessary and if responsibility is assigned in the plan.
- Obtain and interpret long-term weather forecasts and smoke dispersion forecasts.
- Brief the burn bosses and direct operational assignments according to policies, priorities and standards.
- Set priorities for allocation of resources.
- Ensure completion of all required documentation including the evaluation and documentation of accomplishments, fire behavior and fire effects, operation procedures and cost summaries.

Prescribed Fire Burn Boss

The prescribed fire burn boss (RXB1/RXB2/RXB3) is responsible to the agency administrator, prescribed fire manager, fire management officer or local fire management organization for implementing the prescribed fire plan.

Prescribed fire burn boss responsibilities:

- Review the prescribed fire plan prior to implementation and ensure all required elements and objectives are addressed, and have a good understanding of the complexity determination.
- Inspect the prescribed fire project area and or ignition unit(s) to validate prescribed fire plan elements including location of identified values and areas of special concern as well ensuring that holding/contingency plans adequately address expected fire behavior outside the unit(s).
- Obtain current weather and smoke management forecasts, updates and special advisories from a meteorologist.
- Ensure pre-burn considerations and monitoring is completed.
- Maintain communication with the agency administrator, prescribed fire manager, fire management officer (FMO) or local fire management organization.
- Ensure the Element 2A. Agency Administrator Ignition Authorization, *Prescribed Fire Plan* is valid.
- Take to the field those portions of the prescribed fire plan necessary for completing the briefing and safe project implementation.
- Complete and sign the Element 2B. Prescribed Fire Go/No-Go Checklist *Prescribed Fire Plan.*
- Ensure availability of contingency resources and or capabilities within maximum acceptable response times.
- Ensure all operations are conducted in a safe manner and in accordance with the approved plan and established standards and guidelines, ensuring that the safety and welfare of all assigned personnel and public is maintained.
- Verify qualifications of all assigned personnel.
- Ensure all assigned personnel are briefed at the beginning of each operational period and any new personnel arriving to the prescribed fire receive a briefing prior to engaging.
- Conduct the test fire and document the results.
- Supervise assigned personnel and direct the ignition, holding and monitoring operations. Responsible for implementation including mop up and patrol unless otherwise assigned to other qualified personnel.
- Manage or delegate responsibility for the management of any “incident within the incident”.
- Declare the prescribed fire out unless the responsibility for it is formally passed to another prescribed fire burn boss, prescribed fire manager, or other designated personnel with the local fire management organization.
- Determine when the prescribed fire is not within prescription parameters (both short- and long-term) or is not meeting prescribed fire plan objectives.
- Declare a prescribed fire a wildfire, if necessary and if responsibility is assigned in the plan.
- Manage or delegate responsibility, as identified in the plan, for the management of any wildfire, if a wildfire declaration occurs.
- Ensure reports are completed.

- Coordinate with adjacent landowners, cooperators and permit holders as designated in the prescribed fire plan.
- Ensure adjacent landowners and other notifications are made and are documented, prior to ignition as designated in the prescribed fire plan.
- Ensure necessary agreements are in place.

Firing Boss

The firing boss (FIRB) reports to the prescribed fire burn boss or assigned level of organization identified in the plan, and is responsible for supervising and directing ground or aerial ignition operations according to standards in the prescribed fire plan (or both).

Firing boss responsibilities:

- Review the prescribed fire plan and inspect the ignition unit prior to implementation.
- Provide input to burn boss prior to finalizing the Element 2B Prescribed Fire Go/No-Go Checklist, *Prescribed Fire Plan*.
- Brief personnel on project objectives and ignition operations.
- Complete the test fire according to the ignition plan at the direction of the prescribed fire burn boss.
- Conduct ignition operations in a safe manner according to the ignition plan.
- Identify the impacts of ignition on the control and desired fire effects.
- Coordinate ignition operations with the holding operations.
- Firing boss is not a mandatory position for prescribed fires. Ignition operations and responsibilities may be managed by personnel qualified at the appropriate ICS wildland fire operations standard and as required by the prescribed fire complexity, assigned resources, and operational span-of-control.

For some prescribed fires the ignition responsibilities are assumed by the prescribed fire burn boss.

Holding Function

The supervisory position in charge of the holding forces reports to the prescribed fire burn boss or assigned level of organization identified in the plan. There is no specific NWCG-holding specialist approved position for this function. Holding functions will be managed by personnel qualified at the appropriate ICS wildland fire operations standard and as required by the prescribed fire complexity, assigned resources, and operational span-of-control. The position is assigned by name and qualifications using PMS 310-1 position codes.

Holding function responsibilities:

- Review the prescribed fire plan and inspect the ignition unit prior to implementation.
- Provide input to the burn boss prior to finalizing the Element 2B Prescribed Fire Go/No-Go Checklist, *Prescribed Fire Plan.*
- Brief holding personnel on project objectives and holding operations including identification of special features to be protected as identified in the prescribed fire complexity analysis and prescribed fire plan.

- Conduct holding operations in a safe manner according to the holding plan.
- Coordinate holding operations with the ignition operations.
- Confine the fire to a predetermined area, and oversee mop up and patrol.
- Maintain communication with assigned supervisor and adjacent resources regarding holding progress and problems.

The holding function is not a mandatory position for prescribed fires. For some prescribed fires, there may be no holding requirements or the holding responsibilities are assumed by the prescribed fire burn boss.

Fire Effects Monitor

The fire effects monitor (FEMO) is responsible for collecting the on-site weather, fire behavior and fire effects information needed to assess whether the fire is achieving established resource management objectives.

Fire effects monitor responsibilities:

- Review the monitoring plan prior to implementation.
- Monitor, obtain and record weather data.
- Monitor and record fire behavior data throughout the burn operations.
- Reconnoiter the ignition unit or area assigned (or both).
- Plot the burned area and final perimeter on a map.
- Monitor and record smoke management information.
- Monitor and record first-order fire effects.
- Provide monitoring summary of the fire.
- Provide fire behavior and weather information to prescribed fire personnel as appropriate.

Resource Specialist

The resource specialist is responsible for ensuring the prescribed fire project is planned in a manner supporting the unit's resource management goals and objectives.

Resource specialist responsibilities:

- Provide resource management representation in the preparation of the prescribed fire plan.
- Review prescribed fire plan including the values identified in the complexity analysis before each plan is submitted for approval.
- Evaluate the prescribed fire project in terms of meeting identified resource objectives.

Resource Advisor

If the prescribed fire plan identifies use of a resource advisor (READ), the position is responsible for ensuring the prescribed fire project is implemented in a manner supporting the unit's resource management goals and objectives. The READ is responsible to the agency administrator or tribal administrator.

Resource advisor responsibilities:

- Evaluate the prescribed fire project in terms of understanding the values identified in the complexity analysis and meeting identified resource objectives.
- Provide resource information to the prescribed fire burn boss.
- Present information at briefings on the values identified in the complexity analysis, resources, priorities and issues of concern.
- Coordinate with adjacent landowners, cooperators and permit holders as designated in the prescribed fire plan or by the burn boss.

Specialized Positions

In addition to the positions previously discussed, the following positions, along with other specialized positions, may be used in prescribed fire planning and or implementation depending on the scale and complexity of the project. If these positions are used in implementation, the prescribed fire plan should identify where the position fits within the prescribed fire organization.

- Helitorch Manager (HTMG)
- Plastic Sphere Dispenser Operator (PLDO)
- Helitorch Mixmaster (HTMM)
- Safety Officer (SOF1/2/R)
- Fire Behavior Analyst (FBAN)
- Long-term Analyst (LTAN)
- Strategic Operations Planner (SOPL)
- Incident Meteorologist (IMET)
- Air Quality Specialist (AQSP)

Amendments

When changes to a prescribed fire plan are necessary, the plan must be amended to identify the affected sections; the reason for the change(s); and have the changes clearly identified. For amendments, the need for additional technical review will be determined and justified in writing by the agency administrator. Amendments take place before ignition. Amendments to the prescribed fire plan require agency administrator approval and signature.

Prescribed fire plan amendments must consider affects to the complexity of the prescribed fire, and therefore the final complexity rating must be reviewed and a new complexity analysis performed if the proposed amendment(s) will result in a change to the Risk or Technical Difficulty of one or more elements in the complexity analysis.

Common reasons for amending the prescribed fire plan may include:

- Changes or corrections to objectives.
- Changes in the prescribed fire plan that may affect complexity determinations.
- Changes to fire behavior prescription parameters.
- Changes to project area boundaries resulting in either an increase or decrease in the project area.
- Changes in the minimum required resources or capabilities identified in the plan.

- Major changes to ignition methods including ground ignition to aerial ignition; aerial ignition to hand ignition; hand drip torch ignition to use of terra torch ignition (includes all-terrain vehicle mounted ignition devices); or hand ignition from roadways to hand ignition from boats or other watercraft.

Flexibility can be built into the plan that will allow for a range of adjustments during the prescribed fire that can reduce the need for an amendment. When building flexibility, the range of identified options must remain within the scope of the complexity analysis.

Examples of flexibility that can be built into a prescribed fire plan:

- The prescribed fire plan may state that on the ignition day and subsequent days of the prescribed fire, a mix of the number and kinds of hand crews and engines may be modified as long as stated production capabilities are not compromised.
- As the prescribed fire progresses from ignition to holding, to mop up and patrol, specified capabilities and or types of resources may be adjusted. If these flexibilities are built into the prescribed fire plan, there must be a clear statement as to the work capability requirements of the resources at the various stages of the prescribed fire.
- Minor changes in ignition-unit boundaries to facilitate ignition and or holding, as long as the area has been analyzed and approved in a NEPA decision, require no change in holding or ignition resources, is within the project boundaries, and does not require additional agreements.
- Additional resources may be assigned to the project without amending the burn plan if the addition of these resources does not change the complexity of the prescribed fire or require additional supervisory positions. These changes must be documented in the daily briefing.

Safety

Federal wildland fire policy states that firefighter and public safety is the first priority in every fire management activity (USDA, USDI, et al, 2009) (USDA, USDI, et al, 2001). Prescribed fire plans and activities must reflect this commitment. Every person involved in a prescribed fire is responsible for identifying safety issues and concerns. It is the responsibility of individuals participating in prescribed fire activities to notify their immediate supervisor of any possible misunderstanding of assigned tasks or safety concerns related to the assignment.

NWCG-established work/rest guidelines and span-of-control apply to wildland fire operations. The management of crew, overhead, and support personnel should follow work/rest guidelines to assure safe, productive fire operations, and is the responsibility of all supervisory fire management personnel (refer to NWCG *Interagency Incident Business Management Handbook*, PMS 902.

Exposure to smoke during prescribed fire operations can be a safety concern. Research has shown that exposure to smoke on prescribed fires, especially in holding and ignition positions, often exceeds that on wildfires. At a minimum, smoke exposure must be addressed in a job hazard analysis or its equivalent and incorporated into the applicable sections of the prescribed fire plan as needed. Public safety impacts from smoke should be addressed in Element 13 Public & Personnel Safety, Medical.

Transportation and use of any product containing chemicals (drip torch fuel, aviation gas, sphere

dispensers, fusees, fuel thickener, etc.) must be in compliance with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200 (OSHA, 2012)), Department of Transportation regulations (49 CFR Part 171 (Department of Transportation, 2013)), and agency-specific guidance. Material Safety Data Sheets (MSDS) for hazardous materials used on projects should be reviewed when developing the job hazard analysis.

The *Interagency Transportation Guide for Gasoline, Mixed Gas, Drip Torch Fuel, and Diesel*, PMS 442 establishes interagency guidance for the ground transportation of gasoline, mixed gas, drip-torch fuel, and diesel in government vehicles driven by government employees. The PMS 484 is based on the U.S. Department of Transportation (DOT) and OSHA regulations.

The *Interagency Ground Ignition Guide*, PMS 443 was developed to ensure that all ground ignition operations are performed safely and efficiently. The PMS 484 includes information on types of ground ignition devices; standards/specifications for equipment; normal and emergency operating procedures for use, qualifications for operators, job hazard analyses, and material safety data sheets for the fuels used during ignition.

Processes designed for reporting and correcting unsafe situations and are applicable to prescribed fire applications can be found at the National Interagency Fire Center *SAFENET* (https://safenet.nifc.gov/) site and USDI Office of Aviation Services *Aviation Safety Communiqué SAFECOM* (https://www.safecom.gov/) site.

Consider using a safety officer on high complexity prescribed fires and others where the complexity or other risk analysis shows a need.

Risk Management

Sound risk management is a foundation for all fire management activities. Risks and uncertainties relating to fire management activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity (USDA, USDI, et al, 2009).

Risk is the likelihood or possibility of hazardous consequences in terms of severity or probability.

Prescribed fire should be assessed in terms of values that could be impacted, how severe the threat may be, and the likelihood of undesirable effects. Actions should be developed to minimize or eliminate threats and manage risk. Risk management is the process whereby management decisions are made and actions taken concerning control of hazards and acceptance of remaining risk.

Prescribed fires present an inherent level of risk. Risk is at all levels, from decision-makers to on-the-ground fire- fighters and the public. The overall prescribed fire planning process includes a risk assessment, and reflects an understanding of the interaction of objectives and implementation limitations for the project.

Risk management consists of mitigation strategies and implementation activities to improve outcomes and minimize negative consequences. For prescribed fire, the risk assessment is accomplished by completing the complexity analysis process that identifies and characterizes risk to identified values and the technical difficulty or complexity of the ‘work’ involved to mitigate impacts to them. The complexity analysis process identifies values, risks, mitigation measures, and the technical difficulty of implementation actions to be addressed in the prescribed fire plan and will acknowledge any remaining unmitigated risk in the final rating.

During the implementation phase of prescribed fires, personnel may encounter uncertain and dynamic conditions, where they must continuously evaluate risks with an eye towards maintaining a safe working environment, meeting the prescribed fire objectives (on time, within budget and with available resources) and addressing social and political concerns.

The risk management process identified in the *Incident Response Pocket Guide*, PMS 461, helps identify, evaluate and mitigate time-sensitive risks and hazards associated with prescribed fire implementation.

Prescribed Fire Plan

The *Prescribed Fire Plan*, PMS 484-1, https://www.nwcg.gov/publications/484-1, is the site-specific implementation document. It is a legal document that provides the agency administrator the information needed to approve the plan, and the prescribed fire burn boss with the information needed to implement the prescribed fire. A prescribed fire project must conform to the written plan.

Prescribed fire plans will vary in their degrees of detail. The size and complexity of a prescribed fire project will determine the level of detail required. The Prescribed Fire Plan must be used. Each element must be addressed and assembled in the sequence identified in the template. Should an element not apply to a specific prescribed fire plan, then it may be marked as "not applicable" (N/A).

Many of the plan elements are linked together and issues in one element can have cascading effects throughout the prescribed fire planning and implementation process.

Programmatic or multiple unit(s) prescribed fire plans with similar conditions may be appropriate.

Lessons Learned: Attention to project and unit design will resolve many implementation issues and simplify development of the prescribed fire plan.

Start from scratch. Approach each prescribed fire plan as a new project. Don't be tempted to cut-and-paste as you will miss critical details and differences between projects and areas.

A diversity of viewpoints in the design, plan development and technical review phases leads to better plans. Prescribed fire plan development and complexity analysis are team, not individual, events.

Follow through with what is put in the plan. If it's in the plan, either follow it, or amend the plan.

What words you use in the plan matter. Use of the terms "must" and "shall" convey mandatory compliance; "ought" and "should" convey required compliance, except for justifiable reasons; and "may", "can" and "consider" convey optional compliance.

Build the plan to capture your thought process and rationale, so that if you leave and someone else inherits your plan or an off-unit burn team will implement the prescribed fire, it will have a good chance at success if they read and follow your plan.

A Programmatic Low Complexity Plan can be used for prescribed fire projects having similar fuel types, terrain, and prescription, and employs the same types of firing and holding tactics. Site-specific unit information may not be known until implementation. When known, information is incorporated into the prescribed fire plan without technical review or amendment. Programmatic Low Complexity Plans can be prepared to address broad areas, such as administrative units (ranger district, refuge, field office, or park).

A Programmatic Moderate/High Complexity Plan (may be known as a Multiple Unit Plan) is used for prescribed fire projects with multiple ignition units that can be ignited separately or concurrently. Each unit has site-specific information developed for applicable plan elements such as ignition, holding, and contingency prior to technical review and approval.

Lessons Learned: Programmatic Low Complexity Plans are intended for low-complexity projects such as district-wide pile burning under snowy conditions.

Site-specific information that may be helpful for Programmatic Low Complexity Plans include water sites for engine refills, resource management concerns related to pile burning (for example, if an area is limited to where piles should be located, areas that may have limited radio communication with dispatch, etc.)

A long-duration prescribed fire plan needs to be approached similarly to the development of a course of action for a natural ignition managed primarily for resource management objectives.

Long-duration prescribed fire plans that did not take into consideration the potential changes in fuels and weather, typically shifted from proactive to reactive management when fire activity increased.

Ideally, to provide appropriate input and to gain a better understanding of the prescribed fires goals and objectives, a burn boss should be involved in the prescribed fires planning, including NEPA, as well as its implementation.

If an interagency mixed-ownership prescribed fire plan is being prepared, development of all appropriate elements within the plan will be conducted on an interagency basis. For cooperative prescribed fires conducted by non-federal entities and involving federal and non-federal land, where only a small amount of federal land will be treated, the local agency administrator has discretion to use either a federal or non-federal prescribed fire plan. Interagency agreements, memorandums of understanding (MOU) or private landowner agreements that outline responsibilities are required to implement prescribed fire on multiple ownerships. (Refer to specific agency direction).

The following are discussions of each individual element required as part of a complete prescribed fire plan and the implementation procedures related to the element.

Element 1: Signature Page

The following information must be filled out on the signature page:

- Administrative unit name.
- Project Name (Prescribed fire name), Prescribed fire unit name, Ignition unit name
- At a minimum, three dated signatures are required: a prescribed fire plan preparer, a technical reviewer, and an agency administrator. Additional reviewer signatures, such as resource specialists or advisors, may be included as required by agency or local policies. For mixed ownership plans, additional agency administrator signatures are required.
- Final complexity rating(s).
- Minimum burn boss qualification.
- If the plan needs to be amended, the signed and dated amendments must be attached to the prescribed fire plan (refer to Amendments).

- Agency or local policy may establish a periodic review or revalidation process (or both). The documentation of the periodic review and revalidation can be included on the signature page.
- The agency administrator's approval signature indicates that the prescribed fire plan meets agency policy, reflects the conditions specified in the project NEPA decision, has undergone a technical review, and that necessary agreements are in place.

Element 2: Agency Administrator Ignition Authorization and Prescribed Fire Go/No Go Checklist

Element 2A. Agency Administrator Ignition Authorization

The *Agency Administrator Ignition Authorization* is required to be completed prior to ignition. It provides the agency administrator's authorization to implement the prescribed fire plan.

The authorization establishes a time period for the implementation of the prescribed fire plan. If ignition of the prescribed fire is not initiated prior to the expiration date determined by the agency administrator, a new authorization is required. An "acting" agency administrator may sign the agency administrator ignition authorization, if qualified by agency policy and authority to do so has been delegated to them.

If the prescribed fire plan is amended after the agency administrator has signed the ignition authorization, the ignition authorization must be reviewed and revalidated.

The ignition authorization establishes the agency administrator's expectations and provides approval that the prescribed fire may be ignited within the identified time period. It is not intended that the ignition authorization be signed at the same time the prescribed fire plan is approved. The ignition authorization provides the flexibility for the prescribed fire to be ignited within a specified time period even if the agency administrator is unavailable during that time period.

Prior to signature it is recommended that the agency administrator discuss the key items listed in the *Agency Administrator Ignition Authorization* with the FMO or burn boss (or both), and that these discussions and any additional instructions are documented. The time period authorized is negotiable among the agency administrator, FMO and burn boss and should reflect the discussion of the key items. Agency or local policy (or both) may dictate how far in advance of ignition the authorization may be signed.

All ignition authorizations should be included in the project file.

Element 2B. Prescribed Fire Go/No-Go Checklist

Prior to any ignition operations, the assigned prescribed fire burn boss will complete and sign the *Prescribed Fire Go/No-Go Checklist*. The questions in the template are the minimum standard and agencies may elect to add questions and/or approval signatures. For each day of active ignition on a prescribed fire, a separate *Prescribed Fire Go/No-Go Checklist* is required.

Lessons Learned: Obtain and discuss input from others on the prescribed fire including holding, ignition, READ, and safety prior to saying GO. Different perspectives can help counter blindness to changes on the ground. More information on change blindness can be found on the Wikipedia site at (https://en.wikipedia.org/wiki/Change_blindness). This interaction gives the firing boss and holding operations an identified platform and timeframe to have their concerns discussed and remedied before saying GO.

Discussion between the burn boss and ignition operations regarding any issues identified allows mitigations or solutions to be developed before lighting the match.

Element 3: Complexity Analysis Summary and Final Complexity

Risk management is the foundation for all prescribed fire activities. Risks and uncertainties relating to prescribed fire activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity.

The prescribed fire complexity rating must be completed using the *Prescribed Fire Complexity Rating System Guide*, PMS 424 (https://www.nwcg.gov/publications/424)

The *Summary and Final Complexity Worksheet*, PMS 424-1 (https://www.nwcg.gov/publications/424-1) is a focused, subjective assessment by experienced prescribed fire burn bosses and evaluated by Agency Administrators (AA). This tool is designed to assist in providing insight and improving understanding of the significant risk-related elements of the prescribed fire.

A decision support tool that illuminates the risk to values associated with the prescribed fire implementation.

Identification of the technical difficulty (complexity) of managing the risks to the values.

Assignment of a complexity rating of high, moderate, or low to the prescribed fire and the level of prescribed fire burn boss qualification level required to implement the prescribed fire.

A process that can be used to identify prescribed fire plan elements or characteristics that may pose special problems or concerns, for example critical holding points (adjacent values needing protection, areas of potentially problematic fire behavior chimneys, saddles, heavy fuels, etc.), the need for multiple prescribed fire organizations, specialized equipment, and special risks or hazards.

Lessons Learned: Ensure critical holding points identified in the Complexity Analysis are brought forward and incorporated into Element 9: Pre-burn Considerations and Weather as well as Element 16: Holding Plan.

Following the procedures in the *Prescribed Fire Complexity Rating System Guide*, PMS 424, a preliminary rating will be determined early in the prescribed fire plan development stage. It will identify potential concerns that may be mitigated during the plan preparation process. Once the prescribed fire plan is near completion, the final complexity rating is made. The final complexity

rating will be used as a basis for determining the prescribed fire organization, prescribed fire burn boss type, and mitigation measures.

The Final Complexity Determination Rationale in the *Summary and Final Complexity*, PMS 424-1, will clearly justify the summary rating for prescribed fire organization and prescribed fire burn boss type. It must also identify risks from the complexity analysis that are rated higher than the summary complexity rating and cannot be mitigated. At a minimum, risks from the complexity analysis that are rated high and cannot be mitigated must be discussed in the summary and final complexity rating rationale.

The *Summary and Final Complexity* worksheet must be signed and dated by the prescribed fire plan preparer, the technical reviewer and agency administrator. The signed worksheet printed copy is inserted into the prescribed fire plan as Element 3 Complexity Analysis Summary and Final Complexity, *Prescribed Fire Plan*.

Separate prescriptions or organizations (or both) for different stages of implementation may result in single or multiple complexity analyses and ratings. For example, a plan may have separate prescriptions for spring and fall burning that may require different organizations and constitute the need for additional complexity analyses.

Some prescribed fires may be implemented over a period of time and progressive or sequential actions may reduce complexity, organization and prescribed fire burn boss qualifications. For example a large scale, high-complexity prescribed fire that has been blacklined, portions burned and operations suspended for a period of time then resumed to continue or finish the prescribed fire, may have a lower complexity associated with it than when the project was initiated. A separate complexity analysis is required if a burn boss qualification is to be utilized that is less than initially required.

A single complexity analysis may be used to handle multiple phases of implementation or separate burn organizations. Sufficient detail should be included to differentiate between the element ratings and provide sufficient rationale to explain the differences. Further, the complexity rating summary must adequately summarize the difference in ratings resulting from assessing the different phases or organizations, and how those differences affect the summary complexity determination.

Lessons Learned: Viewing the complexity analysis as just another checklist or form, rather than an integral component of risk management, can result in missing key items during the plan preparation process and during implementation.

Complexity analyses for long-duration prescribed fires should take into consideration the uncertainty associated with seasonal changes in fuels and weather conditions.

A prescribed fire may allow for a RXB1, a RXB2, or a position with various levels of fire experience to be responsible for the prescribed fire, dependent upon the phase of the prescribed fire. In these situations, the complexity analysis should describe specific criteria that would lead to use of the different skill levels.

Taking the initial complexity analysis to the field helps in determining initial ratings and needed adjustments for the final complexity to be incorporated into the plan.

Element 4: Description of Prescribed Fire Area

A. Physical Description

This section of the plan describes the physical features within and adjacent to the prescribed fire

project area.

- Location: The location of the prescribed fire project area and ignition units, including a legal description, Universal Transverse Mercator (UTM) or latitude/longitude (or both), county, and state. A description is needed of the physical, natural or human-made boundaries (or a combination), including ignition unit(s) of the prescribed fire project.
- Size: Area, in acres, of the prescribed fire project with a breakdown by ignition unit(s) and/or ownership, if applicable.
- Topography: Identify the upper and lower range of elevation, slope(s) = maximum/minimum and average, and aspect(s) of the prescribed fire project area.
- Project Area: The prescribed fire project area covers the entire area where fire will be ignited and may be allowed to burn under the plan as documented in the NEPA decision. The project area may include multiple ignition units.

B. Vegetation and Fuels Description

Provide a description of current vegetation and fuels in the project area. Identify any reference material used.

- On-site fuels data: Describe the structure and composition of the vegetation type(s) and fuel characteristics. The description may include natural or activity fuels, total fuel load (both live and dead) in tons/acre; dead fuel load by time-lag size classes; live fuel load (woody/herbaceous); fuel bed depth; and vertical and horizontal arrangement within the project boundary.
- Adjacent fuels data: Identify conditions (fuels, slope, and aspect) in and adjacent to boundaries especially those that may be at risk if fire moves outside of the project area or ignition unit.
- Describe the percent of the ignition unit composed of each vegetative type and the corresponding fuel model(s).

C. Description of Values

List and discuss special features, natural resources, values, hazards, issues and constraints including those identified in NEPA decisions and the LMP. Also refer to the On-site, Off-site and Public/Political interest values identified in the complexity analysis.

D. Maps

Maps will be developed and included in Appendix A of the Prescribed Fire Plan. At a minimum, the plan will include a vicinity and project map. The number of maps, map size and scale, legend and level of detail should be appropriate for the complexity of the project. All maps will include the standard mapping elements: title, name of preparer(s), date, north arrow, scale and legend.

- Vicinity Map: Map scale will be such that the ignition units can be located on the ground and in sufficient detail to guide implementation.
- Project Map(s): The project map(s) identify features in sufficient detail to guide and assist in operational implementation of the prescribed fire. The project map should show the unit boundary, topographic features and values identified in the complexity analysis and other features such as fences, power poles, areas to be protected, potential hazards, areas of special concern, and control line locations in most cases.

Specific locations of sensitive values such as historical or cultural sites (or both) should not be displayed on project maps. The pre-burn briefing should address location and avoidance techniques. Fuels or Fuel Model Map(s): Optional, but recommended for long-duration or landscape-level projects. Include as needed to describe the spatial complexity of the fuels. Display the distribution of the fire behavior fuel models or other fuels classifications, such as Fuels Characteristic Classification System (https://www.fs.fed.us/pnw/fera/fccs/index.shtml), within and adjacent to the project and ignition units.

- Smoke Impact Area Map(s): Optional, but recommended for projects with critical smoke receptors or significant smoke concerns. This is a large-scale map that identifies the potential smoke impact areas for the project and ties in with. The local air quality authority usually defines the categories to be considered for the smoke impacts.

Lessons Learned: Poor unit design and failure to consider the fuels and other conditions outside the ignition unit(s) or project area (or both) have been identified as common denominators of prescribed fires that have been declared wildfires.

Project design and understanding how fire may move across the landscape is critical to the successful implementation of long-duration prescribed fires.

Fuels are often the source of unexpected or overlooked sources of trouble. The most common item overlooked is higher-than-expected fuel loadings or changes in fuel beds that result in greater-than-expected fire behavior.

Even within a season, conditions that may arrest fire spread at one point may become burnable at another. Always check whether the 'barriers' you're counting upon will function as a barrier under the likely conditions you face. Ask the question: "under what conditions will this barrier fail or not function?"

Element 5: Objectives

Describe in clear, concise statements the specific measurable resource and prescribed fire objectives. Objectives are well-defined statements describing how a treatment accomplishes project goals as described through the NEPA process and documented in the decision document. Objectives should be specific, measurable, attainable, realistic and time sensitive (SMART) and used as a measure of project success, as determined through methods described in the monitoring element. Objectives need to be measurable and quantifiable so prescription elements can be developed to meet them.

Element 6: Funding

Identify the funding source(s) and estimated cost(s) of the prescribed fire. Itemize by phase if desired.

If there is an expectation (agency or local policy) that the prescribed fire burn boss needs to track implementation cost in the prescribed fire plan, identify the process for tracking and expenditures for project expenses.

Element 7: Prescription

The prescription is the measurable criteria during which a prescribed fire may be ignited to meet the prescribed fire objectives.

The prescription will describe a range of low-to-high limits for the environmental or fire behavior parameters (or both) required to meet prescribed fire objectives. Describe only those parameters needed to identify the acceptable prescription window to meet prescribed fire objectives. In addition to the prescribed fire objectives, the prescription should take into consideration constraints such as smoke management issues and perimeter control concerns.

Lessons Learned: The prescription must be carefully developed due to its links with other elements of the prescribed fire plan. You must link the objectives to the prescription. The prescription influences multiple elements of the plan, including ignition plan, holding plan, contingency plan, needed organizations and determining the complexity of the prescribed fire.

In many cases, burning under the extremes of all prescriptive parameters would not meet or may possibly exceed the desired prescribed fire behavior characteristics and are therefore out of prescription. Empirical evidence (historical evidence or researched data) and judgment may be used to identify or calibrate prescriptions. Weaknesses in modeling can be overridden, but must be justified with empirical evidence and/or verified with actual fire behavior. Separate prescriptions may be needed for multiple fuel model conditions to address seasonal differences or types of ignition (or both). Examples of ignition include black lining, aerial ignition, etc.

Separate prescriptions may result in multiple complexity ratings and organizations. For example, a separate prescription may be needed for black-lining operations if conditions will be significantly different from the primary prescription or if the holding resources differ from those identified for ignition and holding phases. Separate prescriptions may result in the need to identify multiple levels of management, organizational structures, implementation measures and pre-burn considerations.

If the prescription parameters are being exceeded, the prescribed fire burn boss must evaluate fire controllability and whether fire effects will meet objectives. The prescribed fire burn boss must take action to ensure objectives are being met, or take appropriate actions to maintain control of or secure the fire.

Fire behavior characteristics for fuel models within the maximum spotting distance or adjacent to the project boundaries (or both) must be considered and modeled. Holding and contingency plans must be developed with consideration of the predicted fire behavior outside the ignition unit or project area (or both) that may occur during the identified prescription window.

Include a short narrative that describes the desired fire behavior identified in the prescription and discuss how it will achieve the desired treatment objectives.

The level of fire behavior modeling and the tools used should be commensurate with the scale and complexity of the fuel beds within the ignition units and landscape. Depending on objectives and conditions, spatial fire models, such as FlamMap, a fire behavior mapping and analysis program, and FARSITE, a fire behavior and fire growth simulator, may need to be used in addition to non-spatial modeling to establish the prescription window.

Consider using the skills of a FBAN, a LTAN, or air quality specialist (or a mix of all three) to develop prescriptions for long-duration prescribed fires and other complex projects. Include modeling or empirical evidence documentation (or both) as an appendix.

Lessons Learned: Failure to consider the potential fire behavior in fuels outside of the ignition units or project area has been identified as a common denominator of prescribed fires that have been declared wildfires.

Inadequate prescription development has cascading effects throughout the prescribed fire plan including ignition, holding and contingency plan elements.

Long-duration prescribed fires that continue into fire weather conditions that may escalate fire behavior, have an increased likelihood of problems due to increased fire behavior especially in units with heavy fuel loadings. Adjustments of complexity levels, holding and contingency plans are examples of additional planning that might be necessary.

In addition to assisting with prescription development, FBANs and LTANs provide fire behavior forecasts during implementation to avoid being surprised with unplanned or unanticipated fire intensity and spread.

Wind Ninja can be used to assess wind flow across complex terrain and determine fire movement or identify critical holding points.

Prescription development needs to consider the seasonal changes in both live and dead fuels conditions.

When using the Scott and Burgan dynamic fuel models - RMRS-GTR-153 (Scott, et al., 2005) to write a prescription, be aware that live herbaceous moisture content shifts between live and dead and significantly affects fire behavior. BehavePlus -RMRS-GTR-249 (Heinsch, et al., 2010) can also be used to see how changing the live fuel moisture affects changes to fire behavior related to fine dead-fuel moisture.

Describing the prescription in a matrix that illustrates fire behavior outputs associated with different combinations of weather and fuels variables is an effective method to graphically identify the prescription window.

A well-written description of expected fire behavior that's based on the ignition pattern and timing provides additional understanding of calculated fire behavior values by making them realistic and achievable.

Element 8: Scheduling

A. Implementation Schedule: Identify the general implementation schedule including time of day for ignition, duration of ignition or season(s) and note any constraints (dates, or days of the week etc.) on when the project may not be conducted.
B. Projected Duration: For prescribed fires with multiple ignitions or ignition days, estimate project duration.

For multi-unit projects or long-duration prescribed fires, identify any special sequencing requirements, for example, Unit 5 must be completed before implementing Unit 12.

Additionally, the agency administrator's ignition authorization may identify additional scheduling constraints.

When implementing prescribed fires at National Preparedness Levels IV and V, see *National Interagency Mobilization Guide* for additional requirements (USDA, USDI, et al, 2013).

Element 9: Pre-burn Considerations and Weather

A. Considerations

Describe on- and off-site actions and consideration, including mitigation and design features identified in the NEPA decision, to be conducted and any other considerations to be addressed prior to implementation. Examples include clearances, mitigation actions generated by the complexity analysis, line to be built, preparation of critical holding points, snags to be felled or protected, equipment to be pre-positioned, special features to be protected, warning signs to be placed, weather recording, fuels condition sampling, monitoring needs, responsibilities, and timeframes. Describe any fuel sampling and weather data that may need to be obtained (see Element 7: Prescription and Element 14: Test Fire). This data should be taken at the project site. If this is not possible, use the closest representative site.

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

Identify in the plan the method and frequency for obtaining weather and smoke management forecast(s). Spot weather or local area forecasts are required prior to ignition on all ignition days. The burn boss is required to obtain a spot forecast or local area forecast on any days the fire is actively spreading to determine holding, mop up or patrol staffing needs. A smoke management forecast should be obtained when residual smoke has potential to impact smoke-sensitive areas. A copy of the forecasts will be included in the project file.

C. Notifications

Include a list of organizations (including news media) and individuals who are to be notified prior to ignition, with information necessary to make the contacts. Reasonable efforts will be made to notify adjacent landowners (or their agents) and other potentially impacted publics. Attempts or actual notifications (or both) will be documented with date and method and placed in the project file.

Lessons Learned: Failure to implement required line construction and other pre-burn work has been identified as a common denominator of prescribed fires that have been declared wildfires. Identifying who is responsible and the timeframes for the pre-ignition work can mitigate problems.

Forecasted but not communicated weather events have been identified as a contributing factor in wildfire declarations. Since the burn boss was unaware of the changes coming, staffing and shift times were not adjusted in advance of the event.

Climate information can be used to identify numerous conditions that may be conducive to undesirable events such as air-quality violations, and prescribed fires that are declared wildfires that lead to property loss or not meeting land-management objectives. Climate information that can inform prescribed fire planning and implementation include simple descriptions of climate averages and departures from normal (for example, temperature and precipitation anomalies) and value-added indices that incorporate climate information to highlight wet or dry conditions (for example,. Palmer Drought Severity Index (PDSI); Keetch-Byram Drought Index (KBDI); Standardized Precipitation Index (SPI)).

In general, drought should be given serious consideration in prescribed fire planning as it affects both fire behavior and effects. For long-duration prescribed fires, a specific drought threshold or indicator appropriate to the project area should be included for consideration as part of the weather evaluation. For example, "If the KBDI is greater than 600, the underlying drought conditions are going to increase the risk of a wildfire declaration should one or more other factors occur (for example, strong frontal passage, wind shift with gusty winds etc.)"

Element 10: Briefing

All assigned personnel must be briefed at the beginning of each operational period to ensure personnel safety considerations (including the job hazard analysis or other agency-specific risk analysis) and prescribed fire objectives and operations are clearly defined and understood. Briefing checklists are required to be included in the prescribed fire plan. The checklist is completed during the implementation briefing. The list includes, but is not limited to the following topics:

- Burn organization and assignments
- Prescribed Fire objectives and prescription
- Description of the prescribed fire project area including any values, special considerations and sensitive features identified in Element 4
- Expected weather and fire behavior
- Communications
- Ignition plan
- Holding plan
- Contingency plan and assignments
- Wildfire declaration
- Safety and medical plan
- Aerial ignition briefing (if aerial ignition devices will be used)

The briefing checklist should list briefing topics only, not re-state what is listed in the prescribed

fire plan for that element. Additional items may be added if needed.

The burn boss will ensure that any new personnel arriving to the prescribed fire receives a briefing prior to assignment.

Although optional, an Incident Action Plan (IAP) is recommended for large, multi-day or high complexity prescribed fires. If an IAP is used, it must address the briefing checklist items.

Lessons Learned: Briefing on how the prescribed fire will burn through the various fuels inside and outside the ignition unit(s) (expected fire behavior) based on ignition sequence and timing better prepares ignition and holding personnel to judge fire behavior changes as conditions might change to favor more intense burning.

Obtain and discuss input from others on the prescribed fire including holding, ignition, READ, and safety. At the end of briefing ask, "What am I/we missing?" or "Is there anything that I am not seeing?"

Element 11: Organization and Equipment

The complexity analysis process is useful to determine the organizational capabilities needed to safely achieve the objectives specified in the prescribed fire plan. Specify the minimum required implementation organization or capabilities, equipment and supplies needed for each phase of the prescribed fire until declared out. Minimum organization needs may also be specified for high vs low range of the acceptable fire behavior prescription or other prescribed fire plan elements. Consider specifying line production rates, as opposed to specific number and kind of resources (crews, engines, dozers, etc.). A prescribed fire burn boss will be assigned to every prescribed fire as determined by project complexity (Table 1). The prescribed fire burn boss is responsible for the fire until declared out unless responsibility is formally passed to another qualified burn boss or to the local fire management organization.

Collateral duty positions will be identified in the organization chart of the prescribed fire plan. Standard ICS fire management principles for span-of-control and length of assignments will be adhered to when developing burn implementation organization(s) and used in managing prescribed fires. On prescribed fires with large organizations, use the ICS organization and staffing commensurate with the level of complexity. Consider the use of a prescribed fire manager in conducting multiple prescribed fires.

Before implementation (all phases) of the prescribed fire, documentation in the form of an organization chart must be completed. Changes to the staffing and assignments during implementation should be documented in unit logs or prescribed fire organizers and included in the project file.

No less than the minimum organization, identified for the applicable phase, described in the approved prescribed fire plan will be used for implementation.

Any changes to the planned organization that reduce capability to less than minimum organization or capability identified or increase complexity will require an amendment.

Different minimum organizations or capabilities may be identified for different phases of implementation (for example, holding versus mop up and patrol, different ignition operations, different prescriptions). Identifying variances in the prescribed fire plan template would minimize the need for an amendment.

Multiple prescriptions for one prescribed fire plan are permissible (Element 7: Prescription).

Multiple prescriptions may require identifying and developing multiple organizations.

Lessons Learned: Fire behavior, weather predictions, and staffing levels will fluctuate on long-term prescribed fire. As activity increases and decreases, the qualifications of on-site leadership must be reassessed to accurately consider the prescribed fire complexity.

On long-duration projects, IAPs can provide the day-to-day operational type planning and documentation that is responsive to the fluctuations of fire behavior and staffing.

Element 12: Communication

A communication plan must be specific to the project's implementation to address safety and tactical resource management needs. It should identify and assign command, tactical, and air operations frequencies as needed. In addition, required telephone numbers should be included.

Lessons Learned: Communication issues are often implicated in wildfire declarations – whether infrastructure issues such as poor reception, or social interactions.

Element 13: Public & Personnel Safety, Medical

Safety Hazards and Mitigation

Provisions for public and personnel safety must be described. All personnel who are within the active prescribed fire area are required to wear personal protective equipment. The plan needs to identify and analyze the safety hazards unique to the individual prescribed fire project and specify personnel safety and emergency procedures. It must include safety hazards (including smoke exposure, smoke on roads, and other impacts) and measures taken to reduce those hazards. A job hazard analysis or other agency-specific risk assessment is required for each prescribed fire.

Emergency Medical Procedures, Emergency Evacuation Methods, and Emergency Facilities

The emergency medical procedures and evacuation methods discussion should address stabilization and transport of accident victim(s). Identification of medical evacuation options, clarification of local, county, state, or federal resource capabilities, ordering procedures, role of dispatch centers, and key contacts or liaisons should be included.

Consider incorporating the *Standardized Medical Emergency Procedures for Incident Management Teams, Standardized Communication Center Protocols*, and an expanded ICS 206 Medical Plan that includes emergency medical procedures into the prescribed fire plan.

Element 14: Test Fire

Provisions for a test fire are required in the plan. The test fire should be ignited in a representative location and results must be documented. The test fire should be ignited in an area that can be easily controlled. The purpose of the test fire is to verify that the prescribed fire behavior characteristics will meet management objectives and to verify predicted smoke dispersion. In many applications, analysis of the initial ignitions may provide adequate test fire results. On multiple-day projects, evaluation of current active fire behavior, in lieu of a test fire, may provide a comparative basis for continuing and must be documented.

Prior to ignition of either the test fire or ignition operations, compare the prescribed fire plan prescription elements against local area or spot weather forecasts, other predicted conditions, and the actual on-site conditions to determine if conditions are suitable for either the test fire or active ignition (Element 9: Pre-burn Considerations and Weather).

The prescribed fire burn boss should determine if observed fire behavior will achieve prescribed fire objectives during the operational period to continue with active ignition.

Lessons Learned: Test fires conducted in locations that were in cooler or moister locations, or in fuels with a different kind of fire behavior than the prescribed fire area, yielded misleading results (for example, fire behavior was lower: lower flame lengths or rate of spread (or both)).

Test fires ignited early in the day can sometimes lead a burn boss to under predict fire behavior in the afternoon.

Test fires that are not ignited according to the ignition plan can provide unrealistic examples of fire behavior, for example, how quickly fire will reach momentum for burning intensity, and the effects of area ignitions that encompass large areas of unburned fuel. Variations of ignition timing can also exceed test fire characteristics producing high burning intensity that exceeds objectives and creates unexpected problems for ignition and holding personnel.

Test fires for units with aerial ignition can be misleading. They will only show ease of ignition, burning intensity for a small area, and smoke characteristics where wind is the dominant force. Aerial ignition has the potential of near mass ignition where the fire's energy will exceed that of the wind. Burning intensity increases rapidly and can easily exceed holding capabilities caused by radiant heat as well as increasing opportunity for lofting large firebrands.

On multiple-day projects, where in lieu of a test fire, an evaluation of current active fire behavior may provide a comparative basis for continuing, initiate a separate test fire and evaluate results if there is any doubt about whether the current fire behavior is a good representation of the potential fire behavior.

Element 15: Ignition Plan

General ignition operations should be described. Examples could include firing methods, devices, techniques, and sequences within individual units or between multiple units, patterns, and minimum ignition staffing for single or multiple-unit operations.

During active ignition, actual firing patterns, techniques, sequences, patterns and staffing will be determined and adjusted to meet objectives as dictated by topographic, fuels and weather factors.

Maps showing proposed firing patterns may be included. If aerial ignition is planned, include aviation operations, organization, and safety within the prescribed fire plan, aerial ignition plan, or in an agency-specific aviation operating plan. Refer to the *Interagency Helicopter Operations Guide*, PMS 510 and the *Interagency Aerial Ignition Guide*, PMS 501 for more detailed information on this topic.

Multiple prescriptions and ignition operations (blackline, primary, aerial, etc.) may require developing multiple ignition organizations.

Element 16: Holding Plan

General procedures for operations to maintain the fire within the project area, meet project

objectives and protect values at risk (consistent with Element 4) until the fire is declared out must be described. This should include mop up and patrol procedures. Describe values to be protected and associated critical holding points and mitigation actions. The holding plan must be developed taking into consideration the predicted fire behavior outside the project or ignition unit boundaries.

Describe minimum capabilities needed for all phases of implementation, including needs for critical holding points and associated mitigation actions (Element 11: Organization and Equipment). If used, attach or reference fire behavior modeling outputs or worksheets and/or documented empirical evidence to justify minimum holding resources required. Different organizations may be identified for different phases of implementation (for example, holding versus mop up and patrol, different ignition operations, different prescriptions).Multiple prescriptions (blackline, unit, for example) may require separate complexity ratings and separate holding organizations for each of the prescriptions.

If on-site resources are insufficient to meet the prescribed fire plan objectives, then the burn boss should consider implementing the contingency plan or wildfire declaration.

Lessons Learned: A significant number of prescribed fires are declared wildfires during mop up and patrol phase of implementation. Consideration of which conditions will trigger either step up or step down of mop up and patrol efforts will help reduce risk of having to go to a wildfire declaration.

Element 17: Contingency Plan

The contingency plan is the portion of the prescribed fire plan that considers low probability but high consequence events and the actions needed to mitigate them.

Contingency planning is the determination of what additional actions or additional resources (or both) are needed to keep the prescribed fire within the scope of the prescribed fire plan. At a minimum, this element will address contingency options related to maintaining the prescribed fire within the ignition unit and or prescribed fire project area.

Contingency planning can also address not meeting prescribed fire objectives, critical holding points, smoke management considerations such as impacts to critical smoke receptors, staffing, accidents, “incidents within incidents” and other unanticipated events.

See Appendix B for supporting information and concepts that can assist in developing contingency plans.

The contingency plan establishes Management Action Points (MAPS) or limits that indicate when additional actions (tactical and non-tactical) or resources, or both, will be needed. If it is determined that contingency resources are not needed, the rationale should be documented in this element of the prescribed fire plan.

Contingency needs should be based on the tactics to mitigate events or impacts to prescribed fire objectives or the values at risk. Contingency resources are the minimum resources or capabilities required to implement the MAPs or limits and should be based upon the values at risk and the prescription window identified in Element 7: Prescription. For purposes of this element, the terms *capabilities* and *resources* are interchangeable.

These resources may be on- or off-site as required by the prescribed fire plan. If the identified contingency resources will not be on-site, the maximum acceptable response time for those resources must be identified. If off-site, the identified minimum contingency resources pay status

will be determined by agency or local policy.

Separate contingency plans may be developed to address seasonal differences, types of ignitions or phases (for example, active ignition, mop up, holding, monitoring, etc.) of implementation as described in the prescriptions and ignition and holding plans developed for the prescribed fire. When developing separate contingency plans the most technically difficult contingency plan should be considered when analyzing the complexity of the prescribed fire (Element 3).

The minimum number and type of contingency resources may vary depending on the location, implementation phase and applicable MAP or limit. The burn boss will verify and document availability of contingency resources and response time throughout each phase of implementation as described in the plan. If the contingency resources availability falls below the minimum required for the current location and implementation phase, actions must be taken to secure operations until the needed resources are replaced.

Contingency resources identified for MAPs, or limits, can be activated individually or collectively by the burn boss or as identified in the prescribed fire plan. The same contingency resource can be identified for multiple prescribed fire projects. When specific contingency resources are identified for more than one prescribed fire, the local fire management organization(s) should evaluate and document adequacy of all contingency resources within the area.

This evaluation should consider:

- Local, current, and predicted fire danger
- Local and regional wildland fire activities.

Once a contingency resource is committed to a specific wildland fire action (wildfire or prescribed fire), it can no longer be considered a contingency resource for another prescribed fire project and a suitable replacement contingency resource must be identified or the ignition secured.

The agency administrator will determine if and when he or she is to be notified that contingency actions are being taken.

If the contingency actions are successful at bringing the project back within the scope of the prescribed fire plan, the project may continue.

Documentation of implemented contingency actions and contingency resources ordered should be included in the project file.

Lessons Learned: The ability to successfully manage the unexpected depends on having comprehensive contingency plans and updating them as needed during the prescribed fire. Most burn bosses expect that they will have a successful outcome. However, when they made the wildfire declaration, many felt that adequate contingency plans were not in place.

Contingency plans with identified MAPs (spatial or temporal) should be identified and addressed prior to ignition. The availability and effectiveness of contingency resources also need to be well planned and coordinated prior to ignition.

Contingency plans for long-duration prescribed fires should address how the burning will be stopped if adverse conditions are experienced, such as a weather system that limits smoke dispersion, or fire behavior that is no longer meeting objectives. Several questions must be answered beforehand, such as "Where are the likely control or internal check lines or other barriers that could be used?", and "What are the MAPs?"

When calculating contingency resource needs or capabilities the fire behavior outside of the ignition unit will usually be different than within the unit, specifically with flame lengths and rates of spread of a head fire.

The intent of contingency planning is not to get stuck in an endless "do-loop" cycle and develop MAPs for every potential scenario but it should focus attention on the areas most likely to cause problems.

Spatial fire behavior modeling can assist in identifying potential problem areas and development of MAPs.

Contingencies for unplanned smoke impacts need to consider both the day and days following active ignition.

Many smoke related problems occur at night (post ignition) or days following ignition when most resources have been demobilized.

Consider what might happen if two or three things go wrong at the same time. The probability will be very low, but the impact can be extreme. Almost every major prescribed fire disaster involved multiple failures.

Element 18: Wildfire Declaration

The prescribed fire plan will specify who has the authority to declare a prescribed fire a wildfire.

A prescribed fire, or a portion or segment of a prescribed fire, must be declared a wildfire by those identified in the plan with the authority to do so, when either or both of the following criteria are met:

- Prescription parameters are exceeded and holding and contingency actions cannot secure the fire by the end of the next burning period, or,
- The fire has spread outside the project area or is likely to do so, and the associated contingency actions have failed or are likely to fail and the fire cannot be contained by the end of the next burning period.

A prescribed fire can be declared a wildfire for reasons other than those identified above, if events cannot be mitigated as determined by the burn boss and agency administrator.

A description is needed of the actions to be taken when a prescribed fire is declared a wildfire.

The description will include:

- Wildfire declaration (by whom)
- IC assignment
- Notifications
- Extended attack actions and opportunities to aid in wildfire (Optional)
- Agency or local policy may limit the strategic and tactical responses available for a prescribed fire that is declared a wildfire

Element 19: Smoke Management and Air Quality

In this element describe how the project will comply with local, county, state, tribal, and federal air quality regulations. Identify what permits, if any, are needed. Identify smoke sensitive receptors, including population centers, recreation areas, hospitals, airports, transportation corridors, schools, non-attainment areas, Class I areas, and restricted areas that may be impacted. Include modeling outputs and mitigation strategies and techniques to reduce the impacts of smoke production, if required by State Implementation Plans (SIPs), Tribal Implementation Plans (TIPs), and/or state or local regulations. Refer to the *Smoke Management Guide for Prescribed and Wildland Fire,* PMS 420-2 and Appendix A Basic Smoke Management Practices for other smoke management planning suggestions and smoke management techniques for reducing or redistributing emissions. Ensure that the smoke sensitive receptors are identified as values in the complexity analysis and the technical difficulty of mitigating smoke and air quality are reflected in the complexity rating.

Special considerations must be taken to address smoke when the project is in a non-attainment area for a National Ambient Air Quality Standards including ensuring compliance with SIP or TIP provisions (or both) and addressing conformity. Projects that will potentially impact Class I areas should address any efforts to minimize smoke impacts on visibility. Comply with all local, state, tribal and federal pre-burn and post-burn data reporting requirements.

A Notice of Violation (NOV) issued by an air quality regulatory agency for a prescribed fire will initiate a formal review (See Air Quality Notice of Violation (NOV) Review).

Lessons Learned: Coordination and discussions with smoke management regulatory agencies before, during, and after prescribed fires is essential to positive outcomes. These discussions are anchored by mutual understandings of long-term prescribed fire program goals, the role and external pressures influencing regulator actions, and the relationships and trust by all involved.

Smoke can often create enormous problems when projections are absent or inaccurate and when actual conditions change but are not communicated to affected and interested parties. Public health and safety issues caused by smoke, when cities, airports, and highways become "unexpectedly" smoked in, can quickly become the burn boss and agency administrator's number one concern.

The longer the duration of the prescribed fire, the greater the likelihood of significant smoke impacts or long-range impacts.

For long-duration prescribed fires, daily smoke management forecasts may not be adequate. Forecasts that address the long-term stability of the air mass and what changes can be expected over time should be obtained.

Long-term smoke impacts need to be accounted for and management coordinated with air or smoke regulators (or both), as it is significantly more complex than a single, one-day pulse of smoke.

Element 20: Monitoring

Prescribed fire monitoring is defined as the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting a management objective. Monitoring is required to ensure that prescribed fire plan objectives are met. For a prescribed fire, at a minimum specify the weather (forecast and observed), fire behavior and fuels information, and smoke dispersal monitoring required during all phases of the project and the procedures for acquiring it, including who and when.

Lessons Learned: For long-duration prescribed fires monitoring of smoke transport and impacts is highly recommended. Consider a range of monitoring activities including a visual smoke report, webcams to identify smoke plume and smoke haze or ambient air quality monitors.

When conducting long-duration prescribed fires it is important to do periodic assessments and document what the conditions are, what was seen and what was done. All of it goes back into a feedback loop tied to the MAPs set up for holding and contingency.

Element 21: Post-burn Activities

A description of the post-burn activities must be completed. Consider adding who is responsible that the activities are accomplished and in what timeframe. This may include preparing a post-burn report, finalizing the project file, safety mitigation measures, close out of applicable pre-burn considerations, close out of NEPA mitigations and rehabilitation needs.

Prescribed Fire Plan Appendices

A. Maps: Vicinity, Project or Ignition Units (or both), Optional: Fuel or Fuel Model, Smoke Impact Areas
B. Technical Reviewer Checklist

C. Complexity Analysis
D. Agency-Specific Job Hazard Analysis or Risk Assessment
E. Fire Behavior Modeling Documentation or Empirical Documentation
F. Smoke Management Plan and Smoke Modeling Documentation (Optional)

Prescribed Fire Plan Technical Review

Every prescribed fire plan must receive a technical review prior to agency administrator approval. The technical reviewer and prescribed fire plan preparer must be qualified or have been previously qualified as a prescribed fire burn boss at an experience level equal to or higher than the complexity being reviewed. Either the technical reviewer or the prescribed fire plan preparer must be current in their qualification, minus the physical fitness requirement.

The technical reviewer should have local knowledge of the area, experience burning in similar fuel types, or have previous experience conducting an on-site review (or all three). The technical reviewer must be someone other than the prescribed fire plan preparer.

Only a RXB1 can review plans at high complexity. Either an RXB1 or RXB2 can review plans of moderate-to-low complexity. An RXB3 is allowed to function as a prescribed fire plan preparer for a low-complexity plan, but not a technical reviewer.

An off-unit technical review is encouraged to provide an additional independent perspective. It is acceptable for other specialists to assist with the technical review of certain portions of the plan, however; a primary technical reviewer must be designated as technical review signatory. For example, a fire behavior analyst may review the fire behavior calculations; the aviation manager may review the air operations plan; or resource specialists may review impacts to their area of interests. It is recommended that at least once every year, each unit should send a moderate- or high-complexity prescribed fire plan off unit for technical review.

The results of the technical review must be documented on Appendix B Technical Reviewer Checklist, *Prescribed Fire Plan*.

Agency or individual unit policy may require the need for additional reviews prior to agency administrator approval of the prescribed fire plan.

Project File

All prescribed fire project files must contain the following information. Agencies or administrative units may require additional information.

- Prescribed fire plan (and amendments)
- Monitoring data including weather, fire behavior, fire effects and smoke dispersal observations
- Weather forecasts
- Notifications
- Documented prescribed fire organization(s)
- Any written agreements related to implementation
- All Agency Administrator Ignition Authorization(s)
- All Prescribed Fire Go/No-Go Checklist(s)
- Depending on the scope and complexity of the prescribed fire, optional information or further documentation (or both) that may be included in the project file include:

- After Action Review
- Incident action plans, unit logs
- News releases, and other public contact documentation
- Costs
- Actual ignition patterns and sequences used
- Appropriate smoke management information
- Agency individual fire occurrence form
- Detailed post burn report
- NEPA documentation
- Permits
- Reference documents that helped in development of the plan
- Final burn perimeter, progression and/or accomplishment maps
- Photo or video documentation

Lessons Learned: Sometimes it can take several attempts to complete a successful prescribed fire. Other times, a prescribed fire plan covers several entries or several ignition units. The project file should be used to capture information about weather, ignition, fuels and fire effects to assist the team for the next unit.

This section can also be used to take note of site-specific conditions valuable for the next entry – diurnal or seasonal winds, for instance.

Prescribed fire organizers have been developed locally and are an efficient way to document many of the actions and other information associated with the daily operations.

Reviews

Reviews assess and identify areas to improve the safety and effectiveness of prescribed fire planning and implementation. The primary purpose of a review is to assist continuous program improvement by promoting individual and organizational learning through the sharing of lessons learned. Units are encouraged to review prescribed fires whenever a learning opportunity presents itself regardless of the outcome, either positive or negative.

When lessons learned and recommendations are incorporated into practice in a timely manner, individual and organizational learning is improved.

Outcome Reviews

Units are encouraged to review prescribed fires covering the full spectrum of outcomes: the successful, routine and the unintended. By reviewing all outcomes of prescribed fires, fire personnel can learn when things go right, the same as when events do not turn out as planned. They gain understanding of performance and variability, in all its forms, and familiarity and skill in conducting reviews.

The level and type of outcome or post-event review is determined by the appropriate agency administrator using applicable laws, executive orders, departmental rules and agency policy. A number of tools can be used individually or concurrently to meet these needs. When determining what tools to use agency administrators should consider the outcome of the prescribed fire with respect to its objectives, sensitivity to external influence, public opinion and political concerns,

and should consider what tool would best help the prescribed fire program and what other programs could or should learn from the event.

Two outcome reviews are required:

1. Declared Wildfire Reviews
2. Air Quality Notice of Violation Reviews

At a minimum, all outcome reviews will contain the following information:

- Executive Summary
- Setting – environmental, social and political
    - Prescribed fire objectives
    - Prescribed fire prescription
    - Prescribed fire outcomes
- Narrative and chronology
- Lessons Learned identified by the participants
- Lessons Learned identified by the team (if used)
- Summary
- Maps and photos
- Recommendations and follow-up action items with timeframes for completion (if required by agency policy)

When teams are formed to conduct reviews, agency administrators should clearly communicate leader's intent to the team and the affected prescribed fire unit regarding purpose of the review,

- Intended audience for the review,
- How will review be conducted,
- Expected products,
- Timeframe for completion, and
- Responsibility for disseminating products and communicating with key partners.

Lessons Learned: Teams should listen before asking questions and approach the review with an attitude of seeking to understand the leader's intent.

Declared Wildfire Reviews

The agency administrator will be notified of a declared wildfire. The agency administrator is required to make the proper notifications in accordance with agency policy.

The declared wildfire review process will be initiated by the appropriate agency administrator. Although other types of reviews may be required by agency policy, the minimum requirement of the declared wildfire review is to help prevent future wildfire declarations. This will be accomplished by analyzing key prescribed fire plan and implementation interactions and gathering knowledge and insight from the local participants for improvement of their own prescribed fire planning and implementation. The analysis and lessons learned are then disseminated for the benefit of the broader prescribed fire community.

Following the wildfire declaration, the burn boss should document the incident, including all

actions prior to and after the declaration. To assist and prepare for the review team, a new file should be set up that includes the project file and other pertinent information.

The new file should include:

- Chronology of events
- Prescribed fire report
- Unit logs and individual statements
- Weather observations taken on site
- Remote Automated Weather Station (RAWS)
- National Fire Danger Rating System (NFDRS) data for the day of the wildfire declaration from the nearest station(s)
- Photos
- Other pertinent information not contained in the project file

In addition to the common outcome review elements, the declared wildfire review must include the following analysis and may be addressed in a separate review:

- An analysis of the seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration.
- An analysis of the prescribed fire plan for consistency with agency policy and guidance related to prescribed fire planning and implementation.
- An analysis of prescribed fire implementation for consistency with the prescription, actions, and procedures in the prescribed fire plan.
- The approving agency administrator's qualifications, experience, and involvement.
- The qualifications and experience of key personnel involved.

When addressing these topics, it is recommended to clearly separate the analysis from the lessons learned process. The analysis of these topics can usually be accomplished through review of documentation.

An independent, peer-based review team is recommended for conducting a declared wildfire review. The number of individuals assigned to the team and their functional expertise should be commensurate with the scope and focus of the review and the intended products. Interagency participation is highly recommended for declared wildfire reviews.

For federal agencies a copy of the final report will be submitted to the respective agency's national fuels program lead. The agency's national fuels program lead should provide a copy to the Wildland Fire Lessons Learned Center (LLC) via e-mail to llcdocsubmit@gmail.com.

Air Quality Notice of Violation Reviews

An Air Quality Notice of Violation (NOV) Review would follow direction in "Declared Wildfire Reviews" that support understanding of the planning, decisions, and actions taken that contributed to the NOV. In addition, the elements below, which are unique to smoke incidents affecting air quality, must be addressed. The review may use the Guidance for After-Action-Review of Smoke Impacts found at the National Interagency Fire Center site https://www.nifc.gov/smoke.

At a minimum, the NOV review will include:

- A discussion of the smoke-sensitive receptors, estimated smoke effects including modeling, identified in the prescribed fire plan, and any actual smoke monitoring observations and effects related to the prescribed fire project.
- A discussion of predicted versus actual ambient air quality using best on-site fuels information available (for example, fuel conditions, fire behavior, fuel consumption), emissions production (quantity and duration) and weather.
- If needed, a comparison between pre-prescribed fire smoke dispersion modeling and post-prescribed fire modeling using best on-site information available.
- Discussion of the smoke management practices used for the prescribed fire and the role of cumulative smoke impacts from other prescribed fire activities regarding how they affected the issuance of the NOV.

A separate review of all or some of the following items may be required by agency or local policy:

- An assessment of the smoke management training of personnel,
- Policies for smoke management,
- Performance of the smoke management elements of the prescribed fire plan for the prescribed fire under review.

Additional Review Types

In addition to outcome and technical reviews, the following types of reviews can be conducted:

- Before Action Review
- Technical On-Site Peer Review
- After Action Review

Before Action Review

A Before Action Review (BAR) comes at the beginning of a project rather than the end, so that the project can be improved rather than reviewed. Unlike a typical critiquing session, in which project team members are asked, “What might go wrong?”, the BAR operates on the assumption that the project has failed and so asks, ‘What did go wrong?”. The team members’ task is to generate plausible reasons for the project’s failure.

An effective approach is to:

- Draw out the planned prescribed fire on a sand table, flip chart, computer, or chalk board.
- Gather the prescribed fire team around this sketch, computer representation, or sand table of the prescribed fire.
- Include a diversity of viewpoints: line officers, fire behavior, the lowest ranked person on your prescribed fire crew, a biologist, archeologist, silviculturist, and so on. The more diverse perspectives included the better.
- After a full briefing and review of the plan, team members identify the reasons they can think of for the failure, especially the extreme events.
- Share the reasons with the team and discuss.

- Identify potential solutions and mitigations and incorporate them into the prescribed fire plan and implementation.

Technical On-Site Peer Review

The technical on-site peer review, also known as a "plan in hand review", can occur as part of the prescribed fire plan technical review phase (see Technical Reviewer) or prior to the plan being submitted for technical review. A team of on- and off-unit peers and specialists are assembled and on-site review of the plan is conducted to:

- Evaluate if the complexity analysis accurately represents the project.
- Identify gaps or potential problems in the ignition, holding and contingency plans.
- Identify potential changes to the prescribed fire plan.

After Action Review

Each operational shift on a prescribed fire should have an informal after action review (AAR).

The questions to answer in conducting an AAR include:

- What did we set out to do (what was planned)?
- What actually happened?
- Why did it happen that way?
- What should be sustained?
- What can be improved?

In addition to prescribed fire team AARs, burn bosses should make a habit of going back to their notes and evaluating where they did well, and not so well, at anticipating and containing the unexpected. Burn bosses should ask themselves: "What did I miss seeing? Why did I miss seeing it? What surprised me?" Burn bosses should consider sharing their observations with others in a burn boss report and include the report in the project file.

Certain events or a culmination of events that may affect future prescribed fire implementation or policy (or both) should be submitted via the Rapid Lesson Sharing found on the Wildland Fire Lessons Learned Center Web site at https://wildfirelessons.net/.

Authorities

These are the various laws and authorities used in the 2008 development and 2017 update of the Interagency Prescribed Fire Planning and Implementation Procedures Guide.

Alaska National Interest Lands Conservation Act of 1980 (94 Stat. 2371)

Alaska Native Claims Settlement Act of 1971 (85 Stat. 688; 43 U.S.C. 1601)

Bankhead-Jones Farm Tenant Act of July 22, 1937 (7 U. S. C. 1010 - 1011)

Clarke-McNary Act of 1924 (43 Stat. 653)

Clean Air Act of July 14, 1955, as amended (42 U. S. C. 7401 et seq.)

Department of the Interior and Related Agencies Appropriations Act, Fiscal Year 1995 (P.L. 103-332)

Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121)

Economy Act of June 30, 1932 (47 Stat. 417; 31 U.S.C. 1535)

Endangered Species Act of 1973 (16 U. S. C. 1531 - 1544)

Federal Financial Assistance Management Act of 1999 (P.L. 106-107)

Federal Fire Prevention and Control Act of 1974 (88 Stat. 1535; 15 U.S.C. 2201)

Federal Grant and Cooperative Agreement Act of 1977 (P.L. 950224, as amended by P.L. 97-258, September 13, 1982 (96 Stat. 1003; 31 U.S.C. 6301 thru 6308)

Federal Land Policy and Management Act of 1976 (90 Stat. 2743)

Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471; et seq.)

Healthy Forest Restoration Act of 2003 (P.L. 108-18, 117 Stat. 1887)

Indian Self-Determination and Education Assistance Act (PL 93-638) as amended

McSweeney-McNary Act of 1928 (45 Stat. 221; 16 U.S.C. 487)

Multiple-Use Sustained Yield Act of 1960 (16 U. S. C. 528) Wilderness Act of 1964 (16 U. S. C. 1131 - 1132)

National Environmental Policy Act of 1969 (42 U. S. C. 4321)

National Forest Management Act of 1976 (16 U. S. C. 1600 et seq.)

National Historic Preservation Act (P.L. 89-665) 1966 as amended

National Indian Forest Resources Management Act (P. L. 101-630 November 28, 1990)

National Park Service Act of 1916 as amended (67 Stat. 495; 16 U.S.C. 1 et seq.)

National Wildlife Refuge System Administration Act of 1966 as amended (80 Stat. 927; 16 U.S.C. 668dd through 668ee)

National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57)

Oregon and California Act of August 28, 1937 (50 Stat. 875; 43 U.S.C. 1181e)

Organic Administration Act of June 4, 1897 (16 U. S. C. 55)

Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)

Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 1856a)

Supplemental Appropriation Act of September 10, 1982 (96 Stat. 837)

Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. 315)

The Federal Land Assistance, Management and Enhancement Act of 2009 (FLAME Act) (P. L. 111-88)

Tribal Forest Protection Act of 2004 (P.L. 108-287)

Tribal Self-Governance Act of 1994 (P.L. 103-413)

Weeks Act of March 1, 1911 (16 U. S. C. 563)

Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April 7, 1989), 42 U. S. C. 1856)

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Appendix A

Basic Smoke Management Practices

Fire is an essential ecological disturbance, providing many benefits to the environment in terms of wildlife, water and soil quality, and nutrient cycling. Prescribed fire can be a means of protecting communities and protecting air quality by mitigating the occurrence of large wildfires and reducing invasive species. However, fire produces smoke which contains particulate matter (PM), ozone precursors, greenhouse gases, and other trace gases. A direct control cannot be put on a prescribed fire—unlike other air pollution sources such as a power plant smoke stack—rather a variety of environmental factors must be taken into account to manage both the prescribed fire itself and the smoke produced from the prescribed fire.

Basic Smoke Management Practices (BSMPs) applied on prescribed fire can mitigate the impacts of smoke to public health, public safety and nuisance, and visibility. The USDA Forest Service and Natural Resources Conservation Service have created a Technical Note that outlines a suite of BSMP options that a fire manager can utilize to reduce the impacts of smoke from prescribed fires (USDA Forest Service and Natural Resource Conservation Service, 2011).

The publication *Smoke Management Guide for Prescribed and Wildland Fire,* PMS 420-2, provides more information on managing smoke and is available on the NWCG Web site at https://www.nwcg.gov/pms/pubs/pubs.htm. More information on smoke can be found in the National Interagency Fire Center Web site https://www.nifc.gov/smoke and the NWCG Smoke Committee page on The Wildland Fire Lessons Learned Center Web site at https://wildfirelessons.net/.

Appendix B

Contingency Planning Aids

When events do not go as planned, whether the result is positive or negative may come down to how well the prescribed fire was planned. Without a well-developed plan, small issues can become emergencies. Two tools that can assist in understanding contingency planning and aid in the development of contingency plans are:

1. PACE Planning
2. Management Action Points

PACE Planning

PACE Planning stands for:

- **P**rimary
- **A**lternate
- **C**ontingency
- **E**mergency

PACE is a risk containment/contingency planning tool that may be used in prescribed fire planning and implementation.

With **PACE**, instead of just one fallback option, there are multiple options. In prescribed fire planning the **Primary** and **Alternate** plans are part of Element 16, Holding Plan. Often, the alternate plan is a variation of the primary plan used if conditions change. The Element 17 **Contingency** Plan, *Prescribed Fire Plan* exists in case something doesn't go as planned, and the

Emergency Plan, which exists in case everything goes wrong, is addressed in Element 18: Wildfire Declaration.

Unexpected events such as strong downdrafts from thunderstorms miles away, jet stream winds unexpectedly touching down, equipment breakdown, diverted or delayed resources, or a new nearby wildfire are only a few examples of unexpected events that can occur during the implementation of a prescribed fire that can be addressed with PACE Planning.

Plans can be either written (prescribed fire plan) or verbal (during the actual implementation). It is essential that they be clearly understood by *all those* who could be called on to assist in the prescribed fire.

The primary and alternate components of the holding plan address the resources and actions necessary to keep the prescribed fire within the project area and meet objectives within the identified prescription. The resources necessary for this component would be identified as the minimum holding resources in the prescribed fire plan.

Contingency planning addresses the “what if?” for handling the unexpected. The contingency plan is the portion of the prescribed fire plan that considers low probability but high consequence events and the actions needed to mitigate those events. The contingency plan identifies one or more actions that are initiated at a certain time and place or under a certain set of conditions or Management Action Points.

The emergency plan is the portion of the prescribed fire plan that describes initial actions if the prescribed fire is declared a wildfire.

PACE planning not only provides alternatives to the primary plan, it prepares the prescribed fire organization to deal with changes—changes that often are inevitable. PACE planning accounts for this by preparing parallel solutions that can quickly adjust to change.

With that in mind, PACE could be used in other prescribed fire plan elements to identify Primary, Alternate, Contingency and Emergency options. Identification of check lines and options to secure prescribed fire operations mid-implementation are an example of alternate and contingency planning.

The most important benefit of PACE planning is that it helps create a culture that is constantly thinking of alternatives. What if this does not work? What if conditions change? What if something goes wrong?

The organization that thinks in alternatives is prepared for the unexpected—and positioned to take advantage of it.

Management Action Points

Management Action Points (MAPs) can be used to describe actions that may be implemented during the project. MAPs should be appropriate to the scale and complexity of the prescribed fire project. MAPs can be used in several elements of the prescribed fire plan including the Ignition Plan, Holding Plan, Contingency Plan and Smoke Management and Air Quality.

MAPs are clearly specified conditions that, if reached, prompt implementation of tactical and/or other non-tactical actions to meet prescribed fire objectives. MAPs are usually spatial, but can also be temporal or otherwise tied to conditions that cannot be conveyed geographically using points, lines, or polygons.

If MAPs are tied to a geographic feature, it should be identifiable on the ground or from an aerial platform. If the MAP is supposed to identify a place where actual tactical actions are to take

place, it should be placed in an area that is defensible and safe under foreseeable conditions.

The key factor in any possible implementation of a MAP action is ***anticipation***. Actions must be identified and performed before being forced to do so. If an action is forced, it may be too late.

Conditions defined by MAPs need to be related to the fire activity, which would relate to firefighter and public safety, location of fire to the MAP, smoke, weather, fuels, calendar dates, resource availability or a combination of any of these (and other) elements. If the conditions defined by the MAP are met, it's critical to act quickly for successful accomplishment of the prescribed fire objectives.

MAPs should be placed where tactical and non-tactical opportunities may be greatest for successful implementation. MAP actions (tactics or non-tactical) should protect firefighter and public safety, effectively coordinate and communicate critical information with cooperators and public; and protect values at risk. Some examples of actions to address with MAPs are (the following list is not all inclusive):

- Tactical actions, such as direct or indirect hand or machine fireline construction; aerial water or retardant drops; firing operations; structure protection (wrap or application of water, foam, gel, or pre-treatment of hazardous fuels); or any combination of these actions for any given MAP.
- Non-tactical actions such as: review of decisions, or discussion of new communications; increased monitoring actions; implementing road or area closures; ordering resources for tactical or logistical operations; notification of cooperators or public (cooperators, adjacent agencies and private landowners, county commissioners, county sheriff's, permit holders, outfitters, other forest users, and others as appropriate); sending news releases and/or conducting public meetings; and ordering and staging resources.

During project design and identification of MAPs, take advantage of a combination of favorable topographic features (ridge tops, drainage bottoms), fuel conditions (areas that transition from heavy to light fuels, past large fire areas, fuel treatment areas), weather, land ownership boundaries (if the other above mentioned factors are favorable), and human-made features such as roads or trails in delineating MAPs.

MAPs should be tied to a readily identifiable feature so prescribed fire personnel will know when to implement an action. If tactical actions are planned for a MAP, the MAP should be located in an area where there is a high probability of that action being successful (defensible). The use of any MAPs for tactical operations is subject to consideration of the fire behavior, fire weather, and its possible influence on the safety of firefighting resources, subject to carrying out the tactical operations. If it is deemed unsafe to conduct tactical operation from any particular MAP, a different MAP or action should be considered. Other factors in the development and documentation of a MAP should be considered. Some of these factors include:

- Addressing the condition when the identified MAP action would be implemented.
    - Think about when the action might be started in terms of the prescribed fire anticipated to, or reaching the MAP or some other factor that might initiate the action.
- Consider the management intent for implementing the action. In other words, why is it important? Is it tied to a prescribed fire objective or a constraint?

  - What is the reason for establishing the MAP? Is it to protect a value, coordinate with other agencies, inform the public, or some other reason?
- As discussed before, what is the specific action that needs to take place?
  - Is it a tactical or non-tactical action and does it specifically address what needs to occur?
- What are the resources needed and how much time is involved in completing that action?
  - Are the resources needed to implement the action currently on the prescribed fire or do they need to be ordered?
  - About how much time is needed to obtain and to use those resources to complete the action?
- What might be the subjective probability of success given the current and forecasted incident situation?
  - Are the logistics and implementation of the action going to be complex which might impact the probability of success given the situation?
- If for some reason the action can't be implemented due to an unforeseen circumstance, what is the consequence of not taking that identified MAP action?
  - Do the agency administrator and resource allocation personnel know the consequence of not taking the action if resources are not available?
- Who is responsible for the implementation of that action?
  - Is it clear who will be responsible to ensure the action is implemented?
- Who is responsible for tracking MAP status?

The following is an example that can be addressed for each MAP:

Designator and Description: Enter unique identifier for management action point and description such as "MAP 1, Bear Creek".

Condition: State when the recommended actions will be implemented. Example: "When the fire is anticipated to reach within 24 hours or has reached/crossed the MAP".

Management Intent: Describe the intent of planning and implementing the actions at this MAP. An example such as "to meet the objective of protecting the private land in Deer Creek" or "to keep the fire contained within the proposed Great Burn Wilderness".

Recommended Action(s) to Consider: Described the actions to be taken for the MAP. When listing actions, a key word to use is "consider". An example would be, "Consider using aerial retardant to delay the spread of the fire to the east toward the X subdivision".

Recommended Resources: Describe the resources or capability needed to carry out the recommended actions.

Timeframe: Enter the relevant timeframes such as the maximum expected resource response time or the maximum time to initiate the recommended actions.

Describe the consequences of not taking the recommended action(s) (Optional): An example such as; "There is a high likelihood that private land will be burned and structures may be lost" or "there is a high probability that fire will burn out of the wilderness and threaten/impact BPA transmission lines".

Responsibility: Identify who is responsible for implementing each action. For example, "PIO"

for conducting a public meeting or the "county sheriff" for implementing evacuations".

Date Each Action is Initiated: If a specific action is implemented, record the date initiated

The following are examples of two different formats that may be useful when identifying MAPs. MAPs are entered into Element 17: Contingency Plan.

Example 1 format of a MAP:
Designator and Description: M.A.P. #1 – Taylor Canyon

Condition: Torching with spotting across the Taylor River and Taylor Canyon road, fire gets established south of road. Possible fire behavior includes uphill crown run.

Management Intent: Control any spots within 12 hours to prevent impacts to Bear Creek subdivision.

Recommended Action(s) to Consider:

A. Initiate holding actions along Wilson Ridge north of Bear Creek.
B. If spots occur during active ignition, evaluate whether to continue ignition or secure the burn where logical and feasible.
C. Coordinate with County Sheriff on possible implementation of evacuation plan.

Recommended Resources:

A. 2 Type 6 engines or equivalent, minimum of 10 FFT2 or above Type 3 dozer or equivalent
B. Burn Boss
C. Burn Boss

Timeframe:

A. 1-2 hours maximum resource response time
B. Immediately
C. 2 hours

Describe the consequences of not taking the recommended action(s) (Optional):

A. Fire would threaten the Bear Creek subdivision within 24 hours
B. Increased holding problems if ignition unit not secured while dealing with spots.
C. Evacuation if needed may be delayed, public safety would be compromised.

Responsibility:

A. Holding Operations or Burn Boss
B. Burn Boss in consultation with Ignition and Holding Operations
C. Burn Boss or District Ranger

Date Each Action is Initiated:

A.
B.
C.

Example 2 format of a MAP:

Management Action Point - Documentation Element	MAP Narrative
Designator and Description:	**M.A.P. #1 – Taylor Canyon**
Condition:	Torching with spotting across the Taylor River and Taylor Canyon road, fire gets established south of road. Possible fire behavior includes uphill crown run.
Management Intent:	Control any spots within 12 hours to prevent impacts to Bear Creek subdivision.
Recommended Action(s) to Consider:	A. Initiate holding actions along Wilson Ridge north of Bear Creek. B. If spots occur during active ignition, evaluate whether to continue ignition or secure the burn where logical and feasible. C. Coordinate with County Sheriff on possible implementation of evacuation plan.
Recommended Resources:	A. 2 Type 6 engines or equivalent, minimum of 10 FFT2 or above Type 3 dozer or equivalent B. Burn Boss C. Burn Boss
Timeframe:	A. 1-2 hours maximum resource response time B. Immediately C. 2 hours
Describe the consequences of not taking the recommended action(s) (Optional):	A. Fire would threaten the Bear Creek subdivision within 24 hours B. Increased holding problems if ignition unit not secured while dealing with spots. C. Evacuation if needed may be delayed, public safety would be compromised.
Responsibility:	A. Holding Operations or Burn Boss B. Burn Boss in consultation with Ignition and Holding Operations C. Burn Boss or District Ranger
Date Each Action is Initiated:	A. B. C.

The *Interagency Prescribed Fire Planning and Implementation Procedures Guide* is developed and maintained by the Fire Use Subcommittee, under the direction of the Fuels Management Committee, an entity of the National Wildfire Coordinating Group (NWCG).

Previous editions: 2013, 2008, 2006.

While they may still contain current or useful information, previous editions are obsolete. The user of this information is responsible for confirming that they have the most up-to-date version. NWCG is the sole source for the publication.

This publication is available electronically at: https://www.nwcg.gov/publications/484.

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