Much has been written regarding the removal of four hydroelectric dams on the Klamath River. Rather than repeat the conjecture surrounding the effort now underway, this piece attempts to describe the real-time events that will occur shortly after the new year, based on publicly available information.

Copco Lake and Iron Gate Reservoir are the main challenges for the whole project. These two facilities combined hold principal storage facilities to be drained, with a combined 85,000 acre-feet of stored water. In contrast, the third reservoir, locally known as Topsy, impounded behind J.C. Boyle Dam, holds only about 2,000 acre-feet. Anticipated total cost of the dam removal project is $500 million.

The plans for draining Copco Lake and Iron Gate Reservoir have evolved since the Klamath River Renewal Corporation (KRRC) issued its “Definite Plan” for dam removal in June 2018. Engineering changes were anticipated to occur given the “design-build” engineering approach used by KRRC. Driving this process is the “Guaranteed Maximum Price” of $197 million. This is the value that KRRC agreed to for the bulk of the work with the lead contractor, Kiewet.

Beyond engineering and economic factors, the changes to KRRC’s plans demonstrate the inherent complexity – and risk – involved in removing the dams.

Copco No. 1
Copco Lake is formed behind the century-old Copco No. 1, a 133-foot tall, reinforced concrete dam spanning 410 feet across the Klamath River Canyon in far Northern California. Copco Lake covers 972 acres, with a total storage capacity of over 33,000 acre-feet at full pool.

In the 2018 Definite Plan, KRRC anticipated modifying the original diversion tunnel at the dam’s base by installing a large gate at the downstream end of the tunnel, before removing the intake structure at the upstream end. This plan has now evolved to drilling a new low-level horizontal tunnel at the base of the dam.

Continued on page 2
The new tunnel is now largely complete. All that separates the bottom of the reservoir from its new outlet is a 10-foot-thick concrete plug, which is expected to be blown out on January 11, 2024.

After this plug is blown, the new low-level tunnel is expected to initially discharge over 4,000 cubic feet per second of sediment-laden water from the bottom of the reservoir.

The tunnel, according to KRRC’s federal filings, “functions as an uncontrolled hydraulic structure.” This means that how fast the reservoir initially drops, and to what extent it refills again over the remainder of the winter and forthcoming spring, will depend on weather in the Upper Klamath Basin over the coming months.

Under wetter conditions, the reservoir will drain and refill repeatedly during the first half of 2024. Once water levels in the reservoir have been lowered and remain more than 70 feet below full pool, contractors will attempt to open the historical diversion tunnel at the dam’s base. This work involves lowering heavy equipment down the dam’s left side, excavating the inlet structure, and blowing an existing plug sealing the tunnel. This will then be followed by more excavation.

When this secondary outlet is fully opened, KRRC expects water levels in the reservoir to drop another 15 feet or more, exposing the historic cofferdam at the dam’s base and thereby allowing dam demolition and removal.

Iron Gate Dam

Eight miles downstream of Copco No. 1 is Iron Gate Dam, which impounds a 942-acre reservoir containing 51,000 acre-feet of water. The dam, constructed in the early 1960s, consists of a 189-foot-tall earthen embankment, spanning 740 feet across the canyon.

A 750-foot-long diversion tunnel, used during the dam’s construction, provides flow from the reservoir underneath the dam site. The control structure for this tunnel has never been fully opened since it was constructed.

The 2018 Definite Plan was to replace the current control gates, through a complicated operation involving divers working in a flooded tunnel. The current plan is just to open the original gates, after having reinforced the tunnel and the installation of air vents, baffles, and other modifications.

KRRC previously stated it would test the gates at some point in 2023, but for undisclosed reasons that never occurred.

Recently, the agency that oversees dam removal, FERC, tasked the KRRC with developing detailed contingency plans. Specifically for how the water would be routed around Iron Gate Dam in the event the gates on the diversion tunnel fail or the tunnel somehow becomes obstructed. KRRC’s conceptual plan involves a combination of water releases through the electrical turbine penstocks and over the spillway.

Meanwhile, the expectation is that the gates on the diversion tunnel will work, allowing water to flow...
around Iron Gate Dam when the new low-level outlet at Copco No. 1 is simultaneously opened.

As with Copco No. 1, it is expected that over 4,000 cubic feet per second of sediment-laden water will initially flow out of the diversion tunnel at Iron Gate Dam.

**Sediment mobilization and further deconstruction**

Estimates are that between 1.2 and 1.8 million cubic yards of sediment will be released into the Klamath River during the initial draining of Copco Lake and Iron Gate Reservoir.

According to FERC, “sediment jetting” during this initial drawdown is expected to “maximize mobilization of sediment from the historical river channel within Copco Lake and Iron Gate Reservoir to minimize the potential for sediment mobilization after the drawdown period.”

Copco Lake and Iron Gate Reservoir will be completely drained in January, before likely refilling again in February and March due to winter inflows. Rapid increases in water levels behind the dams could occur well into May, depending on winter weather events upstream.

Kiewet will begin actual dam removal sometime between May and July after the historic diversion tunnel of Copco No. 1 is opened.

Along with the demolition of 82-vertical feet of concrete viewable in the canyon, Kiewet is expected to excavate another 43 feet of the dam’s concrete foundation and riverbed channel, presumably to ensure that no obstructions remain for future fish passage at the dam site.

Altogether, 75,900 cubic yards of concrete are expected to be hauled off to a nearby disposal site. When Iron Gate Reservoir water levels can be consistently maintained 115 feet below historical full pool at Iron Gate Dam, Kiewet can then begin removing the earthen embankment from the top down.

Demolition of the 173-foot-high embankment will require excavation, removal, and disposal of approximately 690,000 cubic yards of material.

**Reducing risk**

Removal of Iron Gate Dam can only proceed at a rate that maintains a capacity to withhold a probable flood without overtopping the remaining dam. KRRC wants to complete the final breach of the dam and release the remaining stored water in the reservoir when inflows are at the lowest, ideally August or September of 2024.

This timing constraint results in the bulk of the dam removal work being compressed into a relatively brief period between July and September, with a good chance that the final breach is delayed into October or even November.

That potential delay into autumn creates a level of risk. If a large inflow event during those fall months were to occur, it could wash out the remaining embankment and cause downstream flooding. FERC recently made KRRC further evaluate and identify measures to reduce this risk. The key risk reduction measure identified by Kiewet is to coordinate with Reclamation on releases out of Upper Klamath Lake (UKL) to ensure that no high releases are made after June 1, but ideally earlier.

Therefore, managing water levels in UKL through the winter and spring will provide ample excess storage for any potential large runoff event, mitigating risk downriver.

This ample excess of storage must be maintained while reducing releases out of UKL during the winter and spring in support of KRRC’s drawdown and dam removal.
KWUA Welcomes Regional Director Karl Stock

KWUA is pleased to welcome Karl Stock as the new U.S Bureau of Reclamation regional director for the California-Great Basin Region. The California-Great Basin Region includes the Klamath Project, the Newlands Project in Nevada, and several Reclamation Projects in California, including the Central Valley, Cachuma, Solano, Orland, and Ventura Projects.

“This is a very important position for us,” said KWUA President Tracey Liskey. “It’s the highest-ranking leadership position west of Washington, D.C., and we look to the regional director to make sure our issues are understood throughout the agency.”

Mr. Stock succeeds Ernest Conant, who will assume the role of senior advisor to the deputy commissioner for operations. Reclamation Commissioner Camille Calimlim Touton announced Stock’s appointment on December 19, stating: “Karl’s extensive experience across Reclamation’s many programs and offices, and his collaborative approach will serve our partners well as Reclamation invests historic funding to improve water resources across the California-Great Basin and the American West. I am also extremely grateful for Ernest Conant’s extraordinary tenure as the regional director. His vision and executive leadership consistently advanced regional priorities and I wish him all the best in his new role.”

Mr. Stock joined Reclamation in 2001 and has served in a variety of leadership positions, most recently as manager of the Reclamation Law Administration Division.

**FERC Clears the Way for Transfer of Keno Dam**

On December 19, 2023, FERC adopted an order that is expected to lead to the transfer of title to Keno Dam from PacifiCorp to Reclamation in early 2024.

Keno maintains water levels for gravity diversion from the Klamath River, and provides flood control and re-regulation of releases from UKL. The current Keno Dam, which replaced the “Needle Dam” at Keno on the Klamath River, was constructed in the early 1960s. Both dams were built, and are owned and operated by, PacifiCorp.

FERC has jurisdiction over non-federal power projects in the United States. Keno Dam and appurtenant facilities are part of FERC-licensed Project 2082, which became effective in 1956. The other facilities covered by the license included J.C. Boyle Dam, Copco I and Copco II Dams, Iron Gate Dam, and certain others.

The 50-year license for Project 2082 expired, but based on timely application for renewal, was renewed annually for one-year periods after 2006. In the meantime, the license renewal process has been supplanted by a settlement, the Klamath Hydroelectric Settlement Agreement (KHSA), which provides a pathway for the removal of the four mainstem river dams downstream of Iron Gate.

removal activities at Copco No. 1, Iron Gate, J.C. Boyle Dam, and the third Klamath River hydroelectric facility, in Oregon.

**Water storage during construction**

Given these operational considerations and associated risks, KWUA has been advocating for water from UKL to be used, early in the fall-winter period, to begin refilling portions of Tule Lake and Lower Klamath National Wildlife Refuges.

The massive releases of stored water from Copco Lake and Iron Gate Reservoir, followed by the subsequent dam removal activities, will likely create storage conditions in UKL that support adequate water supplies in 2024 for both wildlife refuges and farms in the Klamath Project.

While no outcome is certain at this point in the water year, dam removal without question presents unique water management considerations that will never occur again. Those anticipated operations present the best opportunity to rehydrate refuges and farms that have been dried up by multiple years of reduced water allocations.

Continued on page 5
One of the terms of the KHSA is that Reclamation will take title to Keno Dam. FERC does not have jurisdiction over federally owned dams, and in July of 2023, PacifiCorp applied to FERC to remove Keno from the old license (which is still under annual renewals).

KWUA objected to the action as premature, citing Reclamation’s failure to complete various studies and improvements that Reclamation itself has identified as prerequisites for taking title.

FERC largely dismissed KWUA’s concerns, regarding them as not pertaining to whether it is necessary that Keno be part of the license and “beyond the scope of the amendment proceeding.” It did, however, provide that the license amendment would become effective only at such time as Reclamation actually takes title. That is expected to occur early this year.

Reclamation has committed to operate and maintain Keno Dam consistent with historic practice, and that it will not charge Klamath Project water users for costs of ordinary operation and maintenance of the facility.

However, there remain several unanswered questions about Reclamation’s legal authorities with respect to ownership, management, and financing of Keno Dam and any future improvements or modifications.

Commissions Hear Testimony on Grasshopper Crop Destruction

At a December 12, 2023, work session organized by Commissioner Dave Henslee, the Klamath County Board of Commissioners heard from producers who suffered crop damage in 2023 due to an extraordinary infestation by grasshoppers.

The session was in many respects a reaction to a survey by the Oregon Department of Agriculture (ODA) for grasshopper and Mormon cricket populations. The survey of government lands was continued in 2023, however private lands were not surveyed in 2023.

The Oregon State Legislature and Senate Bill 5561 made private land surveys possible in 2022, but this funding is no longer available. In 2023, crop damage on private land in Klamath County was severe, with economic impacts in at least the several tens of millions of dollars. The primary cause of the infestation is believed to be the dewatering of nearby Lower Klamath National Wildlife Refuge. See [Biblical' plague of grasshoppers reveals unintended consequences of a dewatered landscape].
**WHAT HAS THE BOARD BEEN WORKING ON:**

KWUA’s Board of Directors strives to keep member districts, their patrons, and other interested parties informed. Board members help with the dissemination of information received at our monthly board meetings. Staff produces a monthly newsletter and content for Basin Ag News, another monthly publication.

The KWUA board held its regular business meeting on December 13, 2023. Below is a recap of the ongoing activities. If you would like more in-depth information, we encourage you to contact your respective district board member listed on our website.

**OPERATIONS COMMITTEE REPORT**

Operations Committee Chair Gene Souza reported that the Project completed the diversion of 260,000 acre-feet out of UKL, the identified Project Supply for 2023. UKL elevations are not expected to be above the sucker biological opinion’s (BiOp) “central tendency” before mid-February at the earliest. The Reclamation plans to take title and control of Keno Dam in January. There is no real plan for managing flows during dam removal other than the stated approach of just following the Interim Operations Plan (IOP) that has nominally been in effect since April of 2020. Mr. Souza stated that he believes there will be opportunities for beneficial water management.

**FROM YOUR DISTRICTS**

**UPCOMING MEETINGS**

- Klamath Irrigation District will hold its Board of Directors meeting on January 11 @ 10:00 am at the KID office. www.klamathid.org
- Tulelake Irrigation District will hold its monthly Board of Directors meeting on January 8 @ 10:00 am. www.tulelakeid.com
- KWUA will hold its monthly Board of Directors meeting on January 17 @ 2:00 pm (rescheduled from January 10). www.kwua.org
- Klamath Drainage District will hold its monthly Board of Directors meeting on January 18 @ 1:00 pm. www.klamathdrainagedistrict.org

Klamath Irrigation District patrons, did you know that KID has a newsletter with all the current water happenings. Click here to read the latest issues.

**EXECUTIVE DIRECTOR’S REPORT**

**ESA Re-Consultation Status**—Paul Simmons reported that the overall schedule for Endangered Species Act (ESA) re-consultation is: completion of a proposed action in January/February 2024; Reclamation complete the biological assessment (in which the proposed action is the most important component) by the end of February; and the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) complete BiOps by the end of July 2024. Meetings of the “technical team” and “management team” continue to occur, with the technical meetings being most frequent. The most recent management team meeting was on December 7, and there will be an in-person management meeting in early January. Part of the process has included an invitation that parties propose alternatives to be considered in developing the proposed action. Klamath Irrigation District (KID) has offered a specific alternative as the proposed action.

Discussion has recently focused on an operations scenario developed jointly by USFWS and NMFS. KWUA and its members have emphasized that it is highly irregular for the Services to lay out an alternative before the action agency does so. The board reviewed and discussed key elements of the alternative jointly developed by the Services.

KWUA and members have emphasized that ESA consultation must be structured in a way that evaluates the
effects of the proposed action and proposed two model runs (which have been completed) as the necessary first step in a proper consultation. It does not seem that anyone disagrees with the logic KWUA is proposing but it has appeared that some parties are paying no meaningful attention to it.

There was a meeting on the morning of December 13 with Reclamation and USFWS that was encouraging in terms of Reclamation’s understanding that the agencies have not used proper logic in ESA consultation. Reclamation intends to use a logic that is more consistent with the ESA Section 7 handbook and USFWS is seemingly, potentially supportive of that approach although there may be further dialogue about how to characterize the hydrologic conditions under the environmental baseline that is appropriate for Section 7 analysis.

Mr. Simmons also noted that the proposed listing of the northwestern pond turtle as threatened has come into play and the consultation should include “conferral” regarding effects of an action on the pond turtles. Conferral is a very similar process to consultation but applies to species that are proposed for listing so that an action agency can be in a position to be in compliance with Section 7 immediately after a listing occurs. If a “conference” opinion is issued, it can be converted into a formal BiOp once a listing has occurred.

Restoration MOU—Paul Simmons reviewed the history of the drafting of a proposed memorandum of understanding (MOU) regarding environmental restoration projects and its consideration by the KWUA board, which was also described in his written report to the board. Following a few minutes of discussion, Matt Strickler, the Department of the Interior’s (DOI) policy point, joined the meeting. Mr. Strickler organized the meetings and work that led to a draft MOU, and gave a PowerPoint presentation to the board. Mr. Strickler stated that the MOU shows a level of cooperation that has not existed in recent years and shows a level of commitment from DOI, that will be politically helpful locally and in Washington, including with funding.

Mr. Strickler believes water can be discussed within the MOU framework. Mr. Strickler stated that they have realized that there is no explicit term for withdrawal, and there will be withdrawal terms added. The board then engaged in a conversation with Mr. Strickler. Mr. Strickler emphasized that he can only do what he can control. Board members voiced the reality that it is difficult to talk about more restoration when the agencies do not manage what they have appropriately, the lack of accountability, and the difficulty of having confidence that the Project will not be left behind. Mr. Strickler noted that the agreement is structured so that things will not occur unless it has all the parties’ support. After Mr. Strickler signed off, the board discussed the MOU and it was approved by a majority.

Klamath Power and Facilities Agreement Support Act—Paul Simmons summarized the status of the legislation and potential introduction in the House of Representatives.

Lower Klamath National Wildlife Refuge 2019, the last time the refuge had any significant water. Image by Chelsea Shearer.

Mid-Pacific Water Users Conference (January 24-26)—As in the past, KWUA will sponsor two board members—first come, first served—and board members should contact Chelsea if they wish to attend.

WATER POLICY DIRECTOR’S REPORT
Through his monthly written report, Moss Driscoll provided updates on two ongoing projects, including the status of dam removal activities. See related story on page 1.

Mr. Driscoll also provided details regarding multiple planning processes in which KWUA is involved or is leading, particularly as related to landscape and infrastructure in the Project. The key federal agencies in these processes include the Natural Resources Conservation Service as well as DOI, and KWUA is advancing both the expansion of proven programs and the development of new concepts.
consistent with overall goals for the Project and the Klamath Basin as a whole.

Marketing and Public Relations Report

**Basin Ag News**—Marketing and Public Relations Director Brian Gailey reported that based on a year of monthly publication, Basin Ag News has been established as a critical source of local ag news, covering issues from litigation and advocacy to youth and community. The December edition includes 12 articles from various authors. Mr. Gailey has larger plans for this publication. He is working with the Herald and News to move the publication to have better online presence and to discuss the long-term future of Basin Ag News.

**Nick Alexander Films update**—Brian Gailey has met with Nick Alexander regarding status of the film projects and the reallocation of unused funds toward a more timely branding video.

**Schedule PR Committee meeting**—There is a meeting set for December 19 at 1:00 p.m. In-person is strongly encouraged, and there will also be a Zoom link.

**Executive Session**—The board adjourned to executive session. After the executive session, the board approved a motion to give Paul Simmons discretion regarding KWUA participation in an amicus brief in a case brought to our attention.

Next Meeting: January 17, 2024 @ 2:00 p.m.

KWUA offers notary services. Chelsea Shearer is a certified Notary Public and KWUA offers her notary services free to all members and patrons of member districts. To schedule an appointment with Chelsea, call the office at 541-883-6100.

KWUA has copies of all contracts between Reclamation and districts and individuals. These contracts, of which there are hundreds, date to as early as 1909. Copies are available to our members without charge and to others at our cost.

Klamath Irrigation District (KID), Tulelake Irrigation District (TID), and Klamath Drainage District (KDD) all have district websites with the latest information on current events in their districts. Visit our website [https://kwua.org/member-districts/](https://kwua.org/member-districts/) for links to their sites.

**WASHINGTON, D.C., REPORT**

*The Ferguson Group (TFG)*

On Capitol Hill, TFG and KWUA have been engaged in extensive discussions with the Klamath area congressional delegation in both chambers regarding the priority issues in the basin (e.g., impacts from dam removal, Reclamation operations) and the need for a legislative remedy to address potential adverse impacts.

Discussions have been productive and KWUA hopes to see a House companion bill to Senators Wyden and Merkley’s S. 482 introduced soon, with committee action to come in the new year. KUWA has also been in regular contact with DOI and Reclamation regarding challenges associated with the ESA consultation process. KWUA continues to press DOI to implement its processes fairly and consistently across the West.

Regarding FY 2024 appropriations, it has been a busy and somewhat unusual path so far in Congress, even by Washington’s standards. The primary focus of negotiations has been, and continues to be, on extending government funding beyond the multiple deadlines set in the most recent continuing resolution (CR) “laddered” funding extension, with different agencies having varying expiration dates of January 19 (which includes the Energy and Water Bill which funds Reclamation) and February 2, 2024 (which includes the Interior-EPA Bill which funds USFWS) for funding in the new year.

House GOP Speaker Mike Johnson (R-LA) has indicated he plans to pursue a full-year continuing resolution – meaning Reclamation’s funding would remain at FY 2023 levels for the rest of fiscal year, ending on September 30, 2024 – if a bipartisan agreement is not reached. Senate Appropriations leaders, including Chair Patty Murray (D-WA) and Vice Chair Susan Collins (R-ME) are opposed to the year-long CR approach.

Stay current on the latest current events at [Basin Ag News](https://kwua.org/basin-ag-news/) and on KWUA [Facebook page](https://www.facebook.com/KWUA/).

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In the courts, the Supreme Court has set hearings in two cases to scrutinize the long-standing *Chevron* doctrine, a 1984 decision in *Chevron v. NRDC* which has been pivotal in supporting federal agencies like the EPA and DOI in defending their environmental rules. The *Chevron* doctrine is generally used by courts to defer to a federal agency’s reasonable interpretation of a statute when challenged. The two cases, *Relentless v. Commerce* and *Loper Bright Enterprises v. Raimondo*, challenge NOAA Fisheries’ regulations regarding herring vessel operators’ responsibilities for preventing over-fishing and will be at the center of this showdown. Lower courts previously upheld these rules using the *Chevron* doctrine, prompting conservative lawyers to push for its elimination before a predominantly Republican-appointed Supreme Court.

The outcome of these cases, scheduled for oral argument on January 17, could have far-reaching implications, potentially impacting any federal statute deemed unclear.

Of note in the personnel arena, long-time DOI official Laura Daniel-Davis, who was formally the Principal Deputy Assistant Secretary for Land and Minerals Management, was recently named to the role of acting Deputy Secretary of the Interior, despite failing to gain the support needed to be confirmed in a different position earlier in the Administration due to concerns about her efforts to curtail oil and gas leases and perceived aggressive climate policy. She replaces former Deputy Secretary Tommy Beaudreau who announced his departure in late November.

### FAREWELL AND THANK YOU, JEFF PAYNE

After four years of service, Jeff Payne has stepped down as Deputy Regional Director of Reclamation’s California-Great Basin Region. During his tenure, Mr. Payne has devoted tremendous time and effort to overseeing and guiding the Klamath Project, which is within the California-Great Basin Region. “Jeff became an expert very quickly and was always accessible,” said KWUA Executive Director Paul Simmons. Reclamation is central to the Project’s well-chronicled controversies and conflicts over water. “No one in the Klamath Basin is shy about advocating their positions; Jeff often delivered messages relating to federal processes and decisions,” said KID Executive Director Gene Souza. “I don’t think you can overstate how difficult communicating with this diverse group is.”

With a background in civil engineering, Mr. Payne gained a thorough understanding of the complexities of Project operations. “I have appreciated being able to talk with Jeff about intricate details of water management that he and others in policy positions need to understand,” said TID Manager Brad Kirby.

“I thank Jeff for his diplomacy and patience,” said Klamath Drainage District Manager Scott White. “He also helped push us to the edge of our comfort zones, and sometimes we have needed that.”

In mid-January, Mr. Payne will assume a position as Assistant General Manager of Westlands Water District, the largest agricultural water district in the United States, which is located near Fresno, California. “We wish Jeff the very best,” said Mr. Simmons. “I hope he will have the opportunity to implement thoughtful policies.”
KWUA will again have a significant presence and role at gatherings of irrigation leaders this winter.

The 56th Annual California-Great Basin Water Users Conference (also still known as Mid-Pacific Water Users Conference) will take place in Reno on January 24-26, 2024. This conference is attended by Reclamation personnel from throughout the region, water and irrigation district managers and board members, attorneys, engineers, and others, with over 250 persons expected to participate. KWUA Executive Director Paul Simmons will moderate panel discussions on both the ESA and Klamath River dam removal, and KWUA Water Policy Director Moss Driscoll will be a panelist on the subject of floodplains and flyways. For more information: https://waterusersconference.com/

The Family Farm Alliance will hold its annual conference on February 22-23, 2024, also in Reno. As described by the Alliance, the conference “is an opportunity for farmers and water professionals from throughout the west to focus on topics of critical concern. Each year, a wide variety of speakers address the issues that make a difference to irrigators. Members of Congress and their staff, Administration officials from DOI, EPA and other federal agencies are regulars on the program.” This year, Paul Simmons will participate in a panel regarding ESA administration. For more information: EVENTS | Family Farm Alliance

Agricultural Events Calendar

Stay updated on agricultural-related events in the Klamath Basin

Stay informed about upcoming meetings and workshops, local fairs and markets, 4-H, FFA and youth ag events, tours, auctions, and more.

Click HERE to email your event to be added to the calendar. Please include the name of the ag-event, date, time, location, brief description, and your contact information. All submitted events are reviewed. However, submission does not guarantee an addition to the calendar.