

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 91-94

APPROVAL OF AN AMENDMENT TO THE
WATER QUALITY CONTROL PLAN FOR THE NORTH COAST REGION
ESTABLISHING SITE-SPECIFIC TEMPERATURE OBJECTIVES AND
AN INTERIM ACTION PLAN FOR THE TRINITY RIVER

WHEREAS:

1. The California Regional Water Quality Control Board, North Coast Region (North Coast Regional Board) adopted the Water Quality Control Plan for the North Coast Region (Basin Plan) on April 28, 1988 through Resolution No. 88-121 which was approved by the State Board on November 15, 1988 through Resolution No. 88-62.
2. The North Coast Regional Board adopted Resolution No. 91-61 (Attachment) on May 24, 1991 amending Section 3 (Table 5) and Section 4 of its Basin Plan to include site-specific temperature objectives and an Interim Action Plan for the Trinity River.
3. The North Coast Regional Board identified the need to assess the specific water quality problems related to depletion of the fisheries in the Trinity River system during the 1988 Triennial Review of the North Coast Basin Plan.
4. Section 1505 of the Fish and Game Code describes the 39-mile reach of the Trinity River between Lewiston and the confluence of the North Fork of the Trinity River as a prime spawning area for salmon and steelhead trout.
5. In the Trinity River, steelhead trout and salmon populations have declined by 60 and 80 percent, respectively, since the 1960s; in response, it is State policy to double current material production of these resources by the year 2000 [Section 6902(a)--California Fish and Game Code].
6. The North Coast Regional Board has been requested by the Department of Fish and Game, the U.S. Fish and Wildlife Service, Trinity County, the National Marine Fisheries Service, and the Hoopa Valley Business Council to adopt site-specific temperature objectives for the Trinity River.
7. The proposed water temperature objectives of 60° F for protection of adult spawning salmon and steelhead, in vivo eggs, and juveniles, and 56° F for the protection of egg incubation are widely supported by fisheries scientists.
8. North Coast Regional Board staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act, Public Resources Code Section 21000 et seq.


9. The U.S. Bureau of Reclamation submitted a number of suggestions regarding the implementation of the temperature objectives to protect the Trinity River fishery resources.
10. State Board staff, after reviewing the Basin Plan Amendment and supporting documentation provided by the North Coast Regional Board and other available information, finds that the proposed temperature objectives are attainable and adequate to protect the different life stages of fish in the Trinity River.
11. The proposed Interim Action Plan should provide the basis for a collaborative approach to the management of the fishery resources of the Trinity River and the attainment of the water quality objectives.
12. Section 13245 of the California Water Code specifies that a revision of a water quality control plan adopted by a Regional Board does not become effective until approved by the State Board.

THEREFORE BE IT RESOLVED:

1. That the State Water Resources Control Board approves the amendment to the North Coast Regional Water Quality Control Plan incorporating temperature objectives and an Interim Action Plan for the Trinity River as adopted by the North Coast Regional Board through Resolution No. 91-61 (Attachment) on May 24, 1991.
2. The suggestions made by the U.S. Bureau of Reclamation regarding the implementation of the temperature objectives will be considered at a future water rights hearing.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 26, 1991.


Maureen Marche
Administrative Assistant to the Board

Trinity River

#2018

California Regional Water Quality Control Board
North Coast Region

RESOLUTION NO. 91-61

AMENDING SECTION 3 TABLE 5 AND SECTION 4 OF THE
WATER QUALITY CONTROL PLAN FOR THE NORTH COAST REGION
TO INCLUDE A
SITE-SPECIFIC TEMPERATURE OBJECTIVE
AND AN INTERIM ACTION PLAN FOR THE TRINITY RIVER

- WHEREAS, Section 13240, Division 7, of the California Water Code specifies that each regional water quality control board (regional board) shall formulate and adopt water quality control plans (basin plans) for all areas within the region and shall periodically review and revise those plans; and
- WHEREAS, Section 13241, Division 7, of the California Water Code specifies that each regional board shall establish water quality objectives, which in the regional board's judgment are necessary for the reasonable protection of the beneficial uses and for the prevention of nuisance; and
- WHEREAS, Section 13242, Division 7, of the California Water Code specifies a program of implementation for achieving water quality objectives; and
- WHEREAS, The California Regional Water Quality Control Board, North Coast Region (Regional Board) adopted basin plans for the Klamath River Basin (1A) and the North Coastal Basin on March 20, 1975. The Klamath River Basin Plan was combined with the North Coastal Basin Plan to form the Water Quality Control Plan for the North Coast Region (Basin Plan). The Basin Plan was adopted on April 28, 1988, and approved by the State Water Resources Control Board (State Board) on November 15, 1988. The Regional Board has amended the Basin Plan since then, and the State Board has approved those amendments; and
- WHEREAS, The Trinity River is located within the Klamath River Basin of the North Coast Region, and it supports the following beneficial uses: municipal and domestic water supply, agricultural supply, groundwater recharge, freshwater replenishment, hydropower generation, water contact and noncontact recreation, cold freshwater habitat, wildlife habitat, and fish migration and spawning; and
- WHEREAS, Section 3 of the Basin Plan contains general and specific water quality objectives for several classes of waters within the North Coast Region. A set of specific objectives applies to Inland Surface Waters, Enclosed Bays, and Estuaries within the North Coast Region. Section 4 of the Basin Plan contains action plans for implementing the water quality objectives; and

- WHEREAS, In its last (1988) Triennial Review of the Basin Plan, the Regional Board identified the need to update the Basin Plan to include a more thorough assessment of the specific water quality problems of flow depletion, temperature, and fisheries in the Trinity River system as a high priority planning issue; and
- WHEREAS, The Regional Board approved Resolution No. 89-157 on December 5, 1989, which stated its desire to establish achievable water quality objectives that will protect and maintain an optimal fisheries habitat in the Trinity River watershed. The Resolution states the intent of the Regional Board to coordinate closely with the Department of Fish and Game, the United States Fish and Wildlife Service, and the Bureau of Reclamation in the preparation of the objectives; and
- WHEREAS, Section 1505 of the Fish and Game Code describes the approximately 39-mile reach of the Trinity River which extends from Lewiston to the confluence with the North Fork of the Trinity River as a prime spawning area for salmon and steelhead; and
- WHEREAS, The Regional Board has received requests from the Department of Fish and Game, the United States Fish and Wildlife Service, Trinity County, the National Marine Fisheries Service, and the Hoopa Valley Business Council to include a site-specific temperature objective for the Trinity River; and
- WHEREAS, Fishery scientists have established a water temperature of 56°F to be appropriate for the spawning, egg incubation and juvenile life history stages of salmon and steelhead, and a water temperature of 60°F to be appropriate for the protection of adult chinook salmon and in vivo eggs prior to spawning; and
- WHEREAS, A Notice of Filing and Public Hearing, a Public Report containing the text of a proposed site-specific temperature objective and an interim action plan for the Trinity River, and environmental documentation functionally equivalent to the California Environmental Quality Act requirements were transmitted to interested individuals and public agencies for review and comment; and
- WHEREAS, The Regional Board held a public hearing on April 25, 1991, in Yreka, California, and on May 24, 1991, in Rohnert Park, California, and carefully considered all testimony and comments received on this matter and has determined that adoption of the proposed Basin Plan amendment will not have a significant adverse impact on the environment.

THEREFORE BE IT RESOLVED, that Section 3, Table 5, Specific Water Quality Objectives for the North Coast Region, and Section 4 of the Water Quality Control Plan for the North Coast Region be amended as follows (proposed language is shown by bold print and underlining; proposed deleted language is shown by strikeover notation).

TABLE 5

SPECIFIC WATER QUALITY OBJECTIVES FOR NORTH COAST REGION

Unit	Specific Conductance (micromhos) @ 77 F.		Total Dissolved Solids (mg/l)		Dissolved Oxygen (mg/l)		Hydrogen Ion (pH)		Hardness (mg/l)	Boron (mg/l)	
	90%		90%		90%		Max	Min		Med	90%
	Value	Med ¹	Value	Med	Min	Value			Med		Value
<u>Lost River</u>											
Clear Lake Reservoir & Upper Lake River	300	200			5.0	8.0	9.0	7.0	60	0.5	0.1
Lower Lost River	1000	700			5.0	-	9.0	7.0	-	0.5	0.1
Other Streams	250	150			7.0	8.0	8.4	7.0	50	0.2	0.1
Tule Lake	1300	900			5.0	-	9.0	7.0	400	-	-
Lower Klamath Lake	1150	850			5.0	-	9.0	7.0	400	-	-
Groundwaters ²	1100	500			-	-	8.5	7.0	250	0.3	0.2
<u>Butte Valley</u>											
Streams	150	100			7.0	9.0	8.5	7.0	30	0.1	0.0
Meiss Lake	2000	1300			7.0	8.0	9.0	7.5	100	0.3	0.1
Groundwaters ²	800	400			-	-	8.5	5.5	120	0.2	0.1
<u>Shasta Valley</u>											
Shasta River	800	600			7.0	9.0	8.5	7.0	220	1.0	0.5
Other Streams	700	400			7.0	9.0	8.5	7.0	200	0.5	0.1
Lake Shastina	300	250			6.0	9.0	8.5	7.0	120	0.4	0.2
Groundwaters ²	800	500			-	-	8.5	7.0	180	1.0	0.3
<u>Scott Valley</u>											
Scott River	350	250			7.0	9.0	8.5	7.0	100	0.4	0.1
Other Streams	400	275			7.0	9.0	8.5	7.0	120	0.2	0.1
Groundwaters ²	500	250			-	-	8.0	7.0	120	0.1	0.1
<u>Salmon River</u>											
All Streams	150	125			9.0	10.0	8.5	7.0	60	0.1	0.0
<u>Upper Klamath River</u>											
Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs	425	275			7.0	10.0	8.5	7.0	60	0.3	0.2
Klamath River below Iron Gate Dam	350	275			8.0	10.0	8.5	7.0	80	0.5	0.2
Other Streams	300	150			7.0	9.0	8.5	7.0	60	0.1	0.0
Groundwaters ²	750	600			-	-	8.5	7.5	200	0.3	0.1
<u>Collegate River</u>											
All Streams	250	175			7.0	9.0	8.5	7.0	60		

¹ Median values represent the 50 percentile values of the monthly means for a calendar year.

² Value may vary depending on the aquifer being sampled. This value is the result of sampling over time, and as pumped, from more than one aquifer.

TABLE 5 (CONTINUED)

SPECIFIC WATER QUALITY OBJECTIVES FOR NORTH COAST REGION

Unit	Specific Conductance (micromhos) @ 77 F.		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/l)	Boron (mg/l)	
	90% Value	Med ¹	90% Value	Med	Min	90% Value	Med	Max	Min	Med	90% Value	Med
<u>Upper Trinity River</u>												
Trinity River ³	200	175			7.0	10.0		8.5	7.0	80	0.1	0.0
Other Streams	200	150			7.0	10.0		8.5	7.0	60	0.0	0.0
<u>Lake Engle and Leviston Reservoir</u>												
	200	150			7.0	10.0		8.5	7.0	60	0.0	0.0
<u>Mayfork Creek</u>												
Mayfork Creek	400	275			7.0	9.0		8.5	7.0	150	0.2	0.1
Other Streams	300	250			7.0	9.0		8.5	7.0	125	0.0	0.0
Ewing Reservoir	250	200			7.0	9.0		8.0	6.5	150	0.1	0.0
Groundwaters ²	350	225			-	-		8.5	7.0	100	0.2	0.1
<u>S.F. Trinity River</u>												
S.F. Trinity River	275	200			7.0	10.0		8.5	7.0	100	0.2	0.0
Other Streams	250	175			7.0	9.0		8.5	7.0	100	0.0	0.0
<u>Lower Trinity River</u>												
Trinity River	275	200			8.0	10.0		8.5	7.0	100	0.2	0.0
Other Streams	250	200			9.0	10.0		8.5	7.0	100	0.1	0.0
Groundwaters ²	200	150			-	-		8.5	7.0	75	0.1	0.1
<u>Lower Klamath River</u>												
Klamath River	300 ^{3/4}	200 ^{3/4}			8.0	10.0		8.5	7.0	75 ^{3/4}	0.5 ^{3/4}	0.2 ^{3/4}
Other Streams	200 ^{3/4}	125 ^{3/4}			8.0	10.0		8.5	6.5	25 ^{3/4}	0.1 ^{3/4}	0.0 ^{3/4}
Groundwater ²	300	225			-	-		8.5	6.5	100	0.1	0.0
<u>Illinois River</u>												
All Streams	200	125			8.0	10.0		8.5	7.0	75	0.1	0.0
<u>Winchuck River</u>												
All Streams	200 ^{3/4}	125 ^{3/4}			8.0	10.0		8.5	7.0	50	0.0	0.0
<u>Smith River</u>												
Smith River-Main Fks	200	125			8.0	11.0		8.5	7.0	60	0.1	0.1
Other Streams	150 ^{3/4}	125 ^{3/4}			7.0	10.0		8.5	7.0	60	0.1	0.0
<u>Smith River Plain</u>												
Smith River	200 ^{3/4}	150 ^{3/4}			8.0	11.0		8.5	7.0	60 ^{3/4}	0.1 ^{3/4}	0.0 ^{3/4}
Other Streams	150 ^{3/4}	125 ^{3/4}			7.0	10.0		8.5	6.5	60 ^{3/4}	0.1 ^{3/4}	0.0 ^{3/4}
Lakes Earl & Talawa	-	-			7.0	9.0		8.5	6.5	-	-	-
Groundwaters ²	350	100			-	-		8.5	6.5	75	1.0	0.0
Crescent City Harbor	-	-			-	-		-	-	-	-	-

¹ Median values represent the 50 percentile values of the monthly means for a calendar year.

² Value may vary depending on the aquifer being sampled. This value is the result of sampling over time, and as pumped, from more than one aquifer.

³ Daily Average Not to Exceed

Period	River Reach
60F. Jul 1 - Sep 14	Lewiston Dam to Douglas City Bridge
56F. Sep 15 - Oct 1	Lewiston Dam to Douglas City Bridge
56F. Oct 1 - Dec 31	Lewiston Dam to confluence of North Fork Trinity River

^{3/4} Does not apply to estuarine areas.

TABLE 5 (CONTINUED)

SPECIFIC WATER QUALITY OBJECTIVES FOR NORTH COAST REGION

Unit	Specific Conductance (micromhos) @ 77 F.		Total Dissolved Solids (mg/l)		Dissolved Oxygen (mg/l)			Hydrogen Ion (pH)		Hardness (mg/l)	Boron (mg/l)	
	90%		90%		90%						90%	
	Value	Med ¹	Value	Med	Min	Value	Med	Max	Min	Med	Value	Med
Redwood Creek	220	125	115	75	7.0	7.5	10.0	8.5	6.5			
Mad River	300	150	160	90	7.0	7.5	10.0	8.5	6.5			
Eureka Plain (Humboldt Bay)	---	---	---	---	6.0	6.2	7.0	8.5	#5			
Eel River	375	225	275	140	7.0	7.5	10.0	8.5	6.5			
Van Duzen River	375	175	200	100	7.0	7.5	10.0	8.5	6.5			
South Fork Eel River	350	200	200	120	7.0	7.5	10.0	8.5	6.5			
Middle Fork Eel River	450	200	230	130	7.0	7.5	10.0	8.5	6.5			
Outlet Creek	400	200	230	125	7.0	7.5	10.0	8.5	6.5			
Bear River	390	255	240	150	7.0	7.5	10.0	8.5	6.5			
Mattole River	300	170	170	105	7.0	7.5	10.0	8.5	6.5			
Ten Mile River	---	---	---	---	7.0	7.5	10.0	8.5	6.5			
Noyo River	185	150	120	105	7.0	7.5	10.0	8.5	6.5			
Jug Handle Creek and Albion River	---	---	---	---	7.0	7.5	10.0	8.5	6.5			
Big River	300	195	190	130	7.0	7.5	10.0	8.5	6.5			
Navarro River	285	250	170	150	7.0	7.5	10.0	8.5	6.5			
Garcia River	---	---	---	---	7.0	7.5	10.0	8.5	6.5			
Gualala River	---	---	---	---	7.0	7.5	10.0	8.5	6.5			
Russian River (upstream) ³⁶	320	250	170	150	7.0	7.5	10.0	8.5	6.5			
Russian River (downstream) ⁶⁷	375	285	200	170	7.0	7.5	10.0	8.5	6.5			
Laguna de Santa Rosa	---	---	---	---	7.0	7.5	10.0	8.5	6.5			
Bodega Bay	---	---	---	---	6.0	6.2	7.0	8.5	#5			
Coastal Waters ⁷⁸	---	---	---	---	#5	---	#9	9.0	9.0			

¹ Median values represent the 50 percentile values of the monthly means for a calendar year.

² Value may vary depending on the aquifer being sampled. This value is the result of sampling over time, and as pumped, from more than one aquifer.

³ Daily Average Not to Exceed Period River Reach

60F. Jul 1 - Sep 14 Lewiston Dam to Douglas City Bridge

56F. Sep 15 - Oct 1 Lewiston Dam to Douglas City Bridge

56F. Oct 1 - Dec 31 Lewiston Dam to confluence of North Fork Trinity River

³⁶ Does not apply to estuarine areas.

^{#5} pH shall not be depressed below natural background levels.

³⁶ Russian River (upstream) refers to the mainstem river upstream of its confluence with Laguna de Santa Rosa.

⁶⁷ Russian River (downstream) refers to the mainstem river downstream of its confluence with Laguna de Santa Rosa

⁷⁸ The State's Ocean Plan applies to all North Coastal Basin coastal waters.

⁸⁹ Dissolved oxygen concentrations shall not at any time be depressed more than 10 percent from that which occurs naturally.

^{9.0} pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

Insert into Section 4 of the Basin Plan, placing it in order after the Action Plan for the Santa Rosa Area and before the Action Plan for Dispersed Point Discharge, the following:

INTERIM ACTION PLAN FOR THE TRINITY RIVER

The purposes of this action plan are to describe those activities in the Trinity River watershed which implement the objectives listed below and to ensure a multi-agency collaborative approach to attainment of the objectives.

The Trinity River Division of the Central Valley Project, constructed in 1963 and operated by the United States Bureau of Reclamation, is a major water development project providing the transfer of water from the Trinity River to the Sacramento River Basin of California. Key features of the Trinity River Division are Lewiston Dam, Trinity Dam and facilities which provide the diversion of runoff from the Trinity River watershed into the Sacramento River Basin. The construction of the dams and the diversion of approximately 80 percent of the natural flows of the Trinity River resulted in significant changes in the river.

The reduced flows resulted in changes to the river's temperature regime and disrupted physical cues for migration and spawning of salmon. To mitigate for the loss of fisheries habitat resulting from the project construction, the Trinity River Fish Hatchery was constructed at the base of Lewiston Dam. The fish populations have not been sustained, however, and both salmon and steelhead trout populations have declined since 1964, some stocks to as little as 10 percent of former levels. Efforts are currently underway to expand and improve the operations of the fish hatchery.

To the extent that factors are controllable as stated in Section 3 of this plan, the following temperature objectives shall apply to the activities in the Trinity River.

<u>Daily Average Not to Exceed</u>	<u>Period</u>	<u>River Reach</u>
<u>60°F</u>	<u>July 1 - Sept. 14</u>	<u>Lewiston Dam to Douglas City Bridge</u>
<u>56°F</u>	<u>Sept. 15 - Oct. 1</u>	<u>Lewiston Dam to Douglas City Bridge</u>
<u>56°F</u>	<u>Oct. 1 - Dec. 31</u>	<u>Lewiston Dam to confluence of North Fork Trinity River</u>

The Regional Board recognizes that the controllability of temperatures in the Trinity River downstream of Trinity and Lewiston Reservoirs is dependent on both climatic conditions and the operation of diversions to the Sacramento River.

The following ongoing efforts shall implement the temperature objective for the Trinity River:

The Trinity River Restoration Act (P.L. 98-541) authorized the Secretary of the Interior to formulate and implement a management program to restore fish and wildlife populations in the Trinity River Basin. To that end, the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game formed the Trinity River Task Force in 1971 to study the fish and wildlife problems of the basin and to prepare a plan for identification and mitigation of the problems. Membership in the Trinity River Fishery Restoration Task Force now also includes the U.S. Bureau of Indian Affairs, the California Department of Water Resources, Trinity County, Humboldt County, the Hoopa Valley Tribe, the U.S. Forest Service, the Bureau of Land Management, the U.S. Soil Conservation Service, the National Marine Fisheries Service, the California Department of Forestry and Fire Protection, and the State Water Resources Control Board.

The Trinity River Task Force shall seek to achieve the temperature objectives listed above through its individual and collective authorities. In addition, the authorities shall strive to optimize Trinity River restoration efforts through the efficient and balanced use of cold water reserves from Trinity and Lewiston Reservoirs.

In 1981, the U.S. Fish and Wildlife Service and the Water and Power Resources Service of the Central Valley Project entered into an agreement, signed by the Secretary of the Interior, to work cooperatively to halt further fishery declines and to begin an effective restoration program in the Trinity River. In recognizing the problem of balancing the needs to sustain the fishery resources in the Trinity River and the uses outside of the basin for water and power, the agreement established flow allocations for normal, dry, and critically dry years for a period of twelve years. At the end of the twelve-year evaluation period, the agreement calls for the U.S. Fish and Wildlife Service to submit a report to the Secretary of the Interior which summarizes the effectiveness of restoration of flows and recommends an appropriate course of action for future management of Trinity River flows. The twelve-year evaluation period began in 1985 and is scheduled for completion in 1996. The agreement also recognizes the need for the completion of a Fish and Wildlife Management Plan by the Trinity River Task Force, and its implementation to successfully restore the anadromous resources of the Trinity River Basin.

Because of the successive dry-weather conditions since 1985 and the subsequent release of reduced flows to the Trinity River, the Secretary of the Interior amended the 1981 agreement to provide increased flows to the Trinity River in 1991 and in successive years until the U.S. Fish and Wildlife Service completes its study of the Trinity River flows.

As information from the twelve-year study becomes available, the Regional Board shall review the effectiveness of this action plan in attaining the water temperature objectives.

In 1985 the Bureau of Reclamation entered into a cooperative agreement with the California Department of Fish and Game, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service to coordinate the operations of the Trinity River Division which impact the fishery resources. To that end, the agencies together attempt to establish the timing and the proportion of releases from Trinity Dam and Lewiston Dam which would most efficiently utilize the cold water reserves available for use by the anadromous fishery.

The above agencies shall collaborate to implement the objectives set forth in this plan, and shall apprise the Regional Board of the progress of this effort on an annual basis.

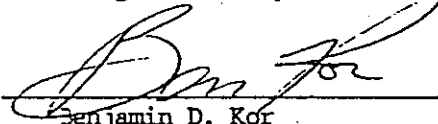
The State Board issued Orders WR 90-5 and 91-01 on May 5, 1990 and January 10, 1991, which set terms and conditions for fishery protection and set a schedule for completion of tasks for the thirty-two water rights permits, licenses, permitted applications and licenced applications for the Bureau of Reclamation's Central Valley Project. The orders included seven pending permitted applications for the diversion of cold water reserves from the Trinity River. The Orders recognized that protection of the upper Sacramento River fishery by means of water diversions from the Trinity River may adversely affect the Trinity River if not properly controlled, and chose to prevent and avoid any adverse effects to the Trinity River fishery as a result of the Order. Board will consider the comprehensive protection for the Trinity River fishery in a separate water rights proceeding in the near future. The State Board will consider the objectives set forth in this action plan in its future water rights proceedings for the Trinity River.

This action plan forms the basis for a collaborative approach to the management of fishery resources in the Trinity River and attainment of the water quality objectives.

The Regional Board will periodically review this action plan and information resulting from temperature and fishery studies in the drainage and other areas to determine the need for modification.

Certification

I, Benjamin D. Kor, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality control Board, North Coast Region, on May 24, 1991.



Benjamin D. Kor
Executive Officer

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