

UNITED STATES
ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

RO Inquiry Report No. 50-219/73-03Q

Licensee: Jersey Central Power and Light Company (JCPL)
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

License No.: DPR-16

Facility: Oyster Creek, Forked River, New Jersey

Descriptive Title: Fish Kill

Prepared by: J. P. Stohr
C. O. Gallina, Ph.D., Radiation Specialist

A. Date and Manner AEC was Informed:

Articles were observed in local newspapers (commencing on or about February 17, 1973) and the matter was discussed with RO:I consultant, Mr. John Reintjes (Atlantic Estuarine Fisheries Center, Beaufort, North Carolina) who had been in communication with JCPL personnel and other agencies on this subject. Also, J. P. Stohr, RO:I, was at Oyster Creek site on February 21, 1973 and observed dead fish along the banks and floating in the discharge canal as well as seagull activity in the area.

B. Description of Particular Event or Circumstance:

Information obtained from the licensee and Mr. Reintjes indicated that there had been a fish kill (thousands of 1 1/2 to 4 inch menhaden) commencing on or about February 16 and 17, 1973 in the Oyster Creek discharge canal. The nuclear power plant had been operating prior to and during the initial phases of this kill.

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Not Previously Filmed.

Cold shock does not appear to have been the direct cause of the fish dying during this period of time. Subsequent similar fish kills were reported on February 18 and on February 21 and 22, 1973. The licensee has stated that the subsequent kills were, in effect, continuing phases of the original kill which commenced on February 16, 1973. The correlation of these kills with any particular plant activity is not known at this time, although the licensee reported that the plant was shutdown for approximately eight hours beginning late on February 18, 1973 during which time the discharge canal water temperature dropped from an ambient of approximately 54°F to approximately 33°F. The licensee stated that it was his belief that the shutdown may have accelerated the fish kill which was already in progress.

C. Action by Licensee:

The licensee is evaluating these occurrences and has stated that RO:I will be informed as to the results of their findings.

Fish Kill Along Oyster Creek To Be March Meeting Topic

Asbury Park 3-8-73

WARETOWN — Ocean Township Mayor Engel Sprague says officials of the Jersey Central Power & Light Co. have agreed to meet the public March 14 for questioning about the recent fish kill in Oyster Creek.

Mayor Sprague last night said the meeting has been scheduled for 8 p.m. at the Waretown Fire House, Railroad Ave.

JCP&L officials also are expected to answer questions about the anticipated ecological impact of the additional nuclear power plant which has been proposed near the existing Lacey Township power facility.

Mayor Sprague said an explanation also is expected about an estimated 50,000 gallons of polluted water being kept in a holding tank after it mistakenly leaked from the plant's nuclear reactor core.

Thousands of fish have been killed in the creek in recent months following various JCP&L plant shutdowns which cause a rapid drop in the creek's water temperature. Federal biologists are studying how the fish, mostly menhaden, were killed.

Meanwhile, Mayor Sprague said the date for a meeting called with county, state, and

federal legislative leaders about possible action against JCP&L has not been finalized. But he said he was pleased JCP&L has agreed to supply the county Board of

Freeholders with a quarterly report of plant activities which in turn will be forwarded to the governing bodies of Lacey and Ocean townships.

Fish Deaths At A-Plant Continuing

WARETOWN — A massive fish kill — numbering perhaps in the hundreds of thousands — greeted residents along Oyster Creek here yesterday morning, the third and by far the largest in the last six days downstream from the Jersey Central Power and Light Co. nuclear generating plant.

The latest kill and the kill reported last Friday have baffled biologists from JCP&L because the nuclear plant had not been shut down, causing a sudden drop in the temperature of the creek that has been blamed for a massive kill a year ago and another last month.

Edwin Sherratt, regional director of public relations for the utility company, said consulting biologists are continuing their study of the recent fish kills.

He said John Rentjes, a federal marine fisheries biologist, has asked the utility to gather the dead fish for examination at the Sandy Hook marine labs.

Mr. Sherratt said Mr. Rentjes was unwilling to guess as to the reason for red blotches on the fish.

Henry Kurtz, co-owner of the Oyster Creek Marina, said biologists from the federal laboratory at Sandy Hook, were skindiving in various parts of the creek, taking samples of the dead fish and the water.

Mr. Kurtz said one of the biologists told him they found many fish still in their death throes as they explored areas of the creek late yesterday. Mr. Kurtz said the biologist told him hundreds of thousands of fish had been killed and the bottom of the creek was covered with them.

The first of the latest kills was reported Friday and Mr. Sherratt said the plant was operating then. The second kill was reported Sunday but Mr. Sherratt said the plant shut down for several hours late Saturday night and wasn't in full operation again until late Sunday morning.

But from Sunday on, the plant has been operating at normal capacity and it was

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Times 2 23 73
Osborne Press

Federal Biologists Probing Third Fish Kills at A-Plant

From Page 1
reported by Mr. Kurtz that the temperature of the water in the creek has not dropped below 44 degrees since Sunday and was in the mid-fifties yesterday morning.

Meanwhile, Ocean Township Committeeman Fred Landgraber visited Cyster Creek yesterday morning and leveled a blast at JCP&L officials for not agreeing to meet with township officials.

Mr. Landgraber said company officials are "taking an attitude, of the public be damned," as he stood looking at several hundred dead fish floating near the bulkhead at the Oyster Creek Marina.

Mr. Kurtz said the fish kill yesterday was new, adding the creek was "completely clean of dead fish Tuesday."

Thousands of sea gulls were observed flying up and down the creek. Suddenly, several hundreds would swoop down on a mass of dead fish floating in the creek and pick the area clean in minutes before taking off for another area.

Marinas in the area were awash with thousands of the menhaden the gulls weren't bothering with as long as there was plenty to eat in the mainstream. Most of the

menhaden were from two to four inches long but some ranged up to seven or eight inches in length.

Mr. Sherratt said he met yesterday with consulting biologists who said they could offer no explanation for the fish kill while the plant was operating. He said they assume thermal shock killed the fish when the water temperature dropped when the plant shut down.

Mr. Sherratt said the biologists could offer no reason either for the fact so many menhaden survived earlier fish kills only to die during a later kill except that perhaps they were not in Oyster Creek at the time.

He said some biologists felt it possible some menhaden were living in Barnegat Bay, found their way into the warmer waters of Oyster Creek and then perished from the sudden drop in temperature.

Mr. Sherratt explained the temperature dropped suddenly Sunday morning during a test conducted by the Atomic Energy Commission (AEC) late Saturday night.

He explained the output of the plant was dropped to half the normal 640,000-kilowatt output during the test when

the nuclear reactor shut down. He said it was started up again about 1 a.m. Sunday but it was late in the morning when the plant was back at normal capacity.

He said this caused a sudden drop in the temperature of the creek which may have caused Sunday's kill.

Biologists from state and federal laboratories were on the scene yesterday taking samples of fish for study but none were available for comment.

A large fish kill took place a few days after the plant shut down Dec. 29 because of a misfire. The plant stayed closed for 11 days but had been operating since that time until Sunday.

Mr. Sherratt disputed the charge by Ocean Township officials that company representatives won't meet with local officials. He said the company did turn down a request for a meeting this week because those who take part in such a meeting were involved with an environmental report for an AEC hearing on the proposed Forked River nuclear generating station to be located near the Oyster Creek plant.

A-Plant Shutdown Data Is Demanded

WARETOWN — The Ocean Township Committee has called for help from federal, state, and county officials to force the Jersey Central Power & Light Co. to supply the township with information about its nuclear plant.

Mayor Engel Sprague last night said the Committee will call a meeting — “hopefully for Tuesday” — to see if officials can offer some legislation which would force the company to notify adjacent municipalities when there is a plant shutdown or any type of malfunction.

“At least that way when we get calls from our citizens we will be able to offer some explanation, whether it's good or bad,” said Mayor Sprague.

He said the Committee has been barraged with requests for information from local residents incensed by the recent series of fish kills in Oyster Creek. And he said

the power company has, in effect, left the township in the dark about the series of plant shutdowns which drop the water temperature in the creek.

Mayor Sprague said he hoped to get some solid help from those invited to the meeting. They include Rep. Charles Sandman Jr., R-N.J., Sen. John F. Brown, Sen. Barry T. Parker, and Assemblymen Franklin H. Berry Jr., James J. Mancini, and Benjamin H. Mabie, and Ocean County Freeholder Director Joseph Portash.

“As a township we're limited in what we can do, but we have to find out what kind of help we can get,” Mayor Sprague said at a Committee caucus.

Mayor Sprague said he was told by a JCP&L spokesman last night the power company would notify the Committee by early next

month about the recent breakdown at the plant.

“Our concern is that the same thing happened a year ago and there doesn't seem to have been any corrective action taken — nothing is being done,” he said.

Last month the Committee asked the Atomic Energy Commission to make JCP&L insure that sudden drops in the Oyster Creek water temperature would not recur. Mayor Sprague said the AEC has acknowledged the request but has not responded further.

Meanwhile, Committeeman Emile Dupont said he has been informed an environmental hearing would be scheduled April 16 by the AEC to examine the impact of the next nuclear power plant proposed by JCP&L for Lacey Township.

Expert blames cold snap for fish kill near A-plant

By GORDON BISHOP

A "thermal shock" brought on by a seasonal cold front apparently killed hundreds of thousands of warm-water fish near the site of a nuclear generating plant in Ocean County, according to Dr. Jack B. Pearce, director of Sandy Hook Marine Laboratories. Dr. Pearce said yesterday

the nuclear plant, owned and operated by Jersey Central Power and Light Co., "probably did not directly cause the fish kill" eight days ago.

The marine biologist disclosed that the cold front that crossed over New Jersey a week ago may have lowered the temperature enough to kill whatever warmwater fish

were in Oyster Creek, the tributary that provides water to the generating station.

"There are many other cold water species of fish in Oyster Creek that have not been affected," Dr. Pearce said.

The affected fish were the Atlantic menhaden or "moss bunkers," which normally migrate to the coastal waters off the Carolinas in the winter months but remained in the Jersey channel instead because its waters are kept warm by thermal discharges from the nuclear plant.

Remappers work past 'deadline'

By FRED HILLMANN

The State Apportionment Commission yesterday continued work on a tightly drawn legislative remap for New Jersey, while ordering further study of a U.S. Supreme Court decision permitting more lenient standards in mapping state districts.

Members of the commission, who had hoped to produce a finished legislative map yesterday, said they continued their work because the ramifications of the high court ruling are not yet clear.

"At this point we don't know what it means," said Mercer County Democratic Chairman Richard J. Coffee, co-chairman of the bipartisan commission.

Coffee said there is a "strong possibility" the commission will have to finish its plan as ordered. "We are doing everything possible to prepare our-

self," he said. The commission's plan that allows a maximum deviation of 16.4 per cent from the average legislative district.

In permitting greater leeway from the one-man, one-vote rule, the court also ordered that the integrity of county lines should be maintained where possible.

The State Supreme Court ruling last year overturning New Jersey's legislative map held that existing leeways, as high as 23 per cent, were too great a deviation from the one-man, one-vote principle.

The state top court ordered a remap — providing for 40 districts, each with one senator and two assemblymen — and, in a significant move, struck down county lines as the basis of redistricting.

Coffee said the commission has instructed its legal coun-

sel to study the court decision. Dr. Pearce said the menhaden are "sinkers," in that they sink to the bottom of a river as soon as they succumb to shock. After decomposition begins, the fish float to the surface. The cycle can take from two days to a week.

"We've had reports that there were several fish kills in Oyster Creek," Dr. Pearce said, "but it was probably just that one thermal shock last week."

The creek is 20 feet deep and more than a mile long.

Thousands of menhaden were killed in January when the nuclear plant was shut down for maintenance. Dr. Pearce said the surviving menhaden may have been "under great stress" and the first cold front that came along killed them.

The Sandy Hook Marine Laboratories is also conducting an analysis of the fish to determine whether radiation or toxic chemicals had anything to do with the recent kill.

Ocean Twp. puts heat on A-plants over shutdowns

By HERBERT B. FISHBERG

Ocean Township officials, who claim a nuclear generating station at Oyster Creek has caused four fish kills in the last year, said yesterday they will seek state legislation requiring nuclear plants to inform municipalities of all operating shutdowns for malfunctions.

Engel Sprague, mayor of the Ocean County municipality, said the township committee will try to meet with the state senators and assemblymen from Ocean County to have them introduce the legislation.

He added that he plans to meet with officials from Jersey Central Power and Light Co., which operates the Oyster Creek plant, to try to find some solution to the problem. Sprague explained the purpose of the legislation would be to establish better communication between the plant officials and community.

While admitting the plant was responsible for the first fish kill in the creek on January 25, 1972, the company has denied it was responsible for three subsequent kills last December and last Friday and Sunday.

State and federal marine biologists have attributed the fish kills which involve mostly the salt water moss

bunkers, an inedible bait herring, to sudden drops in water temperature, called thermal shock.

Except for last Friday's kill, which involved thousands of fish, the kills occurred at the same times the plant was shut down for required testing and maintenance.

When in operation, the plant discharges heated reactor water into the creek, which attracts the mossbunkers. These fish normally migrate to warmer waters south of the Jersey coast during the winter months.

Ocean Township's health board chairman, William Senkbeil, said that he believes the plant was also shut down last Thursday night due to a malfunction.

A company spokesman has denied, however, that the plant was shut down last Thursday.

Senkbeil said yesterday that thousands of decomposing mossbunkers, also known as Atlantic menhaden, were rising to the surface along the entire length of the creek. All were young fish, he explained, that must have been spawned during last summer and fall.

The mossbunkers, which are caught by Ocean County fishermen during the summer, are used for cat food and a number of products as well as bait.

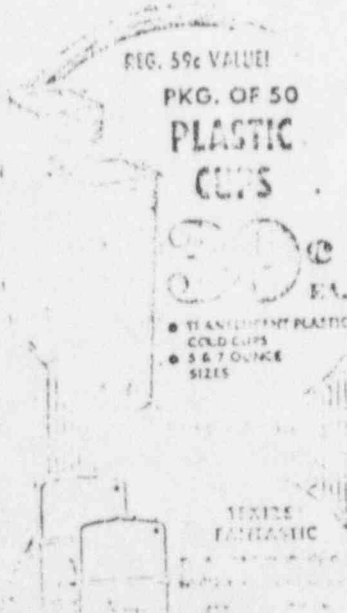
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TIME TO DISCOVER THE BARGAIN STORES

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Dead fish float in Oyster Creek and line its banks within a mile of the Jersey Central Power & Light Co.'s nuclear power generating station. (Press Photo)

Third Fish Kill Along Oyster Creek Occurs Within Mile of Power Plant

WARETOWN — The second fish kill in less than two months and third in 13 months hit Oyster Creek yesterday within a mile of the Jersey Central Power & Light Co.'s nuclear power generating station. Although the kill was less than the other two, it was the first while the plant was in operation.

Edwin Sherratt, regional director of public relations for JCP&L, said the company would investigate the fish kill. Several thousand men-

haden between two and three inches long were floating in the creek as hundreds of sea gulls filled the air.

Mr. Sherratt said the 50,000 gallons of contaminated water stored in a special cavity in the basement of the building had absolutely nothing to do with the death of the menhaden.

A mishap Dec. 29 shut down the plant for 10 days and may have led to the death of several thousand larger menhaden caught in the creek when the water temperature dropped sudden-

ly. It was during this mishap that 50,000 gallons of water became contaminated, but none of it left the plant storage facility.

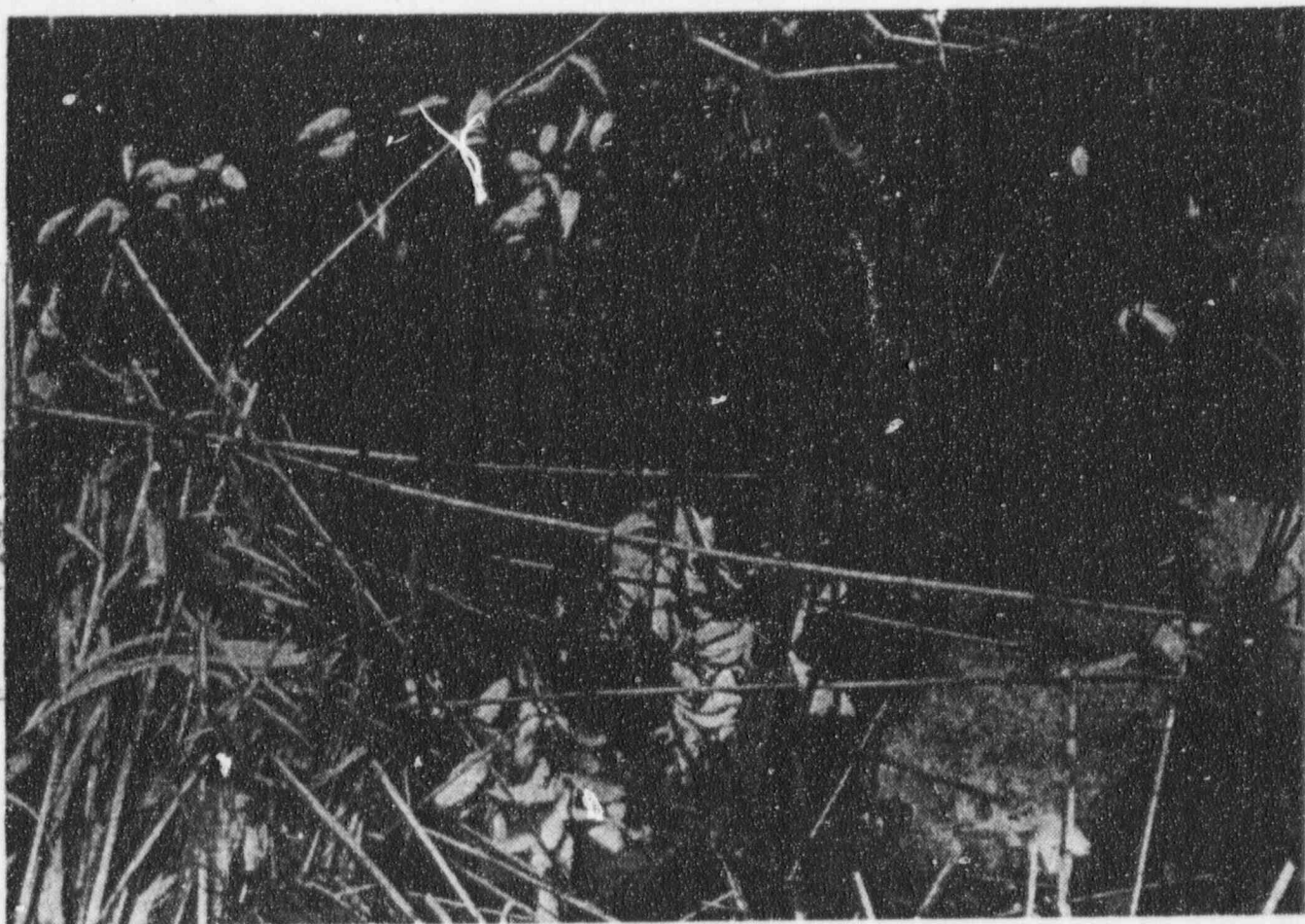
The fish kill yesterday was reported by Charles Kurtz, owner of the Oyster Creek Marina, who said he got calls from several residents of the area.

Mr. Sherratt said he had no idea what killed the tiny menhaden but biologists would investigate. Many believe the prior fish kills resulted from the fish being

trapped in water below the temperature their systems can tolerate.

But Mr. Sherratt stated it definitely had nothing to do with the contaminated water. He said that water is still in the plant and can't get into Oyster Creek.

A faulty valve that was supposed to release about 100 gallons of contaminated water into a basement cavity failed to close properly and kept leaking until 50,000 gallons spilled into a cavity built for that purpose.



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Police to Continue Pro

THE DAILY

Middletown-Bayshore

REGISTER

Monmouth County's Outstanding Home Newspaper

RED BANK, N.J. MONDAY, FEBRUARY 19, 1973

Hits JCPL For Ocean Fish Kill

OCEAN TOWNSHIP (AP) — The mayor of this Ocean County community says he'll consult the State Legislature in an effort to bring action against the Jersey Central Power and Light Co. following the second fish kill in three days in Oyster Creek.

Mayor Engel Sprague said yesterday that he found dead fish floating in the creek and lying along the shore. Tests revealed that the water temperature had dropped from 48 to 28 degrees earlier in the day, according to the mayor.

Last Friday, a similar fish kill took place in the creek, but preliminary tests did not indicate that a temperature drop had taken place, Sprague said.

Other fish kills in the creek occurred last month and in January, 1972, and environmentalist blamed both on the power company.

"We are getting nowhere with JCP&L Co.," Sprague said Sunday. "We seem to be getting the runaround."

The mayor said he would meet with local legislators in an effort to bring the situation to the attention of state authorities.

Company officials have refused to comment on the fish kills, according to Sprague.

Expert blames cold snap for fish kill near A-plant

By GORDON BISHOP

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The Sandy Hook Marine Laboratories is also conducting an analysis of the fish to determine whether radiation or toxic chemicals had anything to do with the recent kill.

A second Shore fish kill baffles marine scientists

The second massive fish kill in Ocean County's Oyster Creek in as little as two months occurred yesterday but has left state marine scientists guessing as to the cause.

Henry Kurtz, a marina operator at the creek in Waretown, reported sighting thousands of dead moss bunkers

in the early morning hours floating on the creek less than a mile from Jersey Central Power and Light Co.'s Oyster Creek nuclear generating plant.

The fish, a warm water inedible herring also known as Atlantic Manhaden, was the only species observed yesterday.

State marine scientists who took samples of the kill, had not determined what caused it yesterday.

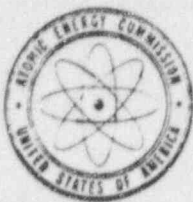
The scientists attributed the last fish kill in December to thermal shock produced when the nuclear plant was shut off for routine maintenance.

The plant, when in operation, discharges heated reactor water into the creek. This process creates an artificial environment for the moss bunkers which normally migrate south to warmer waters during the winter.

• • •

When the plant was shut off for routine maintenance last December, cold water continued to be pumped in and discharged into the creek, causing a rapid decline in the temperature.

Yesterday, however, the plant was in operation, a company spokesman reported. He said the plant's operation had not stopped since it was resumed Jan. 10.



UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

March 8, 1973

D. J. Skovholt, Assistant Director for Operating Reactors, L

JERSEY CENTRAL POWER AND LIGHT COMPANY (OYSTER CREEK)-DOCKET 50-219
INCREASE IN STACK RELEASE RATE

The Jersey Central Power and Light Company informed our Region I (Newark) Office on March 6, 1973, that on March 5 the Oyster Creek stack release rate had increased from 107,000 microcuries per second to approximately 135,000 microcuries per second. The stack release rate had been increasing steadily during the past month, from 62,000 microcuries per second on February 12 to 107,000 microcuries per second on February 28. The plant is currently operating at 100% power with a refueling outage planned for April 14, 1973. The authorized Technical Specification limit is 260,000 microcuries per second.

In recognition of the 10 CFR 20 "low as practicable" requirement, our Region I Office contacted Jersey Central management on March 6 to obtain information with respect to the Company's evaluation and plans for continued operation and control of effluents. We expect to obtain the Company's position on this matter this week and will inform you of their position as soon as it is available.

R. H. Engelken, Assistant Director
for Construction and Operation, RO

cc: F. E. Kruesi, RO
D. F. Knuth, RO
J. M. Hendrie, L
A. Giambusso, L
V. Moore, L
H. R. Denton, L
J. G. Keppler, RO
C. A. Pelletier, RO
R. J. Schemel, L
J. P. O'Reilly, RO:I

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