

# COLUMBIA RIVER REGIONAL FORUM

## TECHNICAL MANAGEMENT TEAM

March 3, 2010 Meeting

### FACILITATOR'S SUMMARY NOTES

Facilitator: Erin Halton

Notes: Christa Leonard

The following notes are a summary of issues that are intended to point out future actions or issues that may need further discussion at upcoming meetings. These notes are not intended to be the “record” of the meeting, only a reminder for TMT members.

#### **Review Meeting Minutes for February 17, 2010**

John Roache, BOR, added some clarifying language in the “Operations” section of the facilitator’s notes regarding reservoir data for Grand Coulee and Hungry Horse. Kyle Dittmer, CRITFC, caught a typo in the “Review Meeting Minutes” section of the facilitator’s notes.

**Action:** DS Consulting will make the corrections and send a revised version to the COE for posting to the TMT website. There were no other comments or changes to either the facilitator’s notes or the official meeting minutes and both sets will be considered final.

#### **The Dalles Spillwall Update**

Steve Barton, COE, reported to TMT that mobilization efforts are likely beginning in early March, and that the project is expected to be complete in mid-March, ahead of schedule. He will connect with Pat Duyck, COE, to review any additional information.

#### **2010 Operations/ Updated Weather and Flood Control Forecasts**

Steve Barton, COE, directed TMT to updated SNOTEL data, posted as a link to the agenda, which details snow pack data for the northwest region. He explained that as of 3/3, all areas are at the same or lower levels since the last update two weeks ago and that the snow pack is below normal. He noted that while Canada is at 80% of normal, the long range outlook for the region is forecasting dryer and warmer than normal weather.

Kyle Dittmer, CRITFC, presented data gathered by the Australian Bureau of Meteorology (graph will be posted to the agenda following the meeting), detailing the 30-day moving SOI. Due to the on-going El Nino conditions, higher than normal temperatures are expected to continue through spring. Dittmer said that temperatures should be more near normal by June.

Barton also reported on the COE’s updated water supply forecasts as follows: Grand Coulee at 77% of normal for April-September, The Dalles at 69% of normal for April-August and Dworshak at 59% of normal April-July. The March final forecast is due out

on 3/5 and findings will be presented to TMT at the next meeting. Karl Kanbergs, COE, reminded TMT that the National Weather Service has a web-based, interactive presentation available through their website.

**Action/Next Steps:** Updates on Weather and Water Supply Forecasts will continue to be discussed at all TMT meetings in the near future.

### **Water Management Plan Spring/Summer Update**

Steve Barton, COE, shared with TMT that the preliminary draft was posted on Monday 3/1. The final draft is due mid-May. He noted that a lot of changes to the document are expected as we move into spring.

**Action/Next Steps:** TMT will revisit this topic at the 3/17 TMT meeting. TMT members may send their review and comments to Steve Barton and Doug Baus; Barton will keep TMT members apprised of deadlines for submitting comments as that information becomes available.

### **Chum Emergence Update**

Paul Wagner, NOAA, reminded TMT members that the BiOP calls for revisiting chum operations on a monthly basis. He reported that there is an increasing concern that upriver water supply is trending more below flood control levels and acknowledged that Salmon Managers do want to support chum populations in the mainstem. Wagner directed TMT to a graph, posted as a link to the agenda, showing data on weekly temperature unit totals in the Ives Island area (for 2004-present) collected by WDFW. He described the effect of temperature exposure on chum from eggs to the emergence of fry (metabolism and growth are driven by temperatures). He noted that this year is tracking similarly to 2005-06, when March 8<sup>th</sup> was declared the emergence date. Wagner said that if this Ives Island area population is protected through at least next week, then some good will be done. Chum, temperature and precipitation data are being closely tracked and Wagner suggested that TMT could revisit this issue next week, when more data will be available; he said NOAA recognizes that the time to make a decision is drawing nearer.

Steve Smith, Colville Tribes, shared that his organization was briefed on this issue last week. He said the Tribe considered the possibility of scraping 1' off the flood control channel and noted that the Colville Tribe plans to pursue all available options that might help with this issue for future years. Wagner noted that the Salmon Managers have discussed this option as well and that yes, they would be interested in exploring a change to the hydraulics in the fall given this type of low water year. Wagner confirmed that 10.5' is the tailwater elevation at which drying out chum spawning areas becomes an issue.

John Roache, BOR, noted the latest STP run showed that Grand Coulee will be at elevation 1272' if chum operations are to continue through April 10<sup>th</sup>. He asked TMT members for their thoughts on this issue at this point:

- Tony Norris, BPA, noted that every day that goes by is a flood control decision and Grand Coulee will likely continue to draft each day that operations continue

- to support chum. He noted that achieving refill is unlikely but possible, and that precipitation tides, as well as Brownlee and Priest Rapids flows are all among a multitude of factors that influence conditions in chum spawning areas.
- Paul Wagner, NOAA, said that given the chum protection investment that's been made so far, NOAA would like to see the operation though for one more week to help protect this first round of chum.
  - Dave Wills, USFWS, said that USFWS is comfortable with discussing this issue more next week, when final Weather Service forecasts will be available.
  - Russ Kiefer, ID, said ID supports the Colville Tribe in their desire to explore all available options to help support chum and water supply levels; ID also supports NOAA's suggestion to revisit this topic next week when more information is available.
  - Charlie Morrill, WDFW, said that WA is comfortable in discussing this item further next week.
  - Jim Litchfield, MT, said very MT is concerned for the drop in water supply but supported discussing the issue further next week.
  - Steve Smith, Colville Tribes, requested that next week's call include discussion of the percentage of chum emergence week to week.
  - Steve Barton, COE, said the COE acknowledges that this is a water management concern and supported discussing this issue further next week.
  - Kyle Dittmer, CRITFC, said he deferred to Salmon Mangers on this issue.
  - Deanne Pavlik-Kunkel, Spokane Tribe, said the Tribe is concerned about the continued drop down in water supply.

**Action/Next Steps:** This issue will be revisited during a TMT conference call scheduled for 3/10 at 2:00pm.

## **2010 Operations**

Steve Barton, COE, presented TMT with a list of operations, tentatively scheduled between now and mid-April, which will require some group decision making from TMT:

1. Model runs are indicating that flows in the Lower Columbia River, and potentially the Snake, are such that the "Low Flow Procedures" of the Water Management Plan may need to be invoked. Meeting minimum generation needs and elevation requirements will be a challenge. There is a concern that the lack of water will affect the ability to spill in April for the fish passage season. He noted that conditions may be similar to last August and asked that TMT members start thinking about these needs. Tony Norris, BPA, added that the group should be prepared to act swiftly. Barton clarified that McNary, Bonneville and Little Goose are the projects that will be most affected.
2. Regarding the B2 corner collector operations at Bonneville, Barton asked TMT members to think about what would trigger that operation and how to proceed if low flow conditions continue.
3. Bonneville line outage and maintenance is scheduled for April 10<sup>th</sup> that requires powerhouse two to be out of service.
4. The dog pocket greasing at Bonneville will require some water management to allow access during the maintenance.

Wagner asked if these issues are being addressed in other forums such as FPOM; Barton answered that they should be introduced and Dave Wills, USFWS, confirmed that items 2, 3 and 4 are being discussed at FPOM. Their next meeting is 3/11 and Wills will share the discussion details on these topics at the next TMT meeting.

**Action/Next Steps:** TMT will revisit these issues in more detail at the 3/17 TMT meeting.

### **Transportation Update**

Paul Wagner, NOAA, recalled the presentation made at TMT two weeks ago by the NMFS Science Center. Wagener referred TMT to NOAA's recent memo to the ISAB posted as a link to the TMT agenda. He referred to page 2 of the document, wherein NOAA references 2007 operations and concluded that if flows are below 65 kcfs, it would be more prudent to maximize transport at Snake River collector projects beginning no later than May 1 at Lower Granite. Wagner noted that while low flows always carry risk, this year will be exceptionally challenging given that ocean conditions are looking to be poor as well.

Wagner; the ISAB plans to meet in March to discuss the NOAA recommendation. Jim Litchfield, MT, agreed that during years of such low flows, high temperatures and predation risks, it is especially important to transport fish.

**Action/Next Steps:** The next TMT discussion of this issue is expected in April.

### **Operations Review**

**Reservoirs:** (Summary Plots link posted to the agenda) Libby was at elevation 2405.75', with inflows of 3.6 kcfs and outflows of 4 kcfs. Albeni Falls was at elevation 2051.44', (1' operating range) with inflows of 14.9 kcfs and 11.4 kcfs outflows. Dworshak was at elevation of 1518.13' with inflows of 1.9 kcfs and outflows of 1.2 kcfs. McNary average flows were at 97.9 kcfs, Lower Granite flows were 22.6 kcfs and Bonneville average flows were 111 kcfs. Grand Coulee was at elevation 1279.2', operating to meet the chum tail water below Bonneville Dam. Hungry Horse was at 3523.97' with outflows of 2.7-2.8 kcfs.

**Fish:** Paul Wagner, NOAA, noted that the current focus is on chum as outlined earlier in the discussion.

**Power System:** Tony Norris, BPA, had nothing to report.

**Water Quality:** Scott English, COE, noted that the annual Temperature and TDG report has been posted to the new Water Quality Program page on the TMT website. He said that the web page will offer the latest Oregon and Washington water quality standards data and reports.

**Action/Next Steps:** The COE's Water Quality staff will make a presentation about the webpage to TMT at the 3/17 TMT meeting.

## **TMT Schedule**

NOTE: TMT will likely meet weekly during the month of March.

The next TMT meeting will be: a **conference call on 3/10 at 2:00pm** to check in on Chum Emergence and any other time-sensitive issues. See the TMT agenda for call in information.

NOTE: The 3/17 meeting **will be held at NOAA at 9:00am in the St. Helens room.**

Agenda items will include:

- Notes Review
- The Dalles Spillwall Update
- 2010 Operations- Updated weather and flood control forecasts
- Water Management Plan Spring/ Summer Update
- Chum Emergence
- Low Flow operations
- Water Quality presentation
- FOP Update
- Hanford Reach
- Operations Review

**Columbia River Regional Forum  
Technical Management Team Meeting  
March 3, 2010**

**1. Introduction**

Today's TMT meeting was chaired by Steve Barton (COE) and facilitated by Erin Halton (DS Consulting) with representatives of the COE, WDFW, USFWS, NOAA, Montana, BOR, BPA, CRITFC, the Colville and Spokane tribes and others present. The following is a summary (not a verbatim transcript) of the topics discussed and decisions made at the meeting. Anyone with questions or comments about these notes should provide them to the TMT chair or bring them to the next meeting.

**2. Review Meeting Minutes for February 17, 2010**

John Roache (BOR) had edits regarding Grand Coulee and Hungry Horse operations. On page 2 of the facilitator's notes, the last two sentences should read, "Grand Coulee was at elevation 1,283.4 feet, operating to meet both the chum tailwater restriction below Bonneville Dam and Vernita Bar protection flows, currently drafting about 0.5 feet per day." The Hungry Horse report should read, "Hungry Horse was at 3,527.13 feet, with outflows of 2.7 kcfs, which is 78% of the normal water supply forecast for February." Kyle Dittmer (CRITFC) noted that "known" was misspelled in section 2 of the facilitator's notes. Doug Baus (COE) will post these changes to the web page.

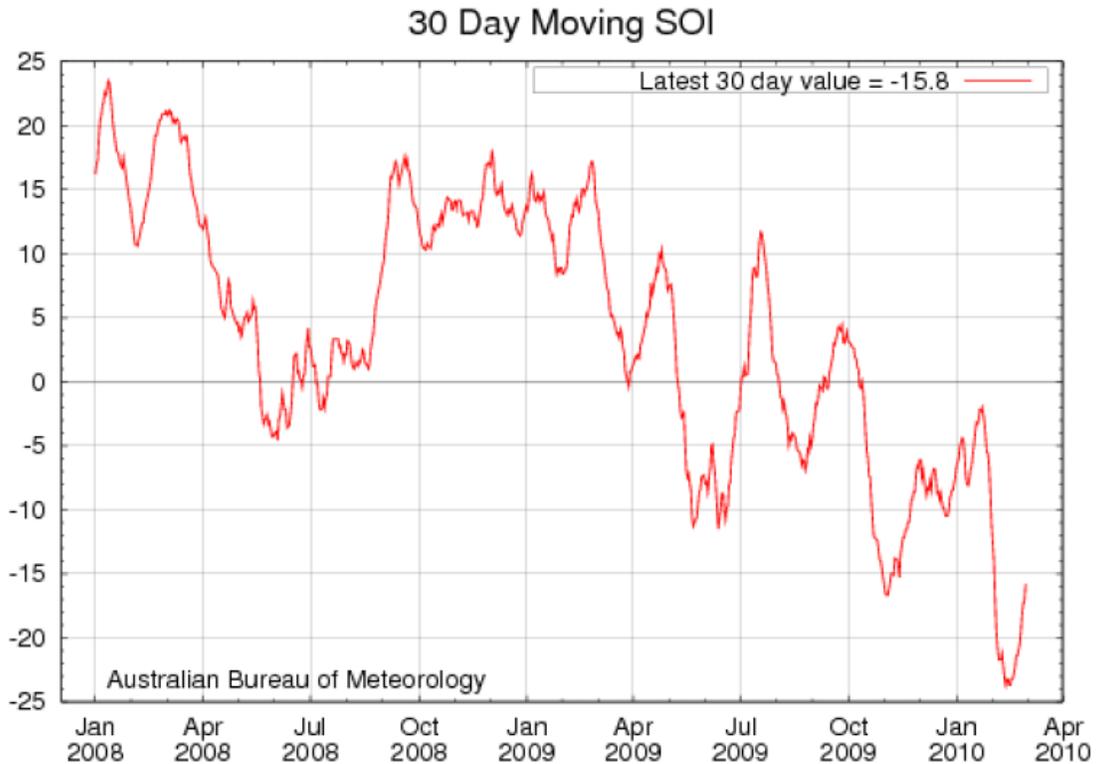
**3. The Dalles Spill Wall Update**

Construction is still progressing well ahead of schedule, Barton said. He will check with Pat Duyck, project manager, to see whether early release of restrictions on the Bonneville operation is possible.

**4. Updated Weather and Flood Control Forecasting**

**a. Weather.** As of March 3, water supply forecasts for all basins in the region are the same or lower than they were as reported at the last TMT meeting February 17. Areas in Canada are now forecasted to have around 80% of normal water supply except for the extreme north, which is normal. The continued long-range forecast remains drier and warmer than normal throughout the basin.

According to the Australian Bureau of Meteorology, the El Nino trend peaked a few weeks ago and temperatures in the Northwest are headed back toward normal in June, Kyle Dittmer (CRITFC) reported.



Both the RFC early bird March forecast and the COE's latest water supply forecast have dropped slightly since those last reported to TMT on February 17, Barton said. He and Steve Hall (COE Walla Walla) agreed the general trend is downward. Current water supply forecasts are:

- Grand Coulee – Jan-July: 77% of normal or 48.7 maf; April-Sept: 78% of normal.
- The Dalles – Jan-July: 69% of normal or 74 maf. The ESP forecast for Jan-July is 71.7 maf, above 60% of normal.
- Dworshak – April-July: 1,571 kaf or 59% of normal (COE forecast).

**b. Flood Control.** The March final forecast is due from the RFC on March 10, which will reset flood control targets. Barton will update TMT at the next meeting, a conference call on March 10. Current status is:

- Dworshak – End of March flood control is 1,587.5 feet, subject to change.
- Libby – An update is due today or tomorrow. The COE February final forecast for April-August is 5,478 kaf or 86% of normal. The RFC forecast is 4,678 kaf or 72% of normal – a difference of 800 kaf.

Karl Kanbergs (COE) said the Weather Service does a web-based interactive presentation every time they release a new forecast. Weather Service water supply forecast updates and interactive meetings are accessible via the NOAA web site. TMT will be watching the water supply forecasts closely and will check in via conference call in a week on March 10.

### ***5. Water Management Plan – Spring/Summer 2010 Update***

The draft 2010 WMP spring/summer update was posted March 8 to the TMT site for comments, Barton said. The final version is due mid-May. In the meantime, expect changes as 2010 conditions evolve. At the next meeting March 10, Barton will present a deadline structure for commenting on the WMP.

### ***6. Chum Emergence Update***

Paul Wagner (NOAA) presented data on chum spawning at Ives Island, linked to today's agenda. The BiOp calls for monthly checks to make sure the chum operation doesn't negatively affect spring flows. With Grand Coulee 2 feet below its flood control elevation and forecasted to stay there, NOAA is concerned that continuing to provide water for chum could impact upriver storage. However, the 4 months of flow maintenance invested in chum spawning in the mainstem Columbia makes NOAA reluctant to give up on chum. The question is, if chum flows continue, how much lower will the Grand Coulee elevation go?

Peak spawning occurred the first week of December 2009, so if that group of redds can be protected through emergence, the past 4 months of flows will have done some good. Chum fry consistently emerge when 825 temperature units accrue in their gravel beds (TU's equal the number of degrees above centigrade the eggs are exposed to). Data from 3 temperature gages at the Ives Island complex are linked to today's agenda. Data from Gage 1 put emergence as beginning March 8 and continuing for the next 5 weeks or so. Whether and when the chum operation should end after March 8 is the question NOAA is considering now, Wagner said. The other spawning area for chum is Gray's River, separated from Ives Island by 100 miles.

Grand Coulee elevation is now 1,279 feet, below the flood control elevation of 1,283.3 feet, Tony Norris (BPA) reported. It's noteworthy that the flood control elevations for March 31, April 15 and April 30 are all the same – which makes it prudent for TMT to check in weekly on the chum operation.

Another consideration is providing Vernita Bar protection flows of 60 kcfs, Wagner said. These can drop to 55 kcfs, or no more than 15% of the prior protection level in a critical water year, per the Vernita Bar Agreement. A critical water year is defined as having 42.5 kcfs volume or less. At this point, the parties would have to agree to drop Vernita Bar flows to 55 kcfs, Wagner said. The March final forecast to be released on March 5 will shed light on this situation.

The second link to this item on today's agenda contains weekly WDFW data on fish observed in the spawning area. Peak numbers of fish and redds were observed on the same day, December 1. These are the redds NOAA is trying hardest to protect.

Steve Smith (Colville Tribe) offered a possible solution for this dilemma in future years: Scrape a foot or so of elevation off the flow control riffle in the Ives Island channel to help keep redds inundated at lower levels. He asked for others' views of this idea. Changing the channel hydraulics in fall would risk not attracting spawners to the gravel beds, but it could be used in an emergency, Wagner said. An elevation of 10.5 feet dries out the back side of Ives Island, depending on flows from Hamilton Creek. The river widens downstream of Ives Island, where tidal influences take over and the elevation varies up to 4 feet a day, Norris added.

According to a BOR model run, if the chum operation continues through April 10, Grand Coulee elevation will be around 1,272 feet, 10 feet below flood control. John Roache (BOR) polled the salmon managers for their views on the chum operation:

- **USFWS** – Wants to continue providing flows for chum until the final March water supply forecast comes out, then make a decision. Would like to maintain redds in the I-205 area, which are 50-60% of chum spawners.
- **Idaho** – Supports the Colville Tribe's proposal to seek a permanent alternative to the annual chum dilemma; agrees that it won't be solved this year. Supports NOAA's approach of preserving the chum investment as long as possible. Ultimately, spring flows take precedence over chum.
- **WDFW** – Agrees with Idaho's and NOAA's stance.
- **Montana** – Very concerned about the water situation but doesn't have strong views on the chum operation.
- **CRITFC** – Deferred to the other salmon managers.
- **Colville Tribe** – Wants to seek a long-term fix, as described above. Asked NOAA to give TMT weekly percentages of chum emergence which Wagner said he'll provide. Suggested that NOAA consider sampling redds to establish emergence percentages.
- **Spokane Tribe** – Concerned about further drawdown of Lake Roosevelt.

The COE will continue the chum operation as is until a change is agreed upon and requested by the salmon managers. TMT will revisit this issue in its April 10 conference call.

## ***7. 2010 Operations***

Barton brought TMT's attention to five more issues for TMT members to think about over the coming weeks.

(1) Model runs indicate that, with no flood control at Grand Coulee to augment river operations, the river may hit sufficiently low levels during the 2010 spill season to invoke low-level procedures outlined in the Fish Passage Plan. These procedures are invoked if there's insufficient flow and available storage to meet system requirements for minimum generation, minimum flows and reservoir elevations at individual projects. TMT needs to be ready to respond if this occurs. There would be problems at McNary, Bonneville and Little Goose dams.

(2) Decisions will need to be made regarding operation of the Bonneville corner collector for kelts and strategies for operating the corner collector under low flow conditions.

(3) On April 10, line maintenance at Bonneville will take powerhouse 2 out of service.

(4) Greasing of the dog pockets at the Bonneville gates will require storage to be evacuated.

(5) Sill problems at the Little Goose navigation lock require a critical depth for adequate clearance. Thus the proposed spill operation for Little Goose during low flow conditions is to cycle back and forth between operating one and two units while trying to keep the project within MOP.

All of these issues will be on the TMT agenda for March 17. Dave Wills noted that issues 2, 3, and 4 have already been discussed at FPOM. On March 17 he will share with TMT the outcome of the next FPOM meeting March 11.

These issues will also be addressed in the 2010 Fish Operations Plan. Barton will email TMT members when the draft FOP is available.

## **8. Transport Update**

The NOAA Science Center's report on transportation operations from 1998-2008 indicates that low flow operations are risky for fish, Paul Wagner (NOAA) said. The BiOp says that when total river flows go below 65 kcfs, transportation should occur beginning April 3, with no spill during migration season. It appears that 2010 could be one of those years. No spill at collector projects in the Snake River during spring migration season.

If flows are above 65 kcfs, NOAA proposes a rollover operation in 2010, but if not, NOAA's recommendation is to extend the period of spill to April 3-May 1 and allow TMT to decide whether to terminate spill or begin transport earlier than that. NOAA acknowledges that gains have been made for in-river survival, but they're not sufficient to preclude the need for transportation in low flow years. NOAA has taken into account ISAB's 2008 recommendation, "Whenever river conditions allow during the late April-May period, a strategy allowing for concurrent transportation and spill is prudent. NOAA looked at data in 2007 and

believes it would not be prudent to continue spilling in May at the three collector projects.” ISAB will discuss this in a March 12 meeting and again on March 26.

Wagner asked the other salmon managers for their views on spill vs. transport in a low flow year. Balancing the needs of spring Chinook and steelhead in a low flow year is a challenge. Transporting Chinook smolts downriver too early results in their lingering in the estuary when they’re small, which is risky due to predation.

When flows are low, temperatures high, and predation up, it’s best to get fish out of the river as soon as possible, Jim Litchfield (Montana) said. There were no other comments on NOAA’s proposal today. TMT will revisit the transport operation in April.

## **9. Operations Review**

**a. Reservoirs.** Grand Coulee is at elevation 1,279.2 feet, currently providing flows to maintain the forecasted tailwater restriction of 11.5 feet. Hungry Horse is at elevation 3,523.97 feet, with discharges of 2.8 kcfs and inflows forecasted to be 78% of normal.

Libby is at elevation 2,405.75 feet with average inflows of 3.6 kcfs, discharging 4.0 kcfs minimum flows. Albeni Falls is at elevation 2,051.44 feet, operating with a 1-foot range, with inflows of 14.9 kcfs and discharges of 11.4 kcfs. The flood control trace for Dworshak doesn’t reflect the latest flood control elevations; it will be updated and reposted. The current Dworshak elevation is 1,518.3 feet with inflows of 1.9 kcfs and discharges of 1.2 kcfs.

Seven-day average inflows are 22.6 kcfs at Lower Granite; 97.9 kcfs at McNary; and 105 kcfs at Bonneville.

**b. Fish.** There was nothing to report beyond chum.

**c. Power System.** There was nothing to report today.

**d. Water Quality.** The annual TDG and temperature report for 2009 is posted on the RCC water quality page, Scott English (COE) reported. To access it, go to water quality data on the TMT web page. The RCC page includes an ongoing evaluation of the new Washington and Oregon state water quality standards, a tool to identify the most stringent requirements at each project. TMT will walk through the water quality data at its March 17 meeting.

## **10. Next Meeting**

The next TMT meeting will be a 2 p.m. conference call on March 10 primarily to address chum flows, followed by a March 17 meeting at NOAA’s Portland office. The March 17 meeting will cover the same agenda items discussed today, plus a presentation on state water quality standards and a

possible update on protection flows at Hanford Reach. This summary prepared by technical writer Pat Vivian.

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Dave Wills	USFWS
Paul Wagner	NOAA
Doug Baus	COE
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