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July 14, 2003

MEMORANDUM

TO: Council Members

FROM: Mark Fritsch

SUBJECT: Funding request for intermediate rearing channels - Project 1983-350-00, "Nez Perce Tribal Hatchery"

Action

At the June 10 -12 Council meeting the Council deferred a decision on the two intermediate rearing channels for the Nez Perce Tribal Hatchery (NPTH). As part of the deferral the Council requested that Bonneville address the policy and procedural issues regarding the purchase of the automated tagging trailer, and that they provide alternatives on addressing the needs of the NPTH as designed and constructed. The Council also requested that the ISRP review the request to ensure that the proposed changes are scientifically sound, necessary and appropriate to meet the needs of the approved production program, and determine if the changes were consistent with the approved monitoring and evaluation plan.

The information received from BPA (see Attachment 1) and the ISRP (see Attachment 2) will be presented by Council staff at your meeting on July 15 - 16 for additional discussion.

Recommendation

Council staff recommends that the Council recommend to Bonneville that it fund two intermediate rearing channels, not to exceed \$124,000, with Fiscal Year 2003 capital funds.

Background

On April 25, 2003, the NPT submitted a request for additional funds to address needed improvements to the hatchery¹. The requested improvements at the hatchery are associated with the current water supply system and the addition of two intermediate rearing channels.

The two improvements associated with the water supply system encompass the pre-treatment of 600 gallons per minute (gpm) of surface water prior to disinfection for use in incubation and early rearing of fish, and the removal of coarse sand from the total 4,600 gpm surface water supply. Problems associated with the water supply system were found during the hatchery operational tests. It was determined that some equipment did not meet design specifications, and concentrations of solids in the river water exceeded the data available in the performance specifications.

The pre-treatment system is covered in the construction specifications and equipment warranty². In addition, in coordination with Bonneville, the manufacturer is providing new filtration equipment to handle the increased concentration of surface water solids. The cost associated with this equipment is \$29,000.

The removal of coarse sand from the surface water supply is an overall enhancement above the original design parameters. The need to remove coarse sand from the main river water supply also became apparent while testing the hatchery during high-flow storm events. The heavy sand concentration was not predicted from the available river water quality data, and the hatchery was designed to accept the river water quality as is. The NPT is requesting an additional sand separator. The estimated cost of the sand separator to provide up to 4,600 gpm of general rearing water is \$174,000.

The Nez Perce Tribe also requested funding for an additional two intermediate rearing channels (10' x 100' x 5') to address issues associated with fish size/containers/markings protocols that were not identified during the design phase of the hatchery. The production plan as designed anticipated the marking (using half-length coded wire tags) of fish at 383 fish per pound as the fish were moved from the indoor troughs to the acclimation ponds and the satellite facilities. Tribal managers cite recent studies as indicating that half-length coded wire tags are not appropriate for chinook due to the data loss associated with them. To accommodate the full-length coded wire tags the fish will need to be reared to a larger size. The containers that are currently part of the on-site NPTH are not designed to accommodate this additional growth period (approximately six weeks). These containers include the "S ponds"/raceways and the rock-lined acclimation ponds. The two intermediate rearing channels are estimated to cost \$124,000.

The Council, at its June 10-12 meeting recommended that the modifications to the water supply system regarding the pre-treatment system and sand separator be approved. The needed improvements to the water supply system are reasonable and are to be expected as part of a start-

¹ Additional information was provided by a NPT presentation to the Fish and Wildlife Committee on May 6, 2003 and an additional letter to Council staff dated May 27, 2003.

² The pre-treatment element seems to be a performance issue based on the specifications as contracted. The manufacturer has been cooperating and will be providing the necessary additional equipment to handle the specified loading at no cost.

up for a newly constructed hatchery. Savings identified, \$122,570³, by the NPT in the budget approved by the Council for the “removable equipment costs” should be applied to the anticipated costs for the pre-treatment system (\$29,000) and sand separator (\$174,000). The total cost associated with the request after the savings have been deducted is \$80,430. Council recommends that the \$80,430 be reallocated from capital funds.

Council deferred a decision on the two intermediate rearing channels. The request for the channels raised policy (e.g. scope change regarding the purchase of the automated tagging trailer) and procedural (i.e. not seeking a within year reallocation request) issues that need to be addressed by Bonneville. The Council requested that Bonneville provide this information and include alternatives on addressing the needs of the facility as designed and constructed. In addition, the Council asked the ISRP to review the request to ensure that the proposed changes associated with the channels do not change affect the experimental protocols that were approved as a basis for the design of the hatchery.

On July 7, 2003 the Council received a response from Bonneville addressing the policy and procedural issues regarding the purchase of the automated tagging trailer, and alternatives on addressing the production needs of the facility as designed and constructed (see Attachment 1). Generally, Bonneville determined that the purchase of the automated tagging trailer was cost effective and that it was not a scope change, though they acknowledge that they should have requested a review of the action as a within-year increased funding requirement. Based on the alternative analysis conducted by the NPT, Bonneville agrees that the construction of the two intermediate rearing channels to be the best alternative.

On July 9, 2003 the ISRP submitted their response to the Council. The ISRP found that the request was reasonable and technically justified (see Attachment 2). Specifically, the ISRP felt that the proposed changes in the facility and in fish rearing will not compromise the experimental design, and that the switch from the half-length coded wire tags to full-length coded wire tags is justified.

³ As part of the final Council decision the Council approved temporary/potable equipment, office/lab/fish husbandry equipment, O&M manuals and facility startup as part of the Fiscal Year 2001 and 2002 budgets at \$2,166,110 and \$3,035,000, respectively³. It seems that some of this equipment was not purchased as anticipated in Fiscal Year 2001 and 2002. In an effort to reduce the total cost (i.e. \$327,000) associated with the request, the NPT analyzed what items remained to be purchased and identified a cost savings of \$122,570. This savings reduces the total request to \$204,430

Attachment 1: Response from Bonneville on the policy and procedural issues, and alternatives regarding the two additional raceways, Project, #1983-350-00, July 7, 2003

Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

ENVIRONMENT, FISH AND WILDLIFE

July 7, 2003

In reply refer to: KEW-4

Mr. Doug Marker, Director
Northwest Power and Conservation Council
851 S.W. Sixth Avenue, Suite 1100
Portland, OR 97204-1348

Dear Mr. Marker:

This letter is in response to the Council's June 27, 2003, letter concerning the Nez Perce Tribe's request regarding additional funding needs for two intermediate rearing channels (raceways) for Bonneville Power Administration (Bonneville) Project No. 1983-350-00, Nez Perce Tribal Hatchery. Your letter raised two concerns that Bonneville needed to address: A policy issue with a change in scope for the purchase of an automated tagging trailer and a procedural issue about not seeking a within year reallocation request for such a change. In addition, the Council requested Bonneville provide alternatives on addressing the needs of the facility as designed and constructed. I feel this letter addresses your concerns and we have fully coordinated and worked closely with Dave Johnson and his staff at the Nez Perce Tribe for much of this analysis.

Bonneville purchased the automated tagging trailer for the Nez Perce Tribal Hatchery after a great deal of deliberation. The tribe had planned to purchase individual pieces of equipment over several fiscal years in order to build a fish tagging system. A cost analysis was developed (enclosure 1) that clearly demonstrated a cost savings for purchasing an automated tagging coded wire tagging system as compared with yearly funding of manual tagging. Based on a total cost of \$359,500 for the complete automated tagging trailer with a \$92,264 per year savings, it was determined the trailer would pay for itself in 4 years. Although we determined this request was still within the "scope" of the hatchery effort based upon the monitoring and evaluation requirement to tag all production fish at this facility, the decision to not seek a within year reallocation request through the Council's process, due to the increased year "funding requirement," was an oversight on our part.

In looking at alternatives to the construction of raceways, I refer you to the Tribal analysis (enclosure 2) that concluded new raceway construction was the best alternative of those evaluated. This recommendation was based on a variety of factors including economics, fish

health concerns, location, and timely availability of facilities. The matrix analysis indicates we evaluated the adult holding ponds, “S” channels without net pens, “S” channels with net pens, fall chinook rearing ponds with net pens, and portable circular tanks. In addition, the Sweetwater Springs and North Lapwai Valley facilities were also evaluated by these criteria. In considering the alternatives, the analysis concluded the construction of raceways was the best alternative to resolve the need for additional rearing space while maintaining the integrity of the NATURES rearing protocols.

I hope this analysis fully addresses the Council’s concerns. If you have any further questions, please do not hesitate to call Ken Kirkman, Bonneville Project Manager at 503-230-5557.

Sincerely,

Robert J. Austin
Deputy Manager, Fish & Wildlife

2 Enclosures

cc:

Mr. Butch Hart, Nez Perce Tribe

Mr. David Johnson, Nez Perce Tribe

Mr. Ed Larsen, Nez Perce Tribe

Mr. Mark Fritsch, Northwest Power and Conservation Council



NEZ PERCE TRIBE
DEPARTMENT OF FISHERIES
RESOURCES MANAGEMENT

Orofino Field Office
3404 Hwy. 12
Orofino, ID 83544

Phone (208) 476-4044
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October 17, 2002

To: Ken Kirkman, COTR

From: Sherman Sprague, Project Leader
Bill Arnsberg, Project Leader

Subject: Line Item Transfer for NPTH Monitoring and Evaluation, Contract # 4414,
Project # 1983-350-03

Ken, this is a request for a line item transfer. We have identified future budget surpluses, and needs for the project. We have attached a line item transfer spreadsheet that shows the current 2002 budget, the line item amount to change (negative items are where we want to draw monies from and the positive numbers are where we want to move the monies to), and a line item final budget. No new or additional monies are needed, we are simply moving monies from one line item to another.

The line item we need monies transferred to are in:

PART IV. NON-ADMINISTRATIVE COSTS:

1. Equipment (7100) need \$329,500.00 towards the purchase of the Automated Tagging Trailer (total price is \$359,500). This includes a surplus of \$145,625.00 identified below from the equipment line item and a total of \$183,875.00 from other line items also identified below. Attached is justification for the automated tagging trailer and an agreement for the trailer purchase and a year warrantee on all major equipment from Northwest Marine Technology.

The line items we are transferring monies from are in:

PART I. PERSONNEL:

1. Salaries and Wages (7010) a surplus of \$121,552.00 is expected this year. The surpluses were caused by not hiring a Tagging Coordinator and Biologist II on until later in the year, and not having to hire technicians on as long as planned (we did not have to put a weir in the South Fork Clearwater as NPTH was not operational).

PART II. OPERATING COSTS:

1. Travel and Per Diem (7060) a surplus of \$5,000.00 is expected this year because of reduced personnel and field per diem needed.
2. Training (7035) a surplus of \$800.00 is expected this year.
3. Telephone (7090) a surplus of \$1,350.00 is expected this year.
4. Equipment Lease (7105) a surplus of \$624.00 is expected this year.

PART III. ADMINISTRATIVE COSTS:

1. Indirect Costs (7800) a surplus of \$27,029.00 is expected this year because of reduced costs associated with salaries and operational costs line items.

PART IV. NON-ADMINISTRATIVE COSTS:

1. Equipment (7100) a surplus of \$145,625.00 is expected this year. This includes: \$136,834.00 from the CWT materials and tagging cost line item because we did not have a full compliment of NPTH fish to tag as planned, \$8,700.00 from the CWT detector line item, and \$91.00 from the Office Copier.
2. Consultants & Contracts (7020) a surplus of \$27,520.00 is expected this year. This includes: \$5,099.00 from the Helicopter Time – surveys line item, \$2,421.00 from the Statistical, Study Design and Engineering analysis line item, and \$20,000.00 from the Easement for Lolo Creek Screw Trap line item.

The projected total surplus monies listed equals \$329,500.00. The total monies needed equals \$329,500.00 for no net loss or gain to the budget.

NEZ PERCE TRIBAL EXECUTIVE COMMITTEE
P.O. Box 365, Lapwai, Idaho 83540

Budget Spreadsheet - BPA Contract

Project Title Nez Perce Tribal Hatchery - Monitoring & Evaluation
Project No. 1983-350-3
Contract No. 4414
Amendment Period: 10/1/02 - 12/31/02
NPT Budget No. 406-16 and 406-17

	Acct Code	LINE ITEM CURRENT BUDGET	LINE ITEM AMOUNT TO CHANGE	LINE ITEM FINAL BUDGET
PART I - PERSONNEL				
SALARIES & WAGES 78,545.00 in carryover funds)	7010	\$968,997	(\$121,552)	\$847,445
PART II - OPERATING COSTS				
TRAVEL & PERDIEM	7060	\$42,576	(\$5,000)	\$37,576
TRAINING	7035	\$12,020	(\$800)	\$11,220
TELEPHONE	7090	\$6,120	(\$1,350)	\$4,770
SUPPLIES	7070	\$19,420	0	\$19,420
RENT	7075	\$18,765	0	\$18,765
MATERIALS	7073	\$11,000	0	\$11,000
REPAIRS & MAINTENANCE	7080	\$17,400	0	\$17,400
VEHICLES/GSA	7065	\$46,952	0	\$46,952
COMPUTER SERVICES	7023	\$11,534	0	\$11,534
EQUIPMENT LEASE	7105	\$6,973	(\$624)	\$6,349
		\$1,161,757	(\$129,326)	\$1,032,431
PART III - ADMINISTRATIVE COSTS				

INDIRECT COSTS 20.9% 20.9% \$16,415.00 in indirect carryover funds)	7800	\$242,807	(\$27,029)	\$215,778
PART IV - NON- ADMINISTRATIVE COSTS				
EQUIPMENT PIT tag costs will be paid by 3PA) (\$46,637 in carryover funds)	7100	\$369,898	+\$183,875	\$553,773
CONSULTANTS & CONTRACTS (\$90,000 in carryover funds)	7020	\$176,088	(\$27,520)	\$148,568
TOTAL 2002 M&E EXPENDITURES		\$1,950,550		\$1,950,550
MINUS 2001 CARRYOVER FUNDS		\$231,597		\$231,597
TOTAL M&E 2002 BUDGET		\$1,718,953		\$1,718,953

Part I - PERSONNEL			
Project Title	Nez Perce Tribal Hatchery - Monitoring & Evaluation		
Project No.	1983-350-3		
Contract No.	00004414		
Amendment Period:	10/1/02 - 12/31/02		
NPT Budget No.	406-16 & 406-17		
Title	Current Budget Salary + Fringe	Amount to transfer	Line Item Final Budget
Project Leader	\$60,983	0	\$60,983
Project Leader	\$77,447	0	\$77,447
Assistant Proj. Leader	\$46,836	0	\$46,836
Biologist III	\$70,969	0	\$70,969
Biologist II	\$55,642	(\$6,955)	\$48,687
Biologist I	\$51,778	0	\$51,778
Biologist I	\$50,254	0	\$50,254
Biologist I	\$41,436	0	\$41,436
Tagging Coordinator	\$31,255	(\$16,366)	\$14,889
Admin. Asst.	\$15,232	0	\$15,232
Fish Tech	\$43,747	0	\$43,747
Fish Tech II	\$39,094	0	\$39,094
Fish Tech II	\$34,205	0	\$34,205
Fish Tech II	\$32,192	0	\$32,192
Fish Tech II	\$32,192	0	\$32,192
Fish Tech II	\$17,442	0	\$17,442
Fish Tech I	\$16,211	0	\$16,211
Fish Tech I	\$16,211	0	\$16,211
Fish Tech I	\$14,290	(\$14,290)	\$0
Fish Tech I	\$14,290	(\$8,759)	\$5,531
Fish Tech I	\$14,290	(\$8,759)	\$5,531
Fish Tech I	\$14,290	(\$8,758)	\$5,532
Fish Tech I	\$14,290	(\$8,758)	\$5,532
Fish Tech I	\$16,248	0	\$16,248
Fish Tech I	\$16,248	(\$3,430)	\$12,818
Fish Tech I	\$13,847	(\$10,000)	\$3,847
Fish Tech I	\$13,847	(\$10,000)	\$3,847
Fish Tech I	\$13,847	(\$10,000)	\$3,847
Fish Tech I	\$5,692	0	\$5,692
Fish Tech I	\$7,145	0	\$7,145
Fish Tech I	\$8,124	0	\$8,124
Fish Tech I	\$8,124	0	\$8,124
Intern	\$6,978	0	\$6,978
Intern	\$15,477	(\$15,477)	\$0
Dir. Biological Services	\$10,745	0	\$10,745
Research Coordinator	\$8,454	0	\$8,454
Program Manager	\$9,830	0	\$9,830
Deputy Program Manager	\$9,815	0	\$9,815
Line Item Total	\$968,997	(\$121,552)	\$847,445

Contains \$78,545.00 in carryover funds.

PART II - OPERATING COSTS

Project Title Nez Perce Tribal Hatchery - Monitoring & Evaluation
 Project No. 1983-350-3
 Contract No. 00004414
 Amendment Period: 10/1/02 - 12/31/02
 NPT Budget No. 406-16 & 406-17

Item Description		Current Budget	Amount to transfer	Line Item Final Budget
TRAVEL & PERDIEM				
Portland Flight		\$1,800	0	\$1,800
Boise Flight		\$1,800	0	\$1,800
Seattle Flight		\$1,600	0	\$1,600
Portland Admin Staff Flight		\$1,000	0	\$1,000
Boise Admin Staff Flight		\$1,000	0	\$1,000
Seattle Admin Staff Flight		\$1,000	0	\$1,000
Portland Lodging & Perdiem (L&P)		\$460	0	\$460
Boise L&P		\$2,673	0	\$2,673
Seattle L&P		\$620	0	\$620
Portland Admin Staff L&P		\$690	0	\$690
Boise Admin Staff L&P		\$594	0	\$594
Seattle Admin Staff L&P		\$620	0	\$620
Idaho Falls L&P		\$1,674	0	\$1,674
Field Per Diem w/Motel		\$6,375	(\$2,000)	\$4,375
Field Per Diem w/out Motel traps		\$4,680	0	\$4,680
Field Per Diem w/out Motel weirs		\$12,240	(\$3,000)	\$9,240
Field Per Diem w/out Motel snorkel		\$3,750	0	\$3,750
LINE ITEM TOTAL		\$42,576	(\$5,000)	\$37,576
TRAINING				
Training/Continuing Education		\$6,000	(\$800)	\$5,200
Line Item Transfer for more training 9-5-02		\$6,020	0	\$6,020
LINE ITEM TOTAL		\$12,020	(\$800)	\$11,220
TELEPHONE				

Office Telephone		\$5,760	(\$1,350)	\$4,410
Newsome Creek Telephone		\$360	0	\$360
LINE ITEM TOTAL		\$6,120	(\$1,350)	\$4,770
SUPPLIES				
Office (paper, photocopies, pens , etc.)		\$3,420	0	\$3,420
Computer Supplies		\$3,000	0	\$3,000
Field (cable, paint, clamps, rope, etc.)		\$10,000	0	\$10,000
Line Item Transfer more field supplies 9-5-02		\$3,000	0	\$3,000
LINE ITEM TOTAL		\$19,420	0	\$19,420
MATERIALS				
Field materials (lumber, rain gear, wetsuits)		\$10,000	0	\$10,000
Shop Materials		\$1,000	0	\$1,000
LINE ITEM TOTAL		\$11,000	0	\$11,000
REPAIRS & MAINTENANCE				
Screw Trap welding and repairs		\$7,000	0	\$7,000
Weir Repairs		\$6,400	0	\$6,400
Jet Boat Repair and Maintenance		\$2,000	0	\$2,000
Office equipment		\$2,000	0	\$2,000
LINE ITEM TOTAL		\$17,400	0	\$17,400
VEHICLES/GSA				
GSA vehicle lease (2x4)		\$9,840	0	\$9,840
(4x4)		\$12,192	0	\$12,192
GSA Mileage		\$13,440	0	\$13,440
GSA Mileage		\$11,480	0	\$11,480
LINE ITEM TOTAL		\$46,952	0	\$46,952
COMPUTER SERVICES				
Computer Lease adjusted LIT 9-5-02		\$8,834	0	\$8,834
Digital Camera		\$700	0	\$700
Printer		\$2,000	0	\$2,000
LINE ITEM TOTAL		\$11,534	0	\$11,534
EQUIPMENT LEASE				
Toilet Rental		\$2,800	(\$624)	\$2,176
Copier, Bottled Water, First Aide		\$1,872	0	\$1,872
Line Item transfer additional toilet rental 9-5-02		\$2,301	0	\$2,301
LINE ITEM TOTAL		\$6,973	(\$624)	\$6,349
RENT				
Lolo Creek Land Access		\$750	0	\$750
Office Space		\$14,228	0	\$14,228
Security System		\$180	0	\$180

Garbage		\$288	0	\$288
Utilities/Power		\$2,959	0	\$2,959
Utilities/Power Newsome Creek		\$360	0	\$360
LINE ITEM TOTAL		\$18,765	0	\$18,765

PART IV - NON-ADMINISTRATIVE COSTS

Project Title: Nez Perce Tribal Hatchery - Monitoring & Evaluation
 Project No. 1983-350-3
 Contract No. 00004414
 Amendment Period: 10/1/02 - 12/31/02
 NPT Budget No. 406-16 & 406-17

Item Description	Current Budget	Amount to transfer	Line Item Final Budget
EQUIPMENT			
CWT materials and tagging costs/1000	\$265,127	(\$136,834)	\$128,293
CWT detector	\$11,600	(\$8,700)	\$2,900
Weir	\$30,000	0	\$30,000
Fish marking costs and materials	\$13,534	0	\$13,534
Seines	\$3,000	0	\$3,000
PIT tags to be purchased by BPA 32,000 tags @\$2.25/tag (\$72,000.00)	0*	0	0*
CWT trailer set up costs	\$38,000	0	\$38,000
Plasma Metal Cutter and accessories (2001 carryover funds)	\$2,500	0	\$2,500
Office Copier (201 carryover funds)	\$6,137	(\$91)	\$6,046
Automatic Coded Wire Tagging Trailer	\$0	\$329,500	\$329,500
LINE ITEM TOTAL	\$369,898	\$183,875	\$553,773
CONSULTANTS & CONTRACTS			
Helicopter Time – surveys (shown in hours needed)	\$39,588	(\$5,099)	\$34,489
Genetic, CWT, and Scale Sample Analysis and Report (400 samples @ \$45/sample, Genetic and Scale Sample Report \$8500	\$26,500	0	\$26,500
Statistical, Study Design, and Engineering Analysis (statistical Design 20 hours @ \$250/hour, survival model interface development 80 hours @ \$125/hour, Model/information Transfer 40 hours @ \$125) Line Item transfer -\$9,127.00 6-4-02	\$20,000	(\$2,421)	\$17,579
Fish Health Monitoring and Report (180 fish diagnostic assay @ 33/fish), (180 fish Organosomatic indexing @ \$2.78) (120 micronutrient assay samples @ 150.00/sample) (Epizootic outbreak report \$5,559.60) (2001 carryover funds)	\$30,000	0	\$30,000
Engineering & Design for Traps and M&E Plan (267 hours@ \$150.00)(2001 carryover funds)	\$40,000	0	\$40,000
Easement for Lolo Creek Screw Trap	\$20,000	(\$20,000)	\$0
LINE ITEM TOTAL	\$176,088	(\$27,520)	\$148,568

Justification for the Automated Tagging Trailer

In the following economic analysis (Table 1), we outlined the yearly costs associated with the Nez Perce Tribe doing our own coded wire tagging using a manual tagging trailer versus using an automated tagging trailer. The costs were based on a total of about 3 million fish that will need tagging through our BPA projects during 2003 and each year after (Projects include NPTH M&E, Johnson Creek, Northeast Oregon-Lostine, and possibly others). The costs per year associated with manual tagging will be approximately \$172,436 versus \$80,172 by using the automated tagging trailer. This figures out to about \$57/1000 fish using the manual trailer and \$27/1000 using the automated tagging trailer. Looking at the total costs for the first year, we will save approximately \$92,264 by tagging with the automated tagging trailer. The savings of using the automated system may be greater/year after 2003 because of changes in salaries, per diem, etc. Based on a total cost of \$359,500 for the complete automated tagging trailer and \$92,264/yr savings, the trailer would pay for itself in less than 4 years by tagging our fish alone. There has already been interest by the USFWS at Dworshak National Fish Hatchery (Ralph Roseburg, personal communication) in helping mark and tag 2.2 million steelhead with the automated tagging trailer in 2003. If we mark and tag Dworshak's fish, it would help pay for the Tagging Coordinator and technician's salaries for the tagging duration and also help recoup the initial cost of the trailer with tagging costs savings by using the automated trailer.

Other justifications for an automated tagging trailer are:

- 1) We would have a complete tagging trailer that is ready to tag fish immediately. We would not have to wait until the new Tagging Coordinator can put together a manual trailer. Building the manual trailer may take longer than anticipated and it may not be operational by February 2003, the date we need to start tagging fish at NPTH. We could use that time to get the Tagging Coordinator fully trained in all aspects of automatic trailer operations.
- 2) The tagging window at NPTH will be very short. The number of fish the four-line automated tagging trailer will tag will be much faster than what our planned four-station manual tagging crew will produce (almost twice as fast). It will take 104 working days with the manual trailer versus 64 days for the automated tagging trailer to tag 3 million fish working 8 hr shifts. The automated tagging trailer will be extremely important because of the narrow tagging window that we will be given at NPTH, and other BPA projects (Johnson Creek and Lostine) that may need fish tagged during a similar time period. The automated trailer may also maximize fish growth because of the considerably shorter tagging time required versus manual tagging.
- 3) The coded wire tagging and clipping quality of the automated trailer is far superior and more consistent than with manual tagging. Coded wire tag retention is also much higher for the automated trailer compared to manual tagging.

- 4) The fish are less stressed, have less mortality with lower disease transmission by never being anesthetized with the automated trailer. The manual trailer uses a re-circulation system of the MS-222 bath that has been a known vector of disease transfer.
- 5) There will be far less personnel to hire and train with the automated tagging trailer. Training costs associated with manual tagging will probably be higher because the need to hire more people. In the long run, the need to hire a crew every year with the manual trailer will not be realized with the automated tagging trailer.

Table 1. Economic Analysis of the Nez Perce Tribe tagging fish using a manual vs automated coded wire tagging trailer.

Costs - Manual Coded Wire Tagging		Costs - Automated Tagging Trailer	
	Projected Costs		Projected Costs
# Fish (x 1,000)	3000	# Fish (x 1,000)	3000
# Trailers (4 taggers)	1	# Trailers (4-line system)	1
# Shifts	2	# Shifts	2
# Fish / Shift (x1,000)	30	# Fish / Shift (x1,000)	50
# Working Days	52.0	# Working Days	32.0
Labor Expenses		Labor Expenses	
Tagging Coordinator (1)	\$18,436	Tagging Coordinator (1)	\$11,732
Temporary Techs (6)	\$77,220	Temporary Tech (2)	\$16,380
Per Diem (7 people)	\$25,200	Per Diem (3 people)	\$6,600
Sub-Total Labor	\$120,856	Sub-Total Labor	\$34,712
Other Expenses		Other Expenses	
Trailer Service / Maint.	\$42,000	Trailer Service / Maint.	\$42,000
Hiring Costs (6 people)	\$8,130	Hiring Costs (2 people)	\$2,710
GSA Expenses	\$1,450	GSA Expenses	\$750
Sub-Total Expenses	\$51,580	Sub-Total Expenses	\$45,460
Total Cost	\$172,436	Total Cost	\$80,172
Total Cost / 1,000	\$57	Total Cost / 1,000	\$27

September 26, 2002

Mr. Bill Arnsberg
Nez Perce Tribal Fisheries

Dear Bill:

I am very pleased to hear we are moving forward toward the purchase of a complete 26' 4-line system. Outlined below is the option you have expressed interest in. This option is based on the Nez Perce using existing MKIVs and QCDs, which NMT will update to the MATS compatible version and install. This will be done as part of this purchase price.

Option A (all ready discussed in previous communications):

NMT refurbishes one 26-foot Wells Cargo trailer consisting of four used MATS lines and one used SATS to create a fully operational 4-line trailer. The water pump, pump controller, hose, power cords, MKIVs, and QCDs would not be included.

This trailer would be completed by December 1, 2002 for delivery from Anacortes, WA. NMT would be responsible for delivery of the completed trailer from Anacortes, WA. The warranty would be for one year from date of delivery. This purchase includes a one-year warrantee and four weeks of training.

Total Amount Due - \$359,500

NMT is ready to invoice you for this equipment when you are ready for this next step. Additionally, if you could send your MKIVs and QCDs to NMT as soon as possible this will help with completing your system.

Sincerely,

Dave Knutzen
Director – Marking and Tagging Systems
Northwest Marine Technology

Nez Perce Tribe
Department of Fisheries Resource Management
Production Division
145 Lolo St. • P.O. Box 365 • Lapwai, Idaho 83540
Phone: (208) 843-7320 • Fax: (208) 843-2351

June 6, 2003

TO: Dave Johnson

FM: Becky Ashe, Harold Harty, and Ed Larson

CC: Aaron Penney, Jerry McCormack

RE: Rationale for request to construct two additional raceways at Nez Perce Tribal Hatchery

This memo is in support of the April 25, 2003 letter to the NPPC requesting capital improvements to Nez Perce Tribal Hatchery (NPTH), specifically the addition of two raceways to provide intermediate rearing space to grow out fish to the size required for marking (@ 180 fish/lb).

Per your instruction, project staff considered every available option for moving fish and rearing them in other containers at the 1705 site (S-channels, adult holding ponds, fall chinook rearing ponds, portable circular tanks) as well as moving fish to nearby satellite facilities (Sweetwater Springs, North Lapwai Valley). Table 1 contains a list and analysis of these options. In summary, none of these options were considered feasible due to being cost prohibitive, logistically infeasible, poor fish culture practice and conditions. The most cost-effective option that was consistent with our NATURES rearing treatments and minimal handling approach was the construction of two additional raceways.

If we are not able to construct the two new raceways we will have to reduce fish production from NPTH. In order to meet low density rearing requirements with our existing space we would only be able to rear 1,059,000 fish in early rearing which would result in an estimated release of 900,150 juveniles (45% of the authorized 2,025,000). Prioritization of fish production and releases would need to occur if production levels are reduced. We considered several options at the staff level and determined that whatever option is chosen 3-4 of the satellite facilities would not be operated and would sit empty. The cost of NPTH satellites that likely would not be used is \$2,802,984; North Lapwai Valley \$1,212,000, Sweetwater Springs \$485,696, Lukes Gulch \$721,316, and Cedar Flats \$383,972. The cost of constructing two additional raceways is \$124,000.

Based on our analysis we recommend constructing two additional raceways to provide necessary intermediate rearing space at NPTH. This option will allow us to meet our production objectives as authorized by NPPC (Decision Document, April 21, 2000 and Letter from Chairman Cassidy, May 2000) in the most cost-effective manner.

Table 1. Summary of optional rearing containers considered to provide additional intermediate rearing space at Nez Perce Tribal Hatchery.

Rearing container	Staff Analysis
Adult holding ponds	<p>Cost Prohibitive</p> <p>Extensive modification required to rear small fish in adult holding – would necessitate new piping and modification of existing to bring in treated surface water and well water (>\$250,000), new screens for upweller and drain, modification of adult pass-through structures at end of raceway, removal and modification of overhead fencing, purchase and install grip strut walkways and railings for feeding and cleaning. Purchase a fish pump (\$50-60,000).</p>
S-channels w/o net pen	<p>Poor Fish Culture Practice</p> <p>Conflict with spring chinook use – fall chinook and spring chinook would have to be in the container at the same time. Very difficult to start small fish on feed in container so large. Modifications necessary to S-channels would include new screen fabrication for upper and lower ends and purchase and installation of grip strut walkways and railings to perform fish culture tasks.</p>
S-channels w/ net pen	<p>Poor Fish Culture Practice</p> <p>Conflict with spring chinook use – fall chinook and spring chinook would have to be in the container at the same time. Ponding small fry into net pen is not good fish culture - increased potential for disease and inability to treat disease outbreaks, poor flow management and increased handling, crowding and stress. Same modification as above necessary for use in addition to purchase and installation of net pen.</p>
Rearing ponds w/ net pen	<p>Poor Fish Culture Practice</p> <p>Would require ponding small fry into net pen. Ponding small fry into net pen is not good fish culture - increased potential for disease and inability to treat disease outbreaks, poor flow management. Very difficult to remove fish from net pens into marking trailer – increased handling, crowding and stress. Necessary modifications would include construction of dock to access net pens, purchase and installation of net pens.</p>
Portable circular tanks	<p>Cost Prohibitive</p> <p>Necessary modifications include piping system from mixing boxes and drain lines (same as what's required for proposed raceways except 8 standpipes and drains instead of two intake lines and one common drain). Purchase (installation not included) portable circular tanks (\$25,250/tank = \$202,000).</p>
Sweetwater Springs	<p>Logistically Infeasible</p> <p>Would require additional rearing tanks with no room to install.</p> <p>Poor Fish Culture Practice</p> <p>Would require handling, transportation via truck, and ponding very small fry which would result in excessive mortality. Cold water temperature would restrict growth, delay marking, and transfer to remote satellite sites – not consistent with Bio Program.</p>
North Lapwai Valley	<p>Poor Fish Culture Practice and Cost Prohibitive</p> <p>Would require handling, transportation via truck, and ponding very small fry which would result in excessive mortality. Rearing ponds are too large to start small fry on feed and fish could not easily be removed for marking. Would require purchase and installation of screening and U.V./filter system to provide treated water.</p>

Attachment 2: ISRP review of the information regarding the two additional raceways for the Nez Perce Tribal Hatchery, Project, #1983-350-00, July 9, 2003.



Independent Scientific Review Panel
for the Northwest Power Planning Council
851 SW 6th Avenue, Suite 1100
Portland, Oregon 97204
isrp@nwppc.org

MEMORANDUM

July 9, 2003

TO: Mark Fritsch, Fish Production Coordinator, Northwest Power Planning Council

FROM: Rick Williams, ISRP Chair

SUBJECT: Review of Nez Perce Tribal Hatchery's (Project 1983-350-00) request for two intermediate rearing channels.

Per the Council's June 19, 2003 request, the ISRP reviewed the Council and Nez Perce documents provided regarding the addition of two intermediate rearing channels to the Nez Perce Tribal Hatchery. The ISRP was primarily tasked with considering if the proposed change in fish rearing would compromise the overall study design for the hatchery program.

Given the information in the May 27, 2003 letter from David Johnson of the Nez Perce Tribe to Mark Fritsch of the Council, it does not appear that the proposed changes in the facility and in fish rearing will compromise the experimental design. The switch to full length coded wire tags and the needed upgrades to the water system seem justified.

Biological information in the second response was less well described and less compelling regarding the NPT's assertion that the altered rearing sequence would have no effect on chinook life history patterns and adult returns. Similarly, the ISRP was not convinced by the NPT's presentation of fall chinook returns to McNary and Lower Granite (e.g., figures in second response) that the recent increases of Snake River fall chinook past Lower Granite can be attributed to the FCAP acclimation program. With the analysis presented, it is a leap of faith to attribute those return increases to the FCAP acclimation program.