

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT NO. ST-9237

Crunch Pak, LLC

SUMMARY

Crunch Pak LLC, is a Significant Industrial User (SIU). An SIU by definition consumes over 5% of either the organic or hydraulic load or discharges 25,000 gallons per day of process water. Crunch Pak produces packaged sliced apples treated with calcium ascorbate, vitamin C, to retard browning of the fruit. Crunch Pak is moving its facility to the City of Cashmere. Crunch Pak has completed extensive remodeling to the existing facility formally used for apple packing. The Permittee plans to expand the existing facility in the near future. Crunch Pak expects to eventually process approximately 18,200 tons of apples a year at this facility.

The Permittee is proposing to discharge process wastewater from outfall #1 located in Building #1 beginning with approximately 10,000 gallons per day (gpd) during periods of operation. The Permittee expects to discharge 70,000 gpd by the end of the permit term. The contract limits, as established will allow the Permittee to eventually discharge a maximum of 100,000 gpd of process wastewater containing up to 4000 mg/L of BOD. The equivalent loading to the Sewage Treatment Plant (STP), at the maximum discharge rate would be approximately 3,336 lbs BOD /Day. This represents 66.7% of Publicly Owned Treatment Works (POTW) current design capacity of 5,000 lbs BOD/Day. Loading from other municipal sources, for the year 2003-2004 averaged 782.4 lbs BOD/Day. The combined potential loading represents 82% of design capacity, leaving the City little room for growth unless increased capacity is planned. RH2 Engineers, Planners and Scientists have indicated by letter that the STP is capable of handling up to 70,000 gpd or about 80% of STP capacity. The City is expecting to increase capacity at the POTW during the permit term, which will reduce any future capacity issues by the time the Permittee expects to reach maximum discharge rates.

The Permittee is expecting to discharge up to 9,500 gpd of non-contact cooling water. There are three discharge locations. Outfall #002 is located in the engine room of the main plant. Outfall # 003, Cinderblock Building, is located south and east of the main plant. Outfall # 004, the Legion Hall Building is located south and west of the main plant.

The Department has determined the combined non-contact cooling water flow to be minimal. The Permittee proposes to treat its cooling water with an anti-scalant and a biocide. The Permittee is required to submit to the City and the Department a risk assessment report demonstrating these additives will not harm the STP nor degrade the quality of the surface and ground waters of the State at the proposed additive feed rate. Prior to any discharge of non-contact cooling water with additives, the Permittee is required to insert the approved risk assessment report in Appendix B of the O&M Manual. A Summary of the report detailing the limitations and monitoring requirements will be placed in Appendix A of the O&M Manual, which will then constitute the enforceable limits and monitoring requirements of the permit.

The contract limits allow the Permittee to eventually discharge a maximum of 100,000 gpd of process wastewater containing up to 4000 mg/L of BOD/L and a maximum of 9,500 gpd non-contact cooling water with additives per day, upon approval of the risk assessment.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No. ST-9237. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to the City of Cashmere POTW. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the State is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the State. Regulations adopted by the State include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Permittee. To the best of their knowledge errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Crunch Pak, LLC
Facility Name and Address	300 Sunset Highway Cashmere, WA 98815
Type of Facility:	Perishable sliced apples packaged for resale. SIC Code #2099
Facility Discharge Location	Latitude: 47° 31' 14" N Longitude: 120° 31' 48" W.
Treatment Plant Receiving Discharge	City of Cashmere POTW
Contact at Facility	Name: Todd Danko Telephone #: 509-782-2807 FAX#: 509-782-0204
Responsible Official	Name: Craig Carson Title: Member, Crunch Pak, LLC Address: 2833 Euclid Ave, Wenatchee, WA 98801 Telephone #: 509-782-2807 FAX # 509 782-0204

BACKGROUND INFORMATION

HISTORY

Crunch Pak is moving to a new location in Cashmere from its existing location in Wenatchee. The facility expects to be in operation by the fall of 2004

The Cashmere site contains over 18,000 square feet and is undergoing extensive renovation including new office space and a loading dock. The facility was formerly an apple packing warehouse. An additional 59,500 square feet is to be added in the near future. Once this additional space is added the Permittee expects to discharge approximately 70,000 – 100,000 gpd of process waste to the City of Cashmere by end of the permit term or early into the following permit term.

INDUSTRIAL PROCESSES

According to the wastewater permit application, Crunch Pak expects to process 18,200 tons of raw apples into 10,000 tons of sliced and packaged apples, juice and 2% raw material as solid waste. The sliced apples are treated with calcium ascorbate to retard browning of the flesh. This requires up to 164 tons of calcium ascorbate in the process of one year.

There are four wastewater discharge sources. Discharge from the process line is expected to increase from 9,500 gpd beginning in 2004 to an estimated 49,500 by 2006 to 70,000 gpd with a maximum of 70,000 gpd by the end of the proposed permit term in 2009. The three other discharges consist of recycled non-contact cooling water with a combined maximum flow of 9,500 gpd.

TREATMENT PROCESSES

Outfall # 001

Process water discharged from outfall #001, located in Building #1, is hydro-sieved and filtered to remove solids to a particle size of approximately two microns.

Non-Contact Cooling Water Outfalls

The combined flow of the chemically treated non-contact cooling water is estimated to peak at 9,500 gpd, while the combined industrial and municipal influent to the POTW from February 2001 to May 2004 is 0.623 MGD, million gallons per day. The maximum combined non-contact cooling water represents 1.5% of the average flow of the STP. It is in the best professional judgment of the Department that this non-contact cooling water is of minimal volume. In addition, following approval of the required risk assessment documents, the non-contact cooling water additives should not pose a threat to the STP or have the potential to degrade the waters of the State. Therefore the Department approves the discharge consistent with WAC 173-216-60 (b)(vii) pending approval of the risk assessment.

Outfall # 002

Recirculated non-contact cooling water is discharged from the engine room attached to the main plant, Building #1. The discharge is piped to the Cashmere sanitary sewer line located to the west and slightly north of the plant. The expected maximum flow is 4,500 gpd. Flows from a previous tenant at the facility were reported at 2,200 gpd.

Outfall # 003

Outfall # 003 is at Building #2, "cinderblock building", which is located south and west across Sunset Avenue near the corner with Division Street. The sewer connection is located on Division Street. Estimated flows are expected to range up to 2,200 gpd. Flows from a previous tenant at the facility were reported at 350 gpd.

Outfall #004

Outfall # 004 is at Building #3, "Legion Hall Building", which is located on Chapel Street below Sunset Avenue, south and west of the main plant. The sanitary sewer connection is located on

Chapel Street. Estimated flows are expected to range up to 2,800 gpd. Flows from a previous tenant of the facility were reported at the 2,200 gpd range.

It is not understood why the non-contact cooling water flows are estimated well above the flows reported by the previous occupant of the facility. To the best of the Department's knowledge the refrigeration equipment has not been replaced. In any event, the risk assessment, Special Condition S2, requires flow rates to be reported. Any future limits will be based on data collected this permit term.

PERMIT STATUS

This is essentially new facility. The facility has undergone extensive retooling. An application for the permit was received by the Department on November 21, 2003 and accepted by the Department on November 21, 2003.

A temporary permit for this facility was issued on February 1, 2004.

WASTEWATER CHARACTERIZATION

A. Outfall - #001

The concentration of pollutants in the process discharge, outfall # 001, as reported in the permit application is from a characterization derived from the existing operation in Wenatchee. It is a reasonable assumption that there will be little difference in the wastewaters at the new Cashmere facility. The proposed wastewater discharge is characterized for the following parameters:

Table 1a: Wastewater Characterization Outfall # 001

Parameter	Characterization		
	Average Concentration	Highest Concentration	Lowest Concentration
BOD ₅ , in mg/L	3,500	3,870	3,120
TSS, in mg/L	214	312	123
Ammonia, in mg/L	0.26	0.45	<0.07
Chloride, in mg/L	18.7	21.9	15.5
pH, in Std. Units	6.3	6.6	6.1

During the facility review period the Permittee and the City estimated the wastewater characterization would be as follows in Table 1b. In any event monitoring over time will

be the basis for the wastewater characterization in the next permit. Loading assumption and calculations contained in this fact sheet are based on the characterization provided in the permit application.

Table 1b: Wastewater Characterization Outfall # 001

Parameter	Characterization		
	Average Concentration	Highest Concentration	Lowest Concentration
BOD ₅ , in mg/L	2,200	3,870	200
TSS, in mg/L	250	312	50
Ammonia, in mg/L	0.26	0.45	<0.07
Chloride, in mg/L	18.7	21.9	1
pH, in Std. Units	6.3	8	5

B. Non-Contact Cooling Water Outfalls - # 002, # 003, # 004

All of the above referenced outfalls will discharge non-contact cooling water containing biological and scaling control additives. No characterization was available at the time of this writing. The flows will originate from the Permittee's evaporative coolers at three separate locations as described previously. The Department has reviewed the various additives proposed by the Permittee and has determined that there are a number of constituent chemicals contained in these additives that have the potential to either release toxics in toxic amounts at the STP or pass thru to the receiving water, Wenatchee River, contaminate the STP sludge or add to eutropication problems in the receiving water.

Therefore, Special Condition, S9, requires the Permittee to submit to the City and the Department a risk assessment report containing a complete listing of the chemical constituents, references to toxicity and fate in the environment and a estimated mass balance that demonstrates these additives will neither harm the STP nor degrade the quality of the surface and ground waters of the State. Prior to discharge of non-contact cooling water with additives the Permittee is required to obtain approval for these discharges from the Department and the City.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the STP (local limits). Wastewater must be treated using all known, available,

and reasonable methods of prevention, control and treatment (AKART) and not interfere with the operation of the STP.

The more stringent of the local (or contract) limits-based or technology-based limits are applied to each of the parameters of concern. There are no technological limits established for this industry, therefore only the local limits (contract) are described below.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

In order to protect the Cashmere STP from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, limitations for certain parameters are necessary. These limitations are based on local limits established by the Cashmere STP. Presently the only limitations in effect based on the User Contract are for BOD which shall be no greater than 4000 mg/L and a maximum flow of 0.10 MGD, Million Gallons per Day. The City as yet has not formalized limits for the non-contact cooling water, which the Permittee estimates at a maximum flow of 9,500 gpd.

Operation at a previous location has provided data for the establishment of the Crunch Pak wastewater characteristics. The Permittee and the City of Cashmere are anticipated to determine appropriate limits based upon empirical evidence and reasonable projections as production at the facility increases. Within the proposed permit term the Permittee expects the process wastewater discharge to increase from 10,000 gpd to 70,000 gpd. The current agreement with the City allows up to 100,000 gpd.

Appendix A of the Operations and Maintenance Manual will contain the Department approved contract negotiated between the City of Cashmere and Crunch Pak. The contract will detail the discharge limitations of the process wastewater for Crunch Pak. These limitations will constitute the enforceable limitations of the proposed permit. If during the proposed permit cycle a subsequent contract is renegotiated between the City of Cashmere and Crunch Pak, the newly approved contract shall be placed in Appendix A of the Permittee's O & M Manual, which will then constitute the new enforceable limits of the permit.

In addition, Appendix A shall contain a summary detailing limitations derived from the most current Non-Contact Cooling Water Additives Risk Assessment Report. The Report in its entirety will be placed in Appendix B of the O&M Manual by the Permittee. The report, following Departmental and City approval, will detail the method of application and dosage levels which will then constitute the enforceable limits of the permit.

The pH of the effluent is required to be within the range of 5 to 11 at all times.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Special Condition S2 . Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

PROCESS WASTEWATER

The City and Crunch Pak propose to temporarily estimate the wastewater discharge rate by monitoring the metered city supplied water at each building. It is assumed that domestic water consumption and evaporative losses are marginal. The non-contact cooling water will be distinguished from the process wastewater flow at Building #1 by metering the non-contact cooling water make up water. This volume will be subtracted from the plant's metered water supply to determine process water discharge.

Special Condition, S10, will require the Permittee to submit engineering plans for Department approval for the installation of a flow meter and flow proportioned auto-sampler no later than **April 30, 2006**. The Permittee will be required to have the meter and auto-sampler installed and a letter confirming completion of the installation submitted to the Department no later than **November 30, 2006**.

The Permittee will acquire an auto sampler of a type agreed upon by City of Cashmere and Permittee with Departmental approval. This will be used to collect flow proportioned composite samples from the process wastewater. The sampler will be located in or around Building #1 for easy access by the City.

The Department has calculated that a BOD load at the maximum of 4000 mg BOD/L, in the process wastewater at maximum flow of 100,000 gpd would equal 3,336 lbs BOD/Day. This level of loading would consume 67 % of the STP municipal capacity. It is the opinion of the Department, given the large STP BOD capacity demand, that monthly monitoring as proposed by the Permittee is inadequate. A higher frequency of monitoring is needed to determine the range of BOD loading with any degree of statistical confidence. Therefore, monitoring of the process wastewater for BOD will be conducted twice monthly. At the end of one year, the Permittee may petition the Department in writing for a reduction in the monitoring frequency. Following review of the data and consultation with the City, a reduction in monitoring may be granted by the Department.

The Permittee and the City have expressed a desire to replace BOD analysis with the less expensive and faster COD analysis. Both entities are well within their rights to conduct additional analysis if so desired. However, the parties involved should be cautioned that COD is

noted to be highly variable and difficult to correlate with BOD. It is largely for this reason COD has not replaced the time consuming and costly BOD test by now. The Permittee and City have the right to undertake such a study if they wish. However, the Department will again caution the parties that a decision by the Department to allow a COD test to replace the standard BOD test, in this case only, must pass a high bar of statistical rigor and confidence. Given the high variability characteristic of COD, to achieve statistical rigor may be difficult, time consuming and costly. For this reason the monitoring conditions contained in S2 do not require COD monitoring. The Department suggests the Permittee and City consult the Department prior to conducting a COD/BOD replacement study to discuss experimental design and statistical expectations.

TSS has the potential to negatively impact the performance of the STP and have a negative impact on the effluent of the STP via pass-through. However, unlike BOD, TSS in the wastewater is relatively low with an average concentration comparable to municipal sources and at a fraction of the loading. Therefore, TSS will be monitored once monthly.

The pH range of an effluent entering the collection system and ultimately the STP of the City is required to be between 5 to 11 standard units. Below or above that range the effluent can damage the collection system and negatively impact the biologic component of the STP. For this reason pH will be monitored twice monthly.

NON-CONTACT COOLING WATER

The City and Permittee propose to meter the City water supply used for make up water to the coolers to determine the discharges from the Crunch Pak facilities. As discussed earlier a temporary method to separate non-contact cooling water from process wastewater has been determined. On the other hand, the “cinderblock building”, building #2, and the “legion hall building”, building #3, will discharge only non-contact cooling water combined with some domestic water. Monitoring the city supplied water for these structures should be sufficient to estimate the non-contact cooling water discharged.

The concentration of the monitored parameters in an individual outfall is expected to be low with similar characteristics. It is the opinion of the Department that a single flow-proportional composite is sufficient. For example if Outfall #002 contributes 55% of the total flow and Outfall #003 contributes 25%; the composited sample should consist of 55% Outfall #002, 25% Outfall #003 and 20% Outfall #004. It is in the Permittee’s interest that should a higher than expected concentration be discovered in a composited sample individual sampling to assure individual components are operating properly would be warranted.

BOD and TSS concentrations in the non-contact cooling water are usually low. The BOD and TSS load is not expected to be significant compared to the process wastewater. Monthly monitoring of BOD and TSS will be required to assure the cooling system is in good operating order.

The pH range of non-contact cooling water entering the collection system and ultimately the STP is required to be between 5 to 11 standard units at all times. Below or above that range the effluent can damage the collection system and negatively impact the biologic component of the STP. Monthly monitoring of pH will be required at each individual outfall.

ADDITIONAL REQUIRED MONITORING TO VERIFY THE RISK ASSESSMENT REPORT

As discussed earlier in this fact sheet, the Permittee is required to develop a risk assessment report detailing the additives proposed to be used, listing the constituent ingredients and demonstrating these compounds will not cause harm to the STP or the environment at the proposed dosage levels. Given the multitude of products available and the myriad of ingredients, it is impossible to determine monitoring requirements at this time. The approved risk assessment report therefore will contain a sampling and monitoring plan sufficient to verify the conclusions of the report. The approved report contained in Appendix B and the summary of the report contained in Appendix B of the O&M Manual will constitute the enforceable monitoring requirements of the permit.

REPORTING AND RECORDKEEPING

The provisions of Special Condition S3 are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)).

OPERATIONS AND MAINTENANCE (O&M)

The proposed permit contains Special Condition S5. as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC requires submittal of an O&M Manual. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the STP. These include substances which cause pass-through or interference, pollutants which may cause damage to the STP or harm to the STP workers (Chapter 173-216 WAC), and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the State from leachate of solid waste. According to the application, approximately 60% of total raw product will be finished produce, 38% will be product for juice concentrate, and 2% will be solid waste.

This proposed permit requires, under authority of RCW 90.48.080, that the Permittee develop and submit to the Department a Solid Waste Plan to prevent solid waste from causing pollution of waters of the State. The plan must also be submitted to the local solid waste permitting agency for approval, if required by local ordinance.

SPILL AND SLUG DISCHARGE PREVENTION AND CONTROL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

In addition, the Department has determined that the Permittee has the potential for a batch discharge or a spill that could adversely affect the STP, therefore, a slug discharge control plan been developed by Permittee and submitted to the Department (40 CFR 403.8 (f)).

The proposed permit requires the Permittee to develop and implement a combined Spill and Slug Discharge Prevention and Control Plan for preventing the accidental release of pollutants to State waters and/or the STP for minimizing damages, if such a discharge occurs.

NON-CONTACT COOLING WATER ADDITIVE RISK ASSESSMENT REPORT

Prior to discharge of Non-Contact Cooling Water with Additives the Permittee will be required to submit to the City and the Department, for approval, a risk assessment report demonstrating that the additives contained in the non-contact cooling water will not cause harm at the STP or degrade the quality of the ground and surface waters of the State. The approved a risk assessment report and summary which details the limits and monitoring requirements will be placed in Appendix B and A of the O&M Manual respectively. The summary report in Appendix A will constitute the enforceable limits and monitoring requirements of the permit.

Should the Permittee opt to change to another suite of additives and prior to their discharge, the Permittee must first submit a summary and full report update to obtain approval from the Department and the City of Cashmere. The approved summary will be placed in Appendix A of the O&M Manual which will then constitute the enforceable limits and monitoring requirements. The approved full report will then be placed in Appendix B of the O&M Manual.

Appendix C of this Fact sheet contains the technical calculations used to determine the loading of various additive constituents with companion narrative. Appendix C should be considered a model for any reports the Permittee will submit.

COMPLIANCE SCHEDULE FOR INSTALLATION OF WASTEWATER FLOW METER AND FLOW PROPORTIONED AUTO-SAMPLER

The Permittee will be required to install a flow meter on the wastewater discharge, outfall #001, and install a flow proportioned auto-sampler. The Permittee at inception of production will be a Significant Industrial User of the POTW using approximately 5% of the design criteria for BOD.

The Permittee is anticipating increased production in the next few years to increase to a maximum permissible 66.7 % of the POTW current design loading capacity for BOD. Because of the significant use of capacity, the Department will require that metering and monitoring is as accurate as possible.

GENERAL CONDITIONS

General Conditions are based directly on State laws and regulations and have been standardized for all industrial waste discharge to STP permits issued by the Department.

Condition G1. requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2. requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3. specifies conditions for modifying, suspending or terminating the permit. Condition G4. requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5. requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6. prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Conditions G7. and G8. relate to permit renewal and transfer. Condition G9. requires the Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11. requires the payment of permit fees. Condition G12. describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by the Department in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics. The Department proposes that the permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

APPENDIX A -- PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to issue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 15, 2004 in the Wenatchee World to inform the public that an application had been submitted and to invite comment on the issuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on September 8, 2004 in the Leavenworth Echo and the Cashmere Valley Record to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Central Regional Office
15 West Yakima Avenue, Suite 200
Yakima, WA 98902

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and the reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, 509/457-7105, or by writing to the address listed above.

This fact sheet and the proposed permit were written by Rich Marcley.

APPENDIX B -- GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the Federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a STP by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be

“time-composite”(collected at constant time intervals) or “flow-proportional” (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity—Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference— A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the STP, its treatment processes or operations, or its sludge processes, use or disposal and;

Therefore is a cause of a violation of any requirement of the STP's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a STP.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through— A discharge which exits the STP into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the STP's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User--A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day or;
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the STP (e.g. facilities which develop photographic film or paper, and car washes).

The Department may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)--

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the STP (excluding sanitary, noncontact cooling, and boiler blow-down

wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the STP treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the STP's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the STP's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or STP, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated STPs or to the STP in the case of delegated STPs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the STP. This may include any pollutant released at a flow rate which may cause interference with the STP.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the State of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C -- TECHNICAL CALCULATIONS

MICROBIAL CONTROL AGENT

The Permittee proposed to use a microbial control agent containing the biocide 5-chloro-2-methyl-4-isothiazolin-3-one, isothiazolin, as the primary ingredient with 2-methyl-4-isothiazolin-3-one and < 1% copper nitrate salts. The supplier recommended dosage concentration of the product ranges from 35 mg/L to 219 mg/L. Only 1.8% of the product contains the active biocide. At the high dosage rate of 219 mg/L, 3.94 mg/L is the active ingredient.

The proposed method of application as described by the supplier is to apply a “shock dosage” at the higher end of the dosage range periodically with a lower maintenance dosage metered in on a continuous basis. It is assumed that the dosage will be metered to maximize kill effect while simultaneously minimizing chemical usage.

Assuming the high end of the dosage range and no degradation of the active ingredients following microbial activity within the heat exchanger, the STP will receive 9,500 gallons of non-contact cooling water a day with an isothiazolin concentration of 3.94 mg/L. This is equivalent to 141.7 grams of active biocide entering the STP that has on average a combined municipal and industrial influent flow of 0.623 MGD. If full mixing is assumed, the concentration of the biocide prior to microbial activity in the STP is estimated at 60 µg/L by dividing 141.7 grams biocide with 2,358,242 liters of average influent.

According to the environmental risk assessment, (RIVM report 601506005), conducted by the Dutch RIVM Institute for Public Health, Environment and Nature this biocide, isothiazolin, has a 50% effects concentration, EC, on sewage treatment plant organisms at 1165 mg/L. This means that statistically 50% of the organisms will exhibit some negative effect at that concentration but not necessarily be killed. The isothiazolin concentration entering the STP, prior to mixing, will be at 3.94 mg/L, which is two orders of magnitude below the 1165 mg/L 50% EC. In addition, following mixing with the incoming effluent and not including the 12 million gallon capacity of Cashmere’s 1st lagoon the concentration of the biocide is reduced by an additional order of magnitude to 60 µg/L. That concentration approaches the No Effects Concentration, NOEC, reported by RIVM for fish at 50 µg/L. This means that even if no treatment of the biocide occurred after 26 days at the STP the concentration at point of discharge would have a very low probability of negatively impacting biota in the receiving water.

A suite of mathematic models, EPIWIN, developed by the Syracuse Research Corporation for EPA was used in the RIVM report to determine the fate of the isothiazolin biocides in the environment. The isothiazolins are termed hazardous or very hazardous to the environment. The hazardous or very hazardous designation is attributable to its resistance to hydrolysis at room temperature and therefore it’s persistence in cooling water. It is however, readily biodegradable in an STP. EPIWIN indicates a high probability of rapid 50% microbial biodegradation of from 0.3 to 0.6 day in an STP. The retention time of the Cashmere lagoons is approximately 26 days.

The isothiazolin ring is cleaved between the labile nitrogen-sulphur bond yielding malonamic acid with further oxidation resulting in the formation of an amine and CO₂.

Given the rapid biodegradation of isothiazolin by cleaving in the presence of microorganisms and the long retention time of the Cashmere lagoon system, it is expected that all the isothiazolin will be consumed in the STP prior to discharge to the receiving water.

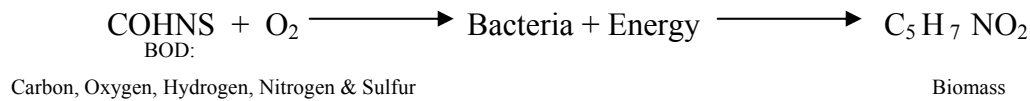
Copper on the other hand is more problematic. Assuming a 1% concentration of copper nitrate salts up to 78.75 gm copper nitrate salts/Day or 28.7kgs per year will enter the STP. It is unknown what percent of the copper will pass through to the receiving water. EPIWIN predicts 98% of the copper nitrate salts will pass through an STP, but is unclear as to the type of STP. Assuming the worse case at 98% pass through and equilibrium conditions established in the lagoons, copper at toxic amounts (33 µg copper/L) would be entering the receiving water daily.

SCALING CONTROL AGENT

The Permittee initially proposed using an anti-scaling agent containing sodium molybdate, phosphonobutane and tricarboxylic acid (PBTC), polymalic acid and copper nitrate salts. The manufacturer's recommended dosage range is between 180 mg/L to 360 mg/L. Of this dosage, 5% contains PBTC that at the high dosage range is equivalent to 18 mg/L. At 9500 gpd this equals 647 grams of PBTC entering the STP. Of the 647.2 grams, 74.4 grams or 11.5% of the PBTC is phosphorous that could become available for plant uptake. At these dosage levels negative impacts to the STP are not expected. However, with the eminent 303d listing of the receiving water, Wenatchee River, the available phosphorous contained in the PBTC may become an element of concern for the Cashmere STP. Assuming discharge and dosage rates remain steady throughout the year, 74.4 grams of phosphorous a day entering the STP would equal 60 lb/Year, however due to other constraints described below the annual phosphorus load is expected to be below 2.2 lbs.

WAC 173-308-160 established limits for various organic and inorganic constituents common to municipal sewerage sludge. Classification of the sludge as biosolids is more economical than a solid waste designation for the STP. Biosolids may be land applied and are often used for soil building, while solid waste must be handled carefully and disposed of in costly land fills. The biosolid limitation for molybdenum is 75 mg/Kg (dry weight basis). In order to predict the potential concentration of molybdenum in the municipal sludge, the rate of sludge build up needs to be estimated as well as the likely loadings arriving from the Permittee need to be considered.

According to Metcalf and Eddy, *Wastewater Engineering: Treatment/Disposal/Reuse*, 1979, the organic reaction of BOD undergoing organic biomass synthesis can be depicted in the following manner.



A Stoichiometric projection depicts the “balanced” reaction involved in biomass production in this manner.



Based on the ratio of the molecular weight of the BOD fraction to the biomass fraction, approximately 30% of available BOD is converted to biomass. In our estimate we have assumed a generous 50% conversion factor. In other words for every net 10 lbs. of BOD entering the treatment plant 5 lbs. of sludge will be produced. Net BOD is simply the average influent BOD minus the average effluent BOD leaving the system.

TSS also contributes to the build up of sludge. TSS consists of inorganic particles, e.g. grit, cellulose etc., as well as a mix of simple organic and complex organic molecules. We are assuming 10% of the TSS is inorganic, which contributes to sludge accretion directly. The remaining 90% of the TSS is split equally between simple BOD organics and more complex organics that are not readily consumed by organisms and therefore contributes to sludge accretion. In our prediction every net 10 lbs. of TSS produces 1 pound of inorganic sludge and 4.5 pounds of complex organic sludge.

Average BOD/Day Influent	Average BOD Influent from Tree Top	Average BOD Effluent	Average TSS Influent	Average TSS Effluent
782	43.7	18.5	1002	87.2
782 + 43.7 – 18.5 = Net BOD 807.2 lbs/Day			1002 – 87 = Net TSS 915 lbs/ Day	

Using the above information, the rate of sludge build-up can be estimated by adding 50% of the net BOD, plus 10% of the net TSS and fifty percent of the remaining organic TSS. Therefore the rate of sludge build-up is calculated to be 906.9 lbs/Day or 331,019 lbs/Year.

The Department has made an attempt to determine the level at which the anti-scalant will be used. In conversations with the supplier two different methods of dosing have been described. One representative quoted a concentration range between 150 to 360 mg/L that would be discharged in a 1,000 gallon “bleed off”. One can assume that this high concentration would circulate for a time, be discharge and the system return to a no additive or some lower maintenance dose. A 1000 gallon “bleed off” at the high end of the range contains 4.9 grams of molybdenum. Another representative called for a considerably lower “shock dosage” of 50

mg/L. In either case it is not clear at this time what dosage level is required, (or not), for maintenance of the system.

If 9,500 gpd are discharged at the high end of the anti-scalant dosage range of 360 mg/L, where 3.6% or 13 mg/L is molybdenum, 467.5 grams would enter the STP daily. This comes to 170.63 kg a year. If sludge accretion is at 150, 463 kg/Year the expected molybdenum concentration from the Crunch Pak discharge alone would be, (170.63 kg molybdenum / 150,463 kg (331,019 lbs.) sludge), 1.13 gm molybdenum /Kg of sludge, which is fifteen times the 75 mg molybdenum /Kg biosolids threshold. A dosage level of 50 mg/L at 9,500 gpd would yield twice the limit at 157 mg/Kg. It is clear that in order for the STP to be protected from costly solid waste disposal fees a limit based on yearly mass loadings will be required. A reasonable limit for this product would be 5.2 Kg molybdenum or 144Kg of product. This would represent approximately half, 35 mg, of the 75 mg molybdenum limit for biosolids.

The Permittee initially proposed using the above anti-scalant agent containing phosphonic acid and molybdenum. Mass balance calculations of the additive to sludge accretion at the STP demonstrated that molybdenum had the potential to make sludge disposal a problem due to state limits imposed for biosolids containing molybdenum. In addition, phosphorous has been recognized as an element of concern for its role in eutrophication, which also made the Permittee's choice of additive less desirable for the City.

The Permittee has proposed to use an anti-scalant that contains 5% - 10% potassium hydroxide, (caustic potash) and lesser amounts of phosphoric acid, tripolyphosphate, polytrazole, diphosphonic acid and a polyacrylic terpolymer that are listed as water conditioning agents. This product is not expected to negatively impact the STP or its ability to dispose of biosolids. It should be noted here that the supplier only listed the caustic potash as the active ingredient and its relative proportion to the bulk product. The other ingredients were not identified. They were grouped as "other water treatment chemicals". The Department made a request to the supplier that these "other" ingredients be listed. The supplier provided a list which revealed approximately 157 lb P/ Year would be entering the STP, which is almost three times the phosphorous load contained in the molybdenum.

There are two areas of concern the City should be aware of, alkalinity and total phosphorous. The STP during the summer occasionally needs to lower the pH with acid in order to comply with its NPDES discharge permit. The elevated pH is caused by the algae growth. It is unknown at this time if the additional alkalinity derived from the non-contact cooling water anti-scalant will cause the City an increase in the cost of neutralizing acid. The second condition is phosphorous entering the Wenatchee River, which will probably be 303d listed for dissolved oxygen and pH. The controlling factor for pH and dissolved oxygen is phosphorous. There could potentially be up to 71 kg of phosphorous per year entering the STP and ultimately the receiving water from the Permittee's choice of anti-scalant additive.

1 gallon = 3.7853 liters 1000 milligrams = 1 gram 1000 grams = 1 kilogram = 2.2 lbs.
9,500 gallons = 35,960 liters

BIOCIDE

Isothiazolin:

$$\begin{array}{rcll} \text{Concentration of product in bleed off} & \times & \text{9,500 gpd} & \times \text{3.7853} = \text{total grams/day} \\ 219 \text{ mg/L} & & & \\ & \times & \text{35,960} & = \underline{7.875 \text{ kilograms per day}} \end{array}$$

$$\begin{array}{rcll} \text{Kilograms/day} & \times & \text{\% isothiazolin in compound by weight} & = \text{weight active isothiazolin per day} \\ 7.875 \text{ kilograms per day} & & 0.018 & = \underline{141.75 \text{ gm/Day}} \end{array}$$

$$\begin{array}{rcll} \text{Weight in grams of isothiazolin per day / average influent per day at STP} & = & \text{concentration} \\ 141.75 \text{ gm/Day} & / & 2,358,242 \text{ liters per day} & = 0.00006 \text{ gm} \\ & & & \approx \underline{60 \text{ }\mu\text{g/L isothiazolin}} \end{array}$$

Copper:

The biocide contains < 1% copper nitrate salts.

$$\begin{array}{rcll} \text{Concentration of product used} & \times & \text{(9,500 gpd} & \times \text{3.7853)} = \text{total grams/day/1000} \\ 219 \text{ mg/L} & & & \\ & \times & \text{35,960 liters} & = \underline{7.875 \text{ kilograms product per day}} \end{array}$$

At a 1% concentration, the load is then:

$$7.875 \text{ kilograms product per day} \times 0.001 = \underline{78.75 \text{ gm copper nitrate salts/Day}}$$

Of the copper nitrate salts, 34% is copper. The copper load is then:

$$78.75 \text{ gm copper nitrate salts per day} \times 34\% = \underline{18.9 \text{ gm copper/Day}}$$

The average concentration is then:

$$18.9 \text{ gm copper day} / 2,358,242 \text{ liters per day influent} = \underline{8 \text{ }\mu\text{g copper/L}}$$

The potential concentration of copper passing through the STP once equilibrium is reached and assuming 98% of the copper (according to EPIWIN) passes through the STP to the receiving water is then:

$$8 \text{ }\mu\text{g copper/L} \times 98\% = 7.84 \text{ }\mu\text{g copper/L}$$

The annual load to the STP is then

$$18.9 \text{ gm copper/Day} \times 365 \text{ days} = \underline{6.9 \text{ kg copper/Year.}}$$

Assuming 98% of the copper (according to EPIWIN) passes through the STP to the receiving water, the annual load to the receiving water is then:

$$6.9 \text{ kg copper per year} \times 98\% = 6.76 \text{ kg copper/Year to the receiving water.}$$

ANTI-SCALANT

35,960 liters

Concentration of compound in bleed off \times (9,500 gpd \times 3.7853) = total milligrams/day

Milligrams/day \times % of Phosphorous in compound by weight = weight of Phosphorous per day

Weight of Phosphorous per day \times 365 (days in year) = Phosphorous per year

Eco lab Cooling Care 8021, anti-scalant

Product Ingredients	Conc. in Cooling water bleed off mg/L	% phosphorous in molecule	High dosage range T-Phosphorous content.	Yearly load P in lbs.
Potassium Hydroxide	15 -30	0	0	0
Phosphoric Acid	3 -6	32%	69 gm/Day	55.4
Sodium Tripolyphosphate	2 - 4	24%	34.4 gm/Day	27.6
Tolytriazole	2 - 4	0	0	0
1-diphosphonic Acid	4 - 8	32%	92 gm/Day	73.9
Polyacrylic Terpolymer	10 - 20	0	0	0
Total Phosphorous load per year to receiving water				156.9

APPENDIX D -- RESPONSE TO COMMENTS

*City of Cashmere Comments to Permit No. ST- 9237
Michelle Taylor, Public Works Coordinator*

Comment:

It is our understanding that Crunch Pak has changed to sulphuric acid and chlorine as additives in the non-contact cooling water. DOE has approved the change and a Risk Assessment is no longer required. All references to the Risk Assessment (Non-contact Cooling Water Risk Analysis Report) should be removed. The City will provide language in a Memorandum of Understanding about allowed chlorine residuals and monitoring requirements.

Department Response:

The present decision by Crunch Pak to use the aforementioned additives in the non-contact cooling water will not require a Risk Assessment. However the requirement for a Risk Assessment will remain in the permit in the event the facility decides to change to additive formulations that contain phosphate and/or contain toxics that have the potential to be released in toxic amounts during the proposed permit term.

In the Summary of Report Submittals (pg.4) under S4. A. O&M appendix A and B, the first submittal date will be changed to read "Prior to discharge of process wastewater and non-contact cooling water with unapproved additives"

Comment:

As we have discussed with you before, the City has concerns with the time schedule for the S10 requirement and the proposed TMDL time schedule. The draft TMDL Technical Report will be available in February 2005 and the final Technical Report will be available in May. The City's NPDES permit expires on February 28, 2006. The city will need the monitoring and reporting in place by the expiration date in order to process a new NPDES permit.

Crunch Pak and the City will have language in the Memorandum of Understanding that will address changes in the timeframes that are listed for S10 requirement in the permit relating to TMDL timing. This data may be needed for changes to wastewater treatment as requested by an engineer or the City.

Department Response:

The Department acknowledges the concerns of the City. The time line established in S10 of the permit will remain as written in the permit. The dates established read as "no later than". The

City retains the right to require a shorter timeline should the City decide a shorter timeline is appropriate.

Comment:

The Spill and Slug Discharge Prevention and Control Plan that was previously submitted by Crunch Pak to DOE and the City for review does not address the potential for a batch or slug discharge. A new Plan should be submitted that addresses slug loads.

Department Response:

The Permittee is required to submit a Spill and Slug Discharge Prevention Plan for Departmental and City approval by December 30, 2004 under Special Condition S8.

Comment:

Letter to:
Department of Ecology
15 West Yakima Street, Suite 200
Yakima, WA 98902

Dated: October 15, 2004

This letter is to further define paragraph #2 of the letter sent on October 7, 2004 regarding Crunch Pak's State Waste Discharge Permit # ST-9237.

The dates in Special Condition S10, Compliance Schedule: Wastewater Metering and Sampling are viewed by the City of Cashmere as possibly conflicting with the upcoming TMDL time schedule. The permit allows Crunch Pak to have engineered plans and specification for the installation of a wastewater flow meter and flow proportioned auto sampler no later than April 30, 2006 and installed no later than November 30, 2006.

The City's NPDES permit expires on February 28, 2006 and the city must begin working on this permit in February of 2005. We are currently reviewing Statements of Qualification from engineering firms for the development of a "Wastewater Facilities Plan Update". Once an engineering firm is hired, it is possible they would need more detailed information from the Crunch Pak facility. We feel the dates for the City's permit do not coincide with the dates in the Crunch Pak permit.

Since the BOD loading is related to flows, the method of subtracting water meter usage from the non-contact cooling water and domestic water is far from scientific. Industry standards for determining BOD loads require utilizing a wastewater meter. This application seems appropriate to conform to the standard.

Therefore, in a Memorandum of Understanding we will develop language that addresses both Crunch Pak's and the City of Cashmere's needs relating to metering and sampling.

Sincerely,

*Michelle Taylor
Public Works Coordinator*

Crunch Pak Comments to Permit No. ST- 9237

Comment:

Summary of Permit Report Submittals – *Crunch Pak would like to remove section S9, Non-contact Cooling Water Risk Analysis Report. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.*

Department Response:

The present decision by Crunch Pak to use the aforementioned additives in the non-contact cooling water will not require a Risk Assessment. However the requirement for a Risk Assessment as required in Special Condition S9 will remain in the permit in the event the facility decides to change to additive formulations that contain phosphate and/or contain toxics that have the potential to be released in toxic amounts during the proposed permit term.

In the Summary of Report Submittals (pg.4) under S4. A. O&M appendix A and B, the first submittal date will be changed to read “Prior to discharge of process wastewater and non-contact cooling water with unapproved additives”

Comment:

Crunch Pak would also like to remove both sections S10 (Wastewater Metering and Sampling Engineering Report, and Confirmation Letter for Schedule Compliance.) Crunch Pak cannot determine at this time levels or dates for expansion of the processing facility. This condition would require us to place a date on capital expenditures that may not be needed.

Department Response:

The City is concerned that in order to plan for pending treatment plant upgrades an accurate assessment of Crunch Pak loadings is required. The time line as written in Special Condition S10 requires that the specified conditions be met no later than the dates specified. The City retains the right to require specific date(s) of completion be accelerated should a need arise. Conversely should Crunch Pak petition the City for an extension of the specified dates contained in S10 and

the City is in agreement, the Department will consider a joint request from Crunch Pak and the City. The Department may grant an extension of the specified date either through a permit modification or administrative order.

Comment:

Page 5, Section B. Outfalls #002, #003, #004 Non-Contact Cooling Water with Additives, Paragraph 1 – *Crunch Pak would like to change the wording “main building” to Building #1, and change “Legion Hall Building”, Building #3 to read Building #4. For mapping and technical reasons Crunch Pak has re-designated these building by number rather than name.*

Department Response:

For the sake of continuity the designations as written in the Fact Sheet will remain in the permit. This minor change in designation can be incorporated in the following permit cycle.

Comment:

Page 6, Section B. Outfalls #002, #003, #004 Non-Contact Cooling Water with Additives, 2nd Paragraph on page – *Crunch Pak would like to remove the sentence “The flow limitations and the allowed chemical additives are established by approval of the Non-Contact Cooling Water Risk Assessment developed by the Permittee.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.*

Department Response:

Changed to read:

Prior to establishment of any unapproved control chemistry, the facility shall submit a Non-Contact Cooling Water Risk Assessment Report and summary to the Department and City for approval. Upon approval, the effluent limitations contained in the approved summary report will then constitute the enforceable limits of this permit. The approved summary shall be placed in Appendix A of the O&M Manual. The entire report shall be contained in Appendix B of the O&M Manual (see S4.A.).

Comment:

Page 7, Table A.1. – Under BOD Sample Point, Crunch Pak would like to replace the wording “# 001 Auto Sampler” with the wording “#001 Discharge”. This reflects the change from an auto sampler taking composite samples to manual composite samples.

Department Response:

Permit is changed to read #001.

Comment:

Page 7, Table A.1. – Crunch Pak would like footnote “a” to read “Twice Monthly” means sampled twice from non-consecutive days during the calendar month on alternate weeks. This procedure provides for a variety of samples taken by day, and by week, every month.

Department Response:

The footnote reads, “Twice Monthly” means sampled twice from non-consecutive days during calendar month. The Department does not see any significant difference in the language the Permittee may chose any days in the month as long as they are not consecutive.

Comment:

Page 7, Table A.1. – Crunch Pak would like to remove the wording “via an auto-sampler no later than November 2006” under footnote “c”. Crunch Pak cannot determine at this time levels or dates for expansion of the processing facility. This condition would require us to place a date on capital expenditures that may not be needed.

Department Response:

The City of Cashmere is concerned that the timeline proposed in the permit might not be aligned with its planning needs. The City must begin planning its upgrade in February of 2005. The City has requested that S10, Compliance Schedule: Wastewater Metering & Sampling, remain in the permit. It should be understood that the permit language regarding completion dates reads “no later than”. The City has the right to accelerate the compliance schedule of S10 without Departmental approval. Footnote “c” references one of the requirements of S10 and will remain in the permit.

Should Crunch Pak believe that special condition S10 in all or in part is not needed, then Crunch Pak may make a request to the City for an extension. If the City agrees and following submittal of a letter from the City requesting an extension of the S10 deadline, the Department may grant

an extension by administrative order or permit modification. No change to the proposed permit is required.

Comment:

Page 8, Table A.2.a. – *Crunch Pak would like to remove the monthly requirement of calculating the Kilograms used of Non-Contact Cooling Water Chemicals. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.*

Department Response:

This comment has previously been addressed regarding the requirement for a Non-contact Cooling Water Risk Analysis Report and the need for a mass balance via the tracking of chemicals used. The current choice of non-contact cooling water additives can be sufficiently addressed in promulgation of Best Management Practices in their application and use which will be contained in the O&M Manual

Comment:

Page 8, Section A.2.b. Additional Non-Contact Cooling Water Monitoring, Paragraph 1 – *Crunch Pak would like to remove the sentence “Confirmation of the risk assessment conclusions is required via monitoring. The approved risk assessment report shall detail a monitoring program. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.*

Department Response:

This comment has previously been addressed regarding the requirement for a Non-contact Cooling Water Risk Analysis Report and any monitoring requirements that may be approved. The City will require monitoring of the Permittee’s current choice of additives, which will be contained in the Memorandum of Understanding agreed upon between the Permittee and City.

Comment:

Page 16, B. Specific Prohibitions – *Crunch Pak would like to change 3. to read “Any pollutant, including oxygen demanding pollutants (BOD, etc greater than the permit tolerance), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW. This could be interpreted that a BOD rate lower than the permit level affecting the POTW adversely could result in a fine.*

Department Response:

Page 16, B. Specific Prohibitions reads:

3. Any pollutant, including oxygen demanding pollutants (BOD, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;

There is no lower limit for BOD as such but, a discharge at a flow rate and/or pollutant concentration of wastewater which is for example essentially BOD free or contains extremely low BOD levels does have the potential to negatively impact the treatment facility and that discharge is prohibited.

Comment:

Page 19, Section S9. - *Crunch Pak would like to remove the entire Section S9. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.*

Department Response:

Non-Contact Cooling Water Risk Analysis Report, S9, has been previously addressed.

Comment:

Page 19, Section S10. - *Crunch Pak would like to remove the entire Section S9. Crunch Pak cannot determine at this time levels or dates for expansion of the processing facility. This condition would require us to place a date on capital expenditures that may not be needed.*

Department Response:

This comment has previously been addressed. The Department is assuming the Permittee is referring to Special Condition S10 regarding installation of the flow meter and flow proportioned auto-sampler.

Comment:

Page 21, G1. Signatory Requirements – *Crunch Pak would add the following sentence to B.1. “Craig Carson, as a principal executive officer, and Todd Danko, as a duly authorized representative, are currently authorized to sign the above documents.*

Department Response:

General Conditions of the permit are not to be modified. The Permittee may authorize any signatory designee of their choosing via a statement signed by an appropriate company officer and mailed to the Department.

Departmental foreword to additional comments made by Crunch Pak:

Once the Permit and companion Fact Sheet have gone to Public Review the Fact Sheet may not be modified. The concerns of Crunch Pak are presented here in response to comments. Any changes that the Department determines is necessary in the permit as a result of the comment process have been addressed. The Department acknowledges that the following comments represent legitimate concerns of Crunch Pak.

**Crunch Pak Comments to Fact Sheet
For Permit No. ST- 9237**

Summary, Paragraph 1- Crunch Pak would like to remove “near” from the sentence “The Permittee plans to expand the facility in the near future”. Crunch Pak does not know when future expansion will occur, and would like to remove the impression that expansion will soon occur.

Summary, Paragraph 3 – Crunch Pak would like to replace the wording “main building” with Building #1, “cinderblock building” with Building #2, and “legion hall building” with Building #4. For mapping and technical reasons Crunch Pak has re-designated these building by number rather than name.

Summary, Paragraph 4 – Crunch Pak would like to change the 2nd sentence to read “The Permittee proposes to treat its cooling water with an anti-scalant (Sulphuric Acid), and a biocide (Chlorine).” in order to make sure that there is no confusion between the previously proposed chemicals, and the newly proposed chemicals.

Summary, Paragraph 4 – Crunch Pak would like to remove the sentence “The Permittee is required to submit to the City and the Department of a risk assessment report . . .in appendix B of the O & M Manual.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Summary, Paragraph 4 – Crunch Pak would like to remove the wording “upon approval of the risk assessment.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 5, History Section, Paragraph 2 – Crunch Pak would like to remove the word “near” from the sentence “An additional 59,500 square feet is to be added in the near future.” Crunch Pak does not know when future expansion will occur, and would like to remove the impression that expansion will soon occur.

Page 6, Non-Contact Cooling Water Outfalls Section, Paragraph 1 – Crunch Pak would like to remove the wording “following approval of the required risk assessment.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 7, Outfall #004 Section, Paragraph 1 – Crunch Pak would like to change “...Building #3, “Legion Hall Building”, which ...” to read “...Building #4, “Legion Hall Building”, which ...”. This has been designated as Building #4.

Page 7, Outfall #004 Section, Paragraph 2 – Crunch Pak would like to remove the sentence “In any event, the risk assessment, Special Condition S2, requires flow rates to be reported.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 7, Table 1a – Crunch Pak would like to remove Table 1a from the fact sheet as it has been replaced by Table 1b, which is a revised characterization.

Page 8, Table 1b – Crunch Pak would like to change the lowest concentration for BOD’s and TSS’s to 0, as this is the anticipated discharge during periods of no production.

Page 8, Section B. Non-Contact Cooling Water Outfalls- #002, #003, #004, Paragraph 1 - Crunch Pak would like to remove the wording “there are a number of ...discharges from the Department and the City.” The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 8, Section B. Non-Contact Cooling Water Outfalls- #002, #003, #004, Paragraph 1 – Crunch Pak would like to add the sentence “The Sulphuric Acid and Chlorine proposed poses no threat to the STP, Wenatchee River, or the STP sludge. The chemicals that required this statement are no longer being used, and the newly proposed chemicals do not require one.

Page 10, Process Wastewater Section, Paragraph 2 – Crunch Pak would like to remove this paragraph. Crunch Pak cannot determine at this time levels or dates for expansion of the processing facility. This condition would require us to place a date on capital expenditures that may not be needed.

Page 10, Process Wastewater Section, Paragraph 3 – Crunch Pak would like the paragraph to read “The Permittee will manually take composite samples as agreed upon by the City of Cashmere and Permittee with Departmental approval. This will be used to collect flow-proportioned samples from the process wastewater. The samples will be taken from the discharge of Building #1. This wording reflects the taking of manual samples from the process wastewater rather than an auto sampler.

Page 11, Non-Contact Cooling Water Section, Paragraph 1 – Crunch Pak would like the paragraph to read “The city proposes to meter the City water supply used for make up water to the coolers to determine the discharges from the Crunch Pak facilities. As discussed earlier a temporary method to separate non-contact cooling water from process wastewater has been determined. On the other hand , the “cinderblock building”, building #2, and the “legion hall building”, building #4, will discharge only the non-contact cool water combined with some domestic water. The discharge of the non-contact cooling water will be monitored by a water meter that has been installed on the discharge line. This change reflects a correction of the “legion hall building” as building #4, and the addition of the water meters to determine exactly what the non-contact cooling water is.

Page 12, Additional Required Monitoring to Verify the Risk Assessment Report, Paragraph 1 - Crunch Pak would like to remove the entire paragraph. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 14, Non-Contact Cooling Water Additive Risk Assessment Report Section, Paragraphs 1, 2 & 3 - Crunch Pak would like to remove the entire paragraphs listed. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.

Page 14, Compliance Schedule for Installation of Wastewater Flow Meter and Flow Proportioned Auto Sampler Section, Paragraphs 1 & 2 - Crunch Pak would like to remove the entire paragraphs listed. Crunch Pak cannot determine at this time levels or dates for expansion of the processing facility. This condition would require us to place a date on capital expenditures that may not be needed.

Pages 24 – 30, Appendix C - Crunch Pak would like to remove the entire Appendix C. The chemicals that required the risk assessment report are no longer being used, and the newly proposed chemicals do not require one.