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Attorney for the Commission Staff

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF)	
IDAHO POWER COMPANY TO INCLUDE)	CASE NO. IPC-E-05-36
EXPENSES ASSOCIATED WITH ITS CLOUD)	
SEEDING PROGRAM IN THE COMPANY'S)	
PCA ON AN ONGOING BASIS.)	COMMENTS OF THE
)	COMMISSION STAFF

COMES NOW the Staff of the Idaho Public Utilities Commission, by and through its Attorney of record, Weldon B. Stutzman, Deputy Attorney General, and in response to the Notice of Application and Notice of Modified Procedure issued in Order No. 29918 on November 22, 2005, submits the following comments.

BACKGROUND

On October 28, 2005, Idaho Power Company filed an Application for an Order to include its continuing cloud seeding expenses in its annual Power Cost Adjustment (PCA). Idaho Power has operated a cloud seeding program for several years, and in December 2004, the Commission approved the Company's request for an Order authorizing it to defer the variable cloud seeding costs incurred during the 2004-2005 winter for later recovery in its PCA. Idaho Power asserts that the data collected during its three-year pilot program demonstrates the effectiveness of the program. The Company values the hydropower generated from the additional stream flows produced by the program at \$1.7 million per year, on average. This amount comes from a

Benefit/Cost ratio of 1.7 to 1 calculated from the three-year pilot program that the Company recently completed. Idaho Power calculates average costs during the pilot program of approximately \$1 million per year.

Idaho Power's Application states that it is making two specific requests of the Commission: (1) that the Commission allow the Company to defer the expenses it will incur for the cloud seeding program during the winter of 2005-2006 for recovery in the 2006 PCA, and (2) that the Commission authorize the Company to include the future cloud seeding program expenses as a part of its PCA rates on an ongoing basis, beginning with the 2006-2007 PCA period. In this filing the Company is not requesting recovery of its capital investment in the cloud seeding program but has included that request in its general rate case, Case No. IPC-E-05-28. Differences between base and actual revenues and expenses are included in the Company's PCA and are shared on a 90%/10% ratio between customers and shareholders.

STAFF REVIEW

The Company has completed the third and final year of a pilot program to study the effects of cloud seeding in a portion of the Payette River drainage. The Company's results show three consecutive years of benefits that exceed costs.

In testimony filed with its Application, Idaho Power Company's meteorologist Mr. Gary Riley summarized the two methods that the Company used to study and quantify the effects of cloud seeding. In a simplified summary of the processes, the two methods are described as follows. The first method is a statistical method that Mr. Riley calls the target-control method. It has been used to study the effects of cloud seeding in other areas of the country for more than 50 years. The method relies on a mathematical formula developed using regression techniques that relates precipitation at measuring sites outside the cloud seeding study area to precipitation inside the study area before cloud seeding began. Basically the formula is, when X inches of precipitation occur outside the study area, Y inches are expected to occur within the study area. Once cloud seeding begins, any actual precipitation amounts that differ from the predicted amount, Y, are assumed to be caused by cloud seeding. In other areas of the country results obtained from this method have been shown to be statistically significant.

The second method is called the trace-chemistry method. The method uses very sophisticated chemical analysis and snow pack density analysis to identify precipitation contributions from cloud seeding in layers of the snow profile. Snow profile samples are taken at locations throughout the cloud seeding study area. The samples are taken in a cylindrical tube, and then each tube is divided into many smaller samples two centimeters thick. Each of the small samples is studied and the results are accumulated to obtain final results. From each small sample two basic pieces of information are obtained - adjusted concentration of silver iodide and the relative density of the sample compared to unseeded snow. These two variables are used in an empirical equation to calculate the increase in precipitation due to cloud seeding.

Silver Iodide is the chemical agent used to seed clouds. It provides a nucleus around which precipitation, in this case an ice crystal or snowflake, can form. Silver iodide concentrations are measured in parts per trillion and measured concentrations require adjustment to remove background levels that naturally occur and amounts that are washed out of the air in the snowfall without forming snow flake nuclei.

The relative density of the snow in each sample, seeded to unseeded, is important because snow produced by seeding is more dense. Therefore, the relative density of each sample provides information concerning the amount of precipitation in the sample that comes from ice crystals with a silver iodide nucleus versus precipitation that would have occurred naturally without cloud seeding. Once these two variables are quantified, the empirical formula allows the calculation of the increase in precipitation due to cloud seeding.

The estimate of the power supply value of the increased precipitation, whether derived from the target-control method or trace-chemistry method, continues with a computer model that determines the quantity of increased precipitation that reaches the Hells Canyon complex and the timing of the increased runoff. Generation amounts are then calculated and the value of the additional generation is established based on average market prices. At this point, power related benefits and costs are known and the cost effectiveness of the program can be determined.

The Company states in its filing that it has seeded clouds under its pilot program during the previous three winters. During a portion of the winter of 2002-2003 the Company seeded clouds that produced an estimated 120,000 Acre-Feet of increased runoff. That runoff is valued at \$1.829 million and has an associated cost of \$0.826 million. During the winter of 2003-2004 the Company seeded clouds that produced approximately 85,000 Acre-Feet of additional

precipitation in the watershed. The associated additional generation is valued at \$1.776 million and the cost was \$1.303 million. During the winter of 2004-2005 the Company's cloud seeding program produced approximately 95,000 Acre-Feet of runoff that was valued at \$1.724 million. The associated cost was \$1.008 million. In each of the three years estimated benefits exceeded costs. Over the three-year pilot program benefits totaled \$5.428 million and costs totaled \$3.138 million. These amounts produce an average Benefit/Cost Ratio of 1.7 to 1 ($5.428/3.138=1.7$).

Idaho Power's cloud seeding program this winter and in winters to come, if approved by the Commission, will differ in some important ways from the cloud seeding program during the three-year pilot program. Trace chemistry evaluation and consulting will no longer be required and as a general rule will not be done. Also some of the costs included in the Company's filing are capital costs, which should be treated differently for ratemaking purposes. In a production request Staff asked the Company to remove non-recurring costs and capital costs from the totals and recalculate the benefit cost ratio. Benefits remained \$5.428 million and costs were reduced to \$2.321 million. The recalculated benefit cost ratio is 2.3 to 1 ($5.428/2.321=2.3$).

STAFF RECOMMENDATIONS


Staff initially had a number of doubts and concerns about cloud seeding, but Staff is now convinced that Idaho Power's cloud seeding program works and is cost effective. Staff is convinced by the detailed analysis the Company has conducted during its pilot program, the professional papers and references provided by the Company and finally by the Company's commitment to the program. The scientific community also seems convinced of the effectiveness of cloud seeding, as are other states and jurisdictions. Cloud seeding programs exist in Utah and Nevada, and there are on-going cloud seeding programs in California and here in Idaho. The Boise Board of Control seeds clouds to increase runoff in the Boise river drainage area.

The PCA treatment that the Company requests is consistent with treatment approved through the PCA last year. In addition, the \$1.7 million system revenue requirement reduction that the Company offers once cloud seeding costs are included in base rates, are indications of the Company's confidence in the program. With PCA ratemaking treatment the interests of shareholders and ratepayers are aligned which means they win and lose together. Both share in any profits or losses from the program.

The Company's first request is that it be allowed to defer cloud seeding expenses incurred this winter, 2005-2006, for PCA cost recovery beginning in June 2006. The granting of the Company's request would allow cloud seeding costs to be included in the PCA and 90% of Idaho's share of those costs to be passed on to Idaho customers. Cloud seeding benefits would also be captured in the existing PCA mechanism and 90% of those would flow to Idaho customers. Benefits are expected in the form of reductions in fuel costs and purchased power costs, and as an increase in secondary sales revenue. Based on pilot program results average benefits are expected to be 2.3 times program costs. Staff supports the Company's request for this treatment of the 2005-2006 variable program costs.

The Company's second request is for PCA ratemaking treatment beyond the winter of 2005-2006 of the variable costs, after rates from the current general rate case are put in place. This PCA treatment of cloud seeding costs is different because Idaho Power has asked for normal cloud seeding costs and benefits to be included in base rates. If approved by the Commission, normalized levels of costs and benefits would be included in the base rates established in the Company's current general rate case, and only differences in costs and benefits from normalized levels would be captured in the PCA and shared 90/10 between customers and shareholders. Staff believes that normalized benefits and costs should be based on its calculation of the benefits and costs from the three-year pilot program. Staff proposes normalized benefits of \$1.8 million (5.428/3) and normalized cloud seeding expenses of \$0.77 million (2.321/3). With this calculation of normalized costs and benefits, Staff intends to support the Company's request for base rate treatment in the current general rate case and the inclusion of variable program cost differences in the PCA starting with the 2006-2007 season.

Respectfully submitted this 13th day of December 2005.



Weldon B. Stutzman
Deputy Attorney General

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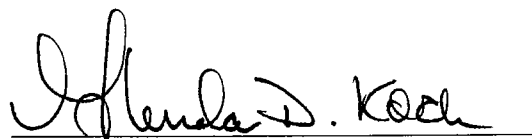
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CERTIFICATE OF SERVICE

I HEREBY CERTIFY THAT I HAVE THIS 13TH DAY OF DECEMBER 2005, SERVED THE FOREGOING **COMMENTS OF THE COMMISSION STAFF**, IN CASE NO. IPC-E-05-36, BY MAILING A COPY THEREOF, POSTAGE PREPAID, TO THE FOLLOWING:

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