Section 4.9, ...ABT will design the burners for the full load primary airflow, per mill, as per the OEM mill curves, with one mill out of service at boiler full load. The design mill primary airflow (210,000 lb/hr) for fuel injector sizing was also confirmed early in the project with J. Vatsky 9/11/03 email correspondence to P. Hailes.

It did not become evident that IPSC is running the mills at much higher flows than design until October 2005. IPSC's G. Christensen 10/27/05 email correspondence advised flows are as high as 265,000 lb/hr, which is more than 25% greater than the burner design flow agreed between IPSC and ABT. ABT's S. Ferrara responded immediately with 10/28/06 email advising effects of higher operating flows by degrading performance and increasing component wear.

Based on IPSC long term records of fuels burned (Mr. G. Christensen 11/2/05 email correspondence) IPSC has operated for an extended period of time (September 2004 through April 2005) on coals having significantly lower HHV properties than allowed by ABT's design. The lower than specified HHV (≤11,500 Btu/lb) results in overfiring of burners (higher than design air and coal flows) in order to maintain full load generation on the Unit.

2. Erosion of burner nozzles where it divides into the six segments just prior to discharge. Every burner showed significant erosion with many having multiple holes.

ABT response:
Erosion of the burner nozzles is due to high velocities of the air/coal mixture in the nozzle, along with the higher coal loadings resulting from the lower heating value coal. This condition may be worse due to by denser coal streams being formed in the non-standard design of the x-vane assembly.

Had ABT known that IPSC intended to operate the mills at the current coal and air flows, the burner nozzles would have been designed accordingly resulting in lower nozzle velocities. ABT has not experienced nozzle erosion at any of its other installations where the mills are operating in the range for which the burner is designed.

In cases where it is known that erosive conditions exist (high velocity and/or highly abrasive fuel) ABT will apply erosion resistant materials in the fuel injector barrels as well as the inlet to the nozzles to maximize their longevity. This was not the case with IPSC as the coal was not considered to be highly abrasive and the contract defined flows result in relatively low air/coal velocity in the nozzle.

Had ABT been advised that such a fuel change and resultant mill operation was anticipated, we would have proposed the changes noted above.

3. Severe cracking and structural failure of the burner nozzle which originates from the weld of the nozzle to the burner barrel. The cracking of the nozzles was so severe on 15 of the 48 burners on a recent inspection that those 15 nozzles had to be removed and replaced.

ABT response:
This is consistent with discussions held in the November 9, 2005 meeting at the Intermountain Generating Station where ABT explained that the carbon steel burner barrels were overheating upstream of the point where carbon steel barrel is welded to the stainless steel nozzle tip. The carbon steel is expanding at a higher rate than the

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