From: Garwin Yip - NOAA Federal <garwin.yip@noaa.gov>
Sent: Wednesday, May 8, 2019 4:25 PM
To: Cathy Marcinkevage - NOAA Federal
Cc: Evan Sawyer - NOAA Federal
Subject: Re: Shasta Winter-Spring Minimum Flows

According to one of the meetings, it's the text in the PA, not the modeling, that Reclamation is proposing. So, in this situation, explicitly state what the appendix indicates, what the PA text says, and our assumption that Reclamation will not release <3,250 cfs anytime.

Sent from my iPad

On May 8, 2019, at 3:35 PM, Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

> I think that your first block is exactly right.
>
> In table 15-2 December flows are higher than (or likely to exceed) 3,250 cfs 70% of the time. Therefore they are likely to NOT exceed that value 100-70=30% of the time. Or perhaps more accurately, the probability of flows being greater than 3250 in any Dec is 0.70. And the probability of them being less than 3250 in any Dec is 0.30. If they NEVER went below 3250, then the table would look like
>
> 100 1,000,000 cfs
> ... ...
> ... ...
> 30 3250
> 20 3250
> 10 3250
>
> It doesn't quite look like that.
>
> That's my take.
> Maybe I'll insert a shot of the table to prove it in teh biop.

On Wed, May 8, 2019 at 3:11 PM Evan Sawyer - NOAA Federal <evan.sawyer@noaa.gov> wrote:

> I get thrown off by exceedence tables/plots but in table 15-2 December flows are higher than (or likely to exceed) 3,250 cfs 70% of the time. But that doesn't necessarily mean the flows would be less than 3,250 right?
>
> The problem I see is that under the PA end-of-September storage is ≤ 2.2 MAF only ~15% of the time (~85% exceedence), so, according to the PA, minimum Keswick flows should be 3,250 cfs in no more than ~15% of the years. What's modeled is that flows below Keswick in December will be likely to exceed 3,250 cfs 70% of the time i.e. 30% of the time minimum flows in December would not exceed 3,250 cfs. Right?

Sorry for the confusion (me being confused).

Evan

On Wed, May 8, 2019 at 2:40 PM Cathy Marcinkevage - NOAA Federal <cathy.marcinkevage@noaa.gov> wrote:

Something to ponder re: subject line project component.

We have the following table,

Table 2.5.2-4. Example of Keswick Dam Release Schedule for Various End of September Storages (from Table 4-9 in the ROC on LTO BA).

Keswick Release (cfs)	Shasta End of September Storage
3,250	≤ 2.2 MAF
4,000	≤ 2.8 MAF
4,500	≤ 3.2 MAF
5,000	> 3.2 MAF

We have text that states: "The greatest risk posed by these operations would occur when December flows are less than 3,250 cfs. For the PA, CalSimII modeling indicates that December flows of 3250 cfs have an exceedance probability of 30 percent."

Garwin noted that "Table indicates that “these operations” (if referring to the PA) won’t be less than 3,250 cfs." Rosalie noted this too.

I note back that I agree in theory, but modeling results indicate otherwise based on cited App D Table 15-2, which is exceedance tables for KWK flows by month. And in that table, flows are less than 3250 cfs 30% of the time.

Garwin, does that satisfy you? If we state that and cite to the app D table, and maybe state that we do see that probability and therefore can't (yet again) count on the "stated" operations?

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