Attachment 3 Aspinall Unit Operations, Consideration of Discretionary vs. Non-Discretionary Actions

LOCATION	OPERATION	BACKGROUND	DISCRETION
A. Blue Mesa Dam	1. End of December target: 7490.0 feet or lower	Based on studies and experience to minimize flooding due to icing upstream near the town of Gunnison. By verbal agreement, Reclamation has usually operated for an end of December icing target of 7490.00 feet elevation since 1980.	Yes
	2. Reservoir target fill: 7517.4 feet by end of runoff season (June-July) and a March 31 target related to flood control.	7517.4 feet is 2 feet from top of spillway gate elevation 7519.4 feet (official full pool). The 2 feet of elevation is a safety factor for controlling the reservoir in case of sudden flood events such as thunderstorms or very high snowmelt inflow.	Yes
	3. Peaking operations: Releases fluctuate between 0 and full powerplant capacity to meet variations in load requirements.	Curecanti Unit, Economic Justification Report, April 1962	Yes
	4. Maintain reservoir elevation to allow hydropower operations	Maintain reservoir above 7393 feet (top of inactive storage)	Yes
	5. Option to draw reservoir down to dead pool if needed.	While unlikely, situations may develop requiring full use of reservoir in a particular year.	Yes

B. Morrow Point Dam	1. Tour boat operations: Attempt to hold reservoir between 7151.0 and 7158.5 feet during the recreation season (May 1-September15) when the tour boat is in operation. When the tour boat is not in operation (September 15-April), the minimum reservoir elevation is 7144.0	Morrow Point Standing Operating Procedure. These elevations are not a strict rule and may be periodically modified to address other needs.	Yes
	2. Drawdown restrictions: To minimize the risk of movement of landslides within the reservoir, the reservoir drawdown rate is limited to a maximum of 3 feet per day at reservoir elevations below 7144 feet For reservoir elevations above 7144, if the reservoir drawdown rate is expected to be greater than 3 feet per day, then visual observations should be made of landslide A.	Morrow Point Standing Operating Procedure	No-However, restrictions include geological observations that may allow modifications in any particular year.
	3. Peaking operations: Flows fluctuate between 0 cfs and full powerplant capacity to meet variations in load requirements	Curecanti Unit, Economic Justification Report, April 1962	Yes
C. Crystal Dam	1. River regulation: Flows relatively uniform. When the powerplant is operating at full capacity, fluctuations could be in the 200 cfs range because the programmable logic control cannot be used at full powerplant capacity.	Curecanti Unit, Economic Justification Report, April 1962 and 1971 Crystal Dam final environmental impact statement**.**	No River regulation is non-discretionary but some minor fluctuation due to reservoir elevations.
	2. Ramping rates: 500 cfs per day (15%) change for ramping up, and 400 cfs per day (15%) for ramping down.	Ramp rates set for safety of people recreating in the canyon; for fishery considerations; for downstream water users.	Yes
	3. Drawdown restrictions	Dry season drawdown limited to 10 feet in 24 hours and 15 feet in 72 hours. Wet season drawdown limited to 5 feet in 24 hours and 20 feet per week.	No
D. Spring Peak	1. Determined annually by Reclamation with input from the Aspinall	Historic practice to benefit fish and recreation, channel maintenance, and general	Yes

	operations meeting. ▪ Total volume determined from amount of bypass hydrologically necessary. ▪ Normally scheduled in May/June timeframe based on the May 1 forecasts. ▪ Bypass flows consolidated over a shorter timeframe than average.	health of the river. During the January through April period, operations will attempt to reduce the amount of spring bypasses; however, it is recognized that there would be discretion in action alternatives to bypass Aspinall Unit powerplants while providing endangered fish flows.	
E. Black Canyon of the Gunnison and Gunnison Gorge	1. Minimum flow of 300 cfs at the "Below Tunnel" gage under normal conditions; 200 cfs under drought and emergency conditions	State of Colorado 300 cfs junior Gunnison right except in cases of significant drought (as determined by reservoir elevation projections) and Aspinall Unit emergencies.	No
	2. Use of excess water to provide spring peak	For general environmental purposes.	Yes
	3. Avoidance of flow decreases after October 15 when practical; avoidance of flow decreases after April 1 when practical.	Brown trout and rainbow spawn; based on experience and CDOW input	Yes
F. Gunnison River at Delta, Colorado	1. Operate to attempt to prevent flows form exceeding 15,000 cfs at Delta, Colorado	As described in Water Control Manual US Army Corps of Engineers, February 1988	No
	2. Monitor flood conditions at Delta and attempt to reduce damage that can occur below 15,000 cfs	Delta reports that flood damage can begin to occur in the 10,000 to 12,000 cfs range	Yes
G. Redlands Fish ladder	1. Deliver 100 cfs to Redlands fish ladder (June-September)		Yes
	2. Deliver up to 40 cfs to Redlands fish screen (ice-free period)	Diversion canal reduction due to fish screen.	Yes
	3. Provide migration flows of 300 cfs downstream from Redlands fish ladder	Most important during period that fish ladder is operating	Yes
H. Existing Commitments	1. Water sales contracts	Existing water contracts for use of Blue Mesa water	No
	2. Upper Gunnison Subordination Agreement-Allows junior water users within the natural basin of the Gunnison River to	In long-term, could mean up to 60,000 af additional depletions in Upper Gunnison Basin in the future	No

	develop up to a total of 60,000 acre-feet of depletions without interference from the Aspinall Unit.		
	3. Colorado water law and the Law of the River		No
	4. 1975 Taylor Park-Aspinall Unit exchange agreement		No.
	5. Power Contracts	CRSP power contracts are not "unit specific" but apply to integrated power facilities**.**	No discretion on following contracts; however, flexibility within contracts to address changing hydrologic conditions and compliance with other laws.
	6. Meet power system requirements	NERC and WECC reliability requirements (i.e. reserve voltage control, etc.)	No
I. Dallas Creek and Dolores Project Biological Opinions	1. Offset impacts of the depletions from the Dallas Creek and Dolores Projects on endangered fish	Opinions call for upstream Reclamation reservoir to offset the impacts	No

ASPINALL UNIT HYDRAULIC CAPACITIES-no discretion

Capacities (acre-feet)	Blue Mesa	Morrow Point	Crystal
Dead storage	111,200	165	7,700
Inactive storage	81,070	74,905	4,650
Active storage	748,430	42,120	12,890
Live storage*	829,500	117,025	17,540
Total storage	940,700	117,190	25,240
Outlet capacities (cfs)			
Powerplants (max)	2,600-3,400	5,000	2,150
Powerplant bypass	4,000-5,100	1,500	1,900-2,200
Combined powerplant and bypass(max)	6,100	6,500	4,350
Spillway	34,000	41,000	41,350

*-Live storage is the combination of the active and inactive storage. It represents storage that physically can be released from the reservoir.

-Crystal powerplant capacity may be adjusted following testing-the new capacity may affect reservoir targets.

-Blue Mesa Reservoir shares one penstock for both river outlet and powerplant releases; the combined releases of these two are constrained to about 6,100 cfs.

-The hydraulic capacities shown in the table assume full reservoir conditions. At lower elevations, the hydraulic capacity would be less. Also system efficiencies may affect the hydraulic capacity.

-Full capacity may not always be available due to scheduled maintenance**,** equipment malfunction, or power system reserve requirements.

-There are no specific recreation or fishery pools in the reservoirs.