

## NAM THEUN 2 HYDROELECTRIC PROJECT

### HYDROLOGY DATA

<b>HYDROLOGY</b>		
	<b>AREA / IMPACT</b>	<b>DATA</b>
<b>Nam Theun – Current hydrology</b>	Catchment area at dam site	4,013 km <sup>2</sup>
	Discharge in wet season vs. annual discharge	85%
	Years of records	Since 1950
	<b>Mean annual average discharge at Nakai Dam Site – 52 yrs series)</b>	<b>238 m<sup>3</sup>/s</b>
	Maximum mean monthly average discharge	735 m <sup>3</sup> /s (August)
	Maximum recorded monthly average discharge	1,389 m <sup>3</sup> /s
	Most extreme discharge event recorded	3,054 m <sup>3</sup> /s in 1996 at Ban Thalang
	Calculated Probable Maximum Flood (PMF) at dam site	15,985 m <sup>3</sup> /s
	Minimum mean monthly average discharge	30 m <sup>3</sup> /s (March)
	Minimum recorded monthly average discharge	25 m <sup>3</sup> /s
	Minimum flow release from dam	2 m <sup>3</sup> /s on a weekly average + 5 MCM per year for adaptive management of flows
<b>Diversion to Xe Bang Fai (XBF)</b>	Mean annual diversion flow into XBF	220 m <sup>3</sup> /s
	Maximum discharge into XBF	330 m <sup>3</sup> /s
	Discharge on Sundays	~ 80 m <sup>3</sup> /s (estimate only – depends on demand)
	Minimum discharge when power plant is not operating	30 m <sup>3</sup> /s
<b>Rate of increase and decrease of reservoir discharge in XBF</b>	Increase	+ 30 m <sup>3</sup> /s/hr
	Decrease	- 20 m <sup>3</sup> /s/hr

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<b>HYDROLOGY</b>		
	<b>AREA / IMPACT</b>	<b>DATA</b>
<b>Xe Bang Fai – Current hydrology</b>	<b>Mean Annual Discharge (23 yrs series) at Mahaxai</b>	<b>265 m<sup>3</sup>/s</b>
	Maximum mean monthly average discharge	921 m <sup>3</sup> /s (August)
	Maximum recorded average monthly discharge	1,650 m <sup>3</sup> /s
	Most extreme discharge event recorded	3,114 m <sup>3</sup> /s in 1991 at Mahaxai
	Minimum mean monthly average discharge	13 m <sup>3</sup> /s (April)
	Minimum recorded average monthly discharge	7 m <sup>3</sup> /s
	Flow in Xe Bang Fai at Mahaxai at which generation will cease	2,270 m <sup>3</sup> /s
	Increased water level at Mahaxai due to project operation	1.5 m in August (wet season) 4.3 m in April (dry season)
<b>Lower XBF and Mekong confluence – Current hydrology</b>	<b>Mekong mean Annual Discharge at Mukdahan (70 years series))</b>	<b>6,960 m<sup>3</sup>/s</b>
	Maximum mean monthly average discharge	21,453 m <sup>3</sup> /s (August)
	100-year flood event discharge	38,300 m <sup>3</sup> /s at Mukdahan
	Minimum mean monthly average discharge	1,552 m <sup>3</sup> /s (April)
	Impact on Mekong flow (between Nam Kading (lower Nam Theun) and XBF)	Flows reduced by an average of 3%
	Impact on Mekong water level (XBF confluence) during flood events  NT2 impact on natural flooding of the downstream XBF area	Flood levels reduced by 18 cm  Additional area flooded on a mean annual basis is 3.75% Increase in the duration of flooding is 3.6 days on a mean annual basis