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Masse et al.[1962]



HEC-5

HEC-3

Feldman[1981]

Simonovic[1985]

Acres, Sigvaldson[1976]

Loucks[1990]

(RBS)

RBS

(SSR)

RBS

¹ - Texas Water Development Board

² - Acres Model

³ - Reser Model

⁴ - IRAS Model

⁵ - Reliability Based Simulation



(SSR)

⁶ - Corps of Engineering (COE)



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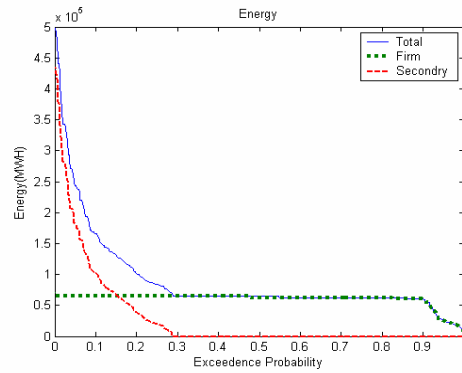
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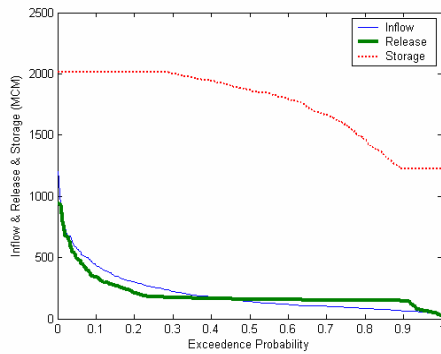


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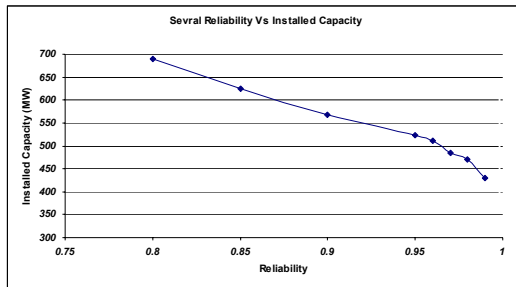
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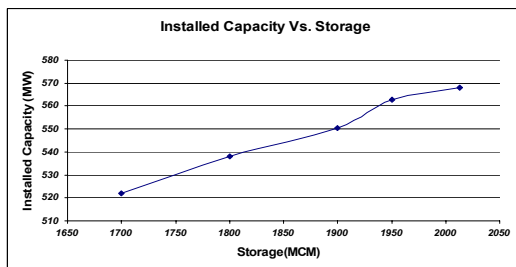
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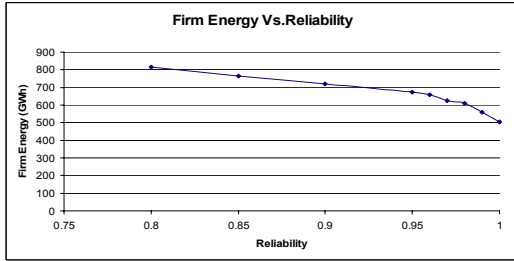
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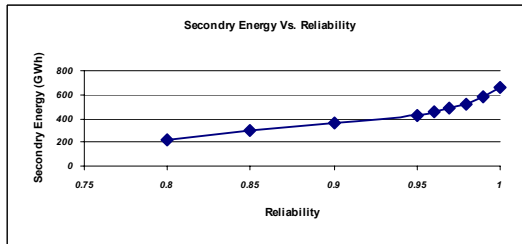
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(RBS)

⁷-Relibility Based Simulation



Little1955

Mannos 1955.

Young1967

DP Larson and Kecler1969

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DP Meredith[1975] Jacobson and Mayne1970 Mayne1966

Jacobson and Mayne1970

DP Takeuchi and Moreau1974

DP-LP

DP Stedinger and Grygier1985 .

Roefs and Hall et al. 1968

Bodin1970

Paudyal and Bogardi1990

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$$Max \quad Z = \sum_{t=1}^T E_{total} (t) \quad ()$$

$E_{total}(t)$

DP



$$f_t(S_t) = \text{Max} [E_{total}(t) + f_{t+1}(S_{t+1})]$$

S.t :

$$R_t = S_t - S_{t+1} + I_t - RS_t - E_t \quad ()$$

$$R_t^{\min} \leq R_t \leq R_t^{\max}$$

$$S_{\min} \leq S_t \leq S_{\max}$$

$$E_{total}(t) \geq \text{demand}(t) \quad \alpha$$

: S_t

: R_t, RS_t, I_t, E_t

t

: $\alpha, \text{Demand}(t)$

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$$W = b \times (Demand(t) - Etotal(t)) \quad (1)$$

$$b \quad t \quad Demand(t) \quad t \quad Etotal(t)$$

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$$(E(t) < Demand(t))$$

$$f_t(S_t) = Max[Etotal(t) + f_{t+1}(S_{t+1}) - W] \quad (2)$$

W=0

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$$\text{Max } Z = \sum_{t=1}^T \text{Etotal}(t)$$

$$\text{Etotal}(t) \geq \text{demand}(t)$$

$$R_t = S_t - S_{t+1} + I_t - E_t - RS_t \quad ()$$

$$R_t^{\min} \leq R_t \leq R_t^{\max}$$

$$\text{Etotal}(t) \leq E_t^{\max}$$

$$E_t^{\max} = IC \times \text{Hour}(t)$$

$$\text{demand}(t) = IC \times P.F \times \text{Hour}(t)$$

: Hour(t), IC, P.F

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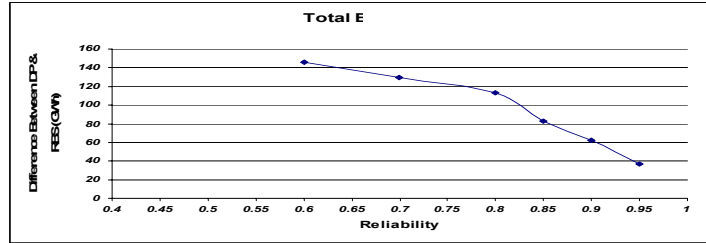
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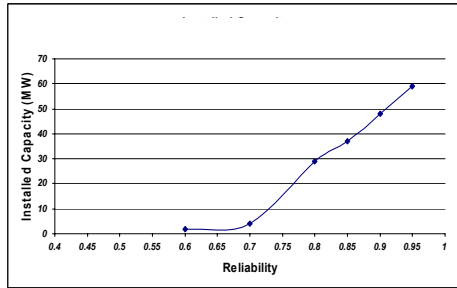
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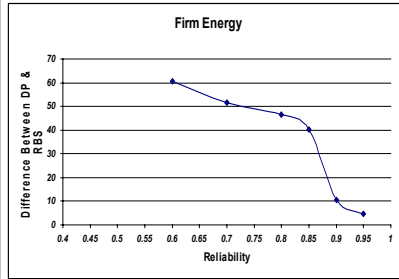
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