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# RDG PPA

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# Risk Allocation and the Evolution of HE's Variable Energy PPAs

- Energy Only
- Take or Pay
- RDG



## Risk Allocation to IPP Under Energy Only PPA

- Site selection ("typical year" resource not as expected)
- Resource variability (moment to moment)
- Design/construction (not as efficient as expected)
- Maintenance (failure to maintain impacts efficiency)
- Operating risks, such as:
  - equipment failure
  - non-HE external constraints (e.g., migratory birds)
- Excess energy curtailment
- Force Majeure

Foregoing impact revenue by adversely affecting energy production and hence energy payments



## Risk Allocation to IPP Under Take or Pay ("TOP")

- Site selection
- Resource variability
- Design/construction
- Maintenance
- Operating risks
- ~~Excess energy curtailment~~
- Force Majeure

Foregoing impact TOP revenue by adversely affecting:

- Energy production and hence energy payments
- Calculated energy and hence payments for excess energy curtailment



## Risk Allocation to IPP Under RDG

- Site selection
- ~~Resource variability~~
- Design/construction
- Maintenance
- Operating risks
- ~~Excess energy curtailment~~
- Force Majeure

### Foregoing impact RDG revenue:

- Inferior site or design will lower NEP and hence Lump Sum
- Poor maintenance will affect performance and hence LDs
- Operating risks will affect availability and hence LDs
- Lump Sum payments will not be made if Facility cannot respond to dispatch because of force majeure



## Risk Allocation to IPP: TOP v. RDG

- RDG removes resource variability risk from IPP
- RDG leaves other TOP risks with IPP
- Net Result: RDG Lump Sum not an annuity but RDG does reduce risk to IPP revenue
- Benefits to HE
  - Lower price
  - Ancillary services



## Key Provisions of RDG PPA for PV

Adjustments to NEP and hence Lump Sum:

- Attachment U for NEP
- Attachment J for Lump Sum

LDs:

- PPA § 2.5 for Availability
- PPA § 2.6 for Performance Ratio
- Attachment T for monthly reporting and dispute resolution





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