



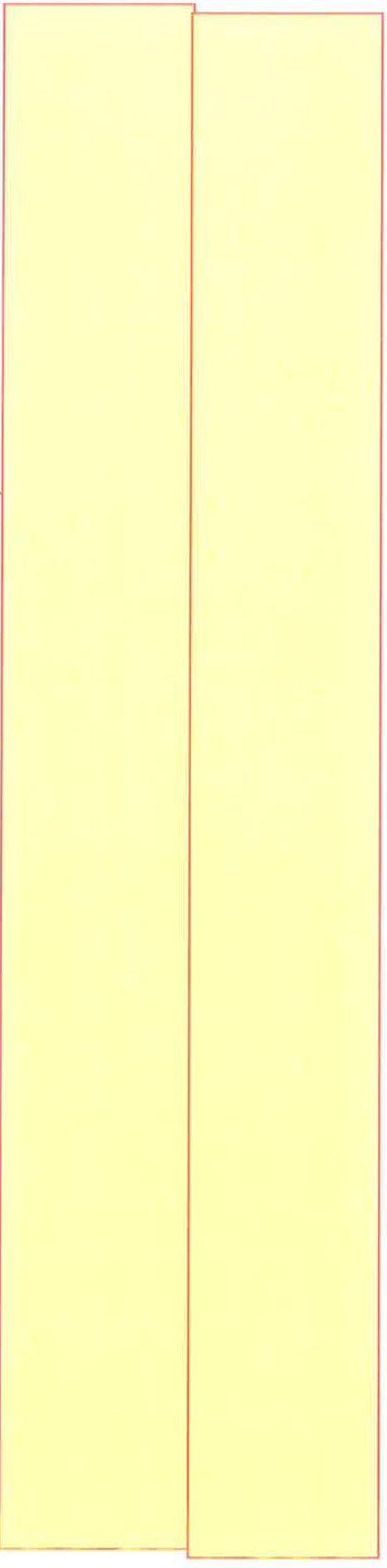
Renewable Contract Amendments for Dispatch Management

September 7, 2012

CONFIDENTIAL ADVICE TO MINISTERS

SBG and Local Constraints

- In addition to SBG, renewable generators will also face curtailment due to local constraints
 - Some areas will experience these constraints more than others
 - Adding more variable generation could potentially result in more curtailment due to these constraints



Stakeholder Consultation Process

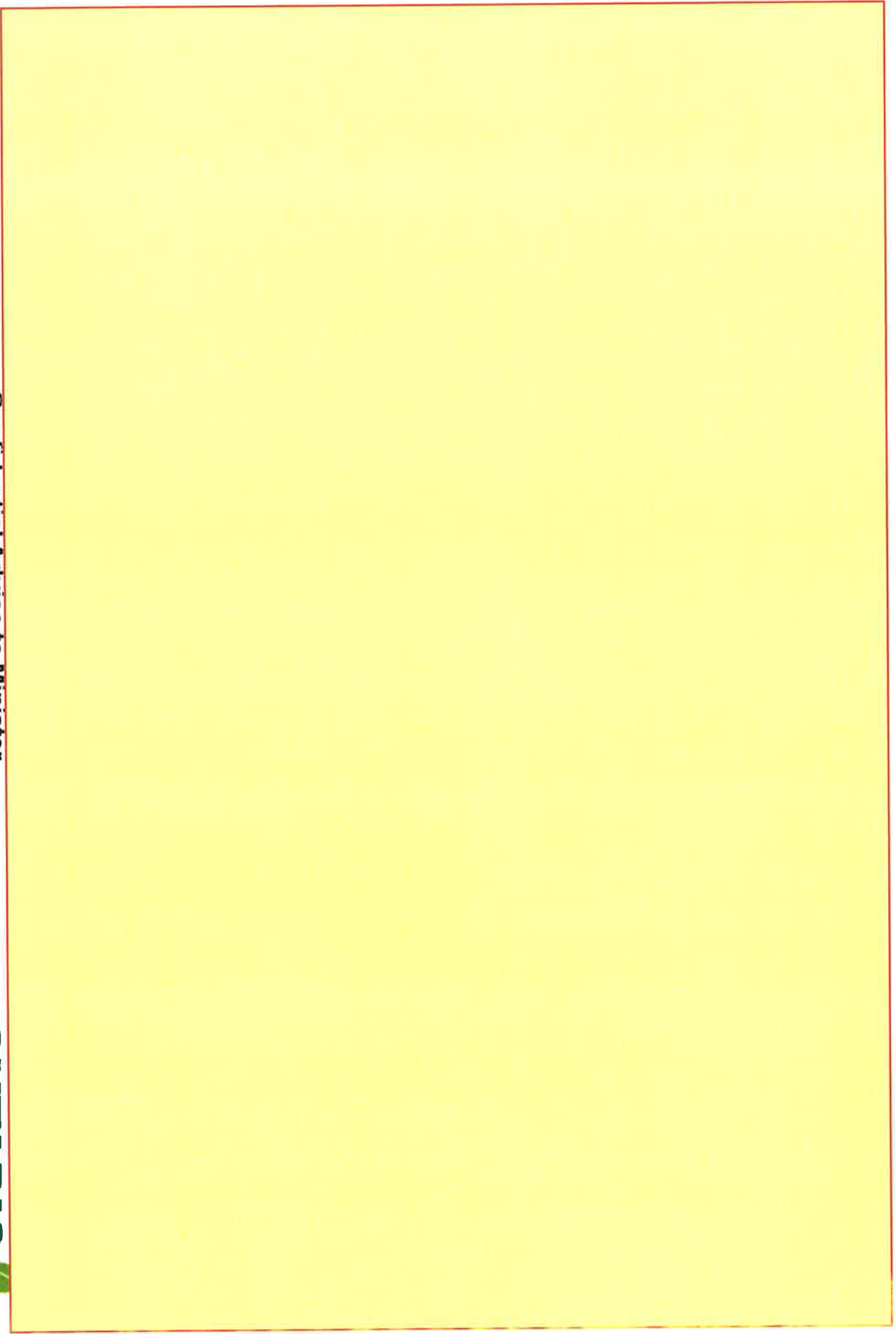
- The IESO has conducted an open stakeholder forum that solicits input on renewable visibility (forecasting), floor pricing and dispatch issues
 - This forum has solicited input into changes to the IESO Market Rules that will enable visibility of renewable output and an ability to curtail renewable output when necessary
 - Only transmission connected renewable projects over 5 MW are impacted by these rule changes
- Final decisions in the area of visibility and forecasting have been put forward by the Technical Panel
- New Floor Prices will be established for variable and nuclear generation in the IESO market
 - Flexible nuclear generation can bid no lower than -5 \$/MWh
 - 90% of any given wind facility's output (and 100% of a solar facility) can bid no lower than -10 \$/MWh to reflect technical limitations that make it more difficult to fully shut down
 - The remaining 10% of a wind facility's capacity can bid no lower than -15 \$/MWh
 - Remainder of nuclear fleet has no floor price, other than minimum market clearing price at -2,000 \$/MWh
- These floor prices are currently going through the rule amendment process and are targeted for IESO Board approval in November
 - Implementation is expected Q3 2013 for wind and solar projects

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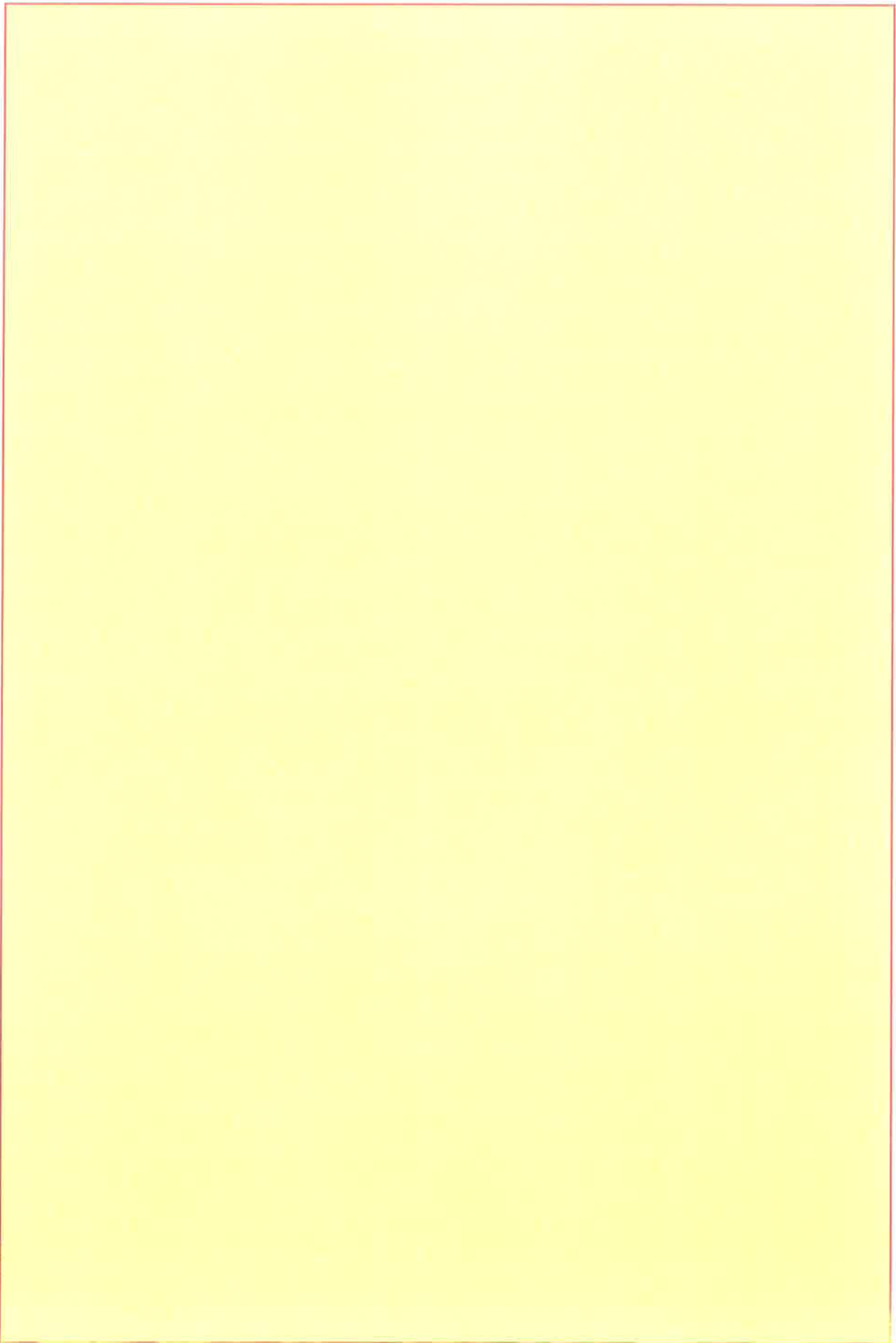
Changes to Dispatch Order

- The new Floor Prices will result in a dispatch order of:
 1. Bruce Manoeuvring
 2. Flexible renewable (90% wind and 100% solar)
 3. Inflexible renewable (10% wind)
 4. Inflexible nuclear
 5. Other resources (nuclear, hydro)
- System efficiencies and operational benefits will be maximized by aligning OPA contracts with the new market rules
 - OPA contract amendments should contain appropriate provisions for generators to respond to system conditions in real time, in accordance with IESO market rules as well as respect existing contract language in RES and FIT contracts

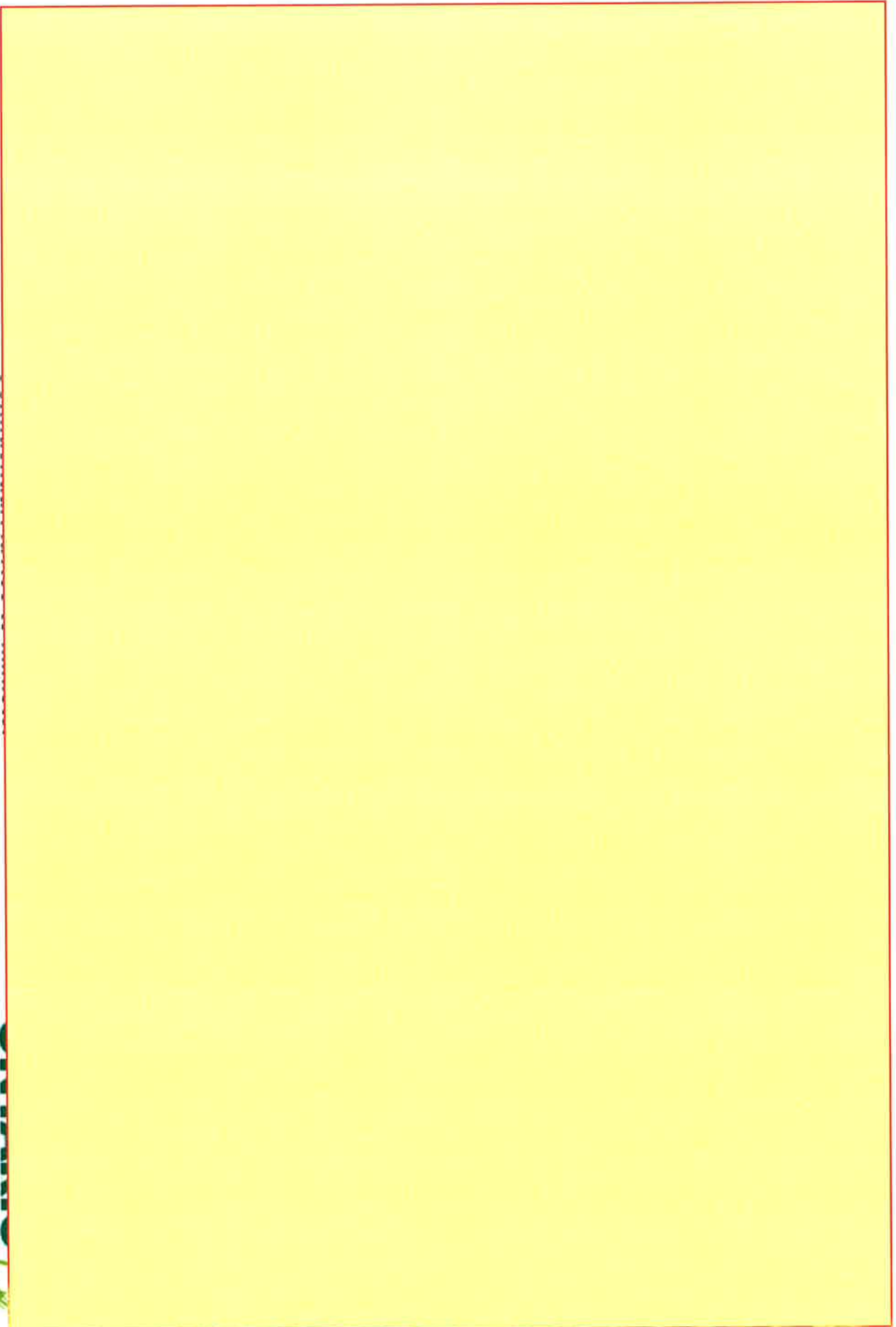
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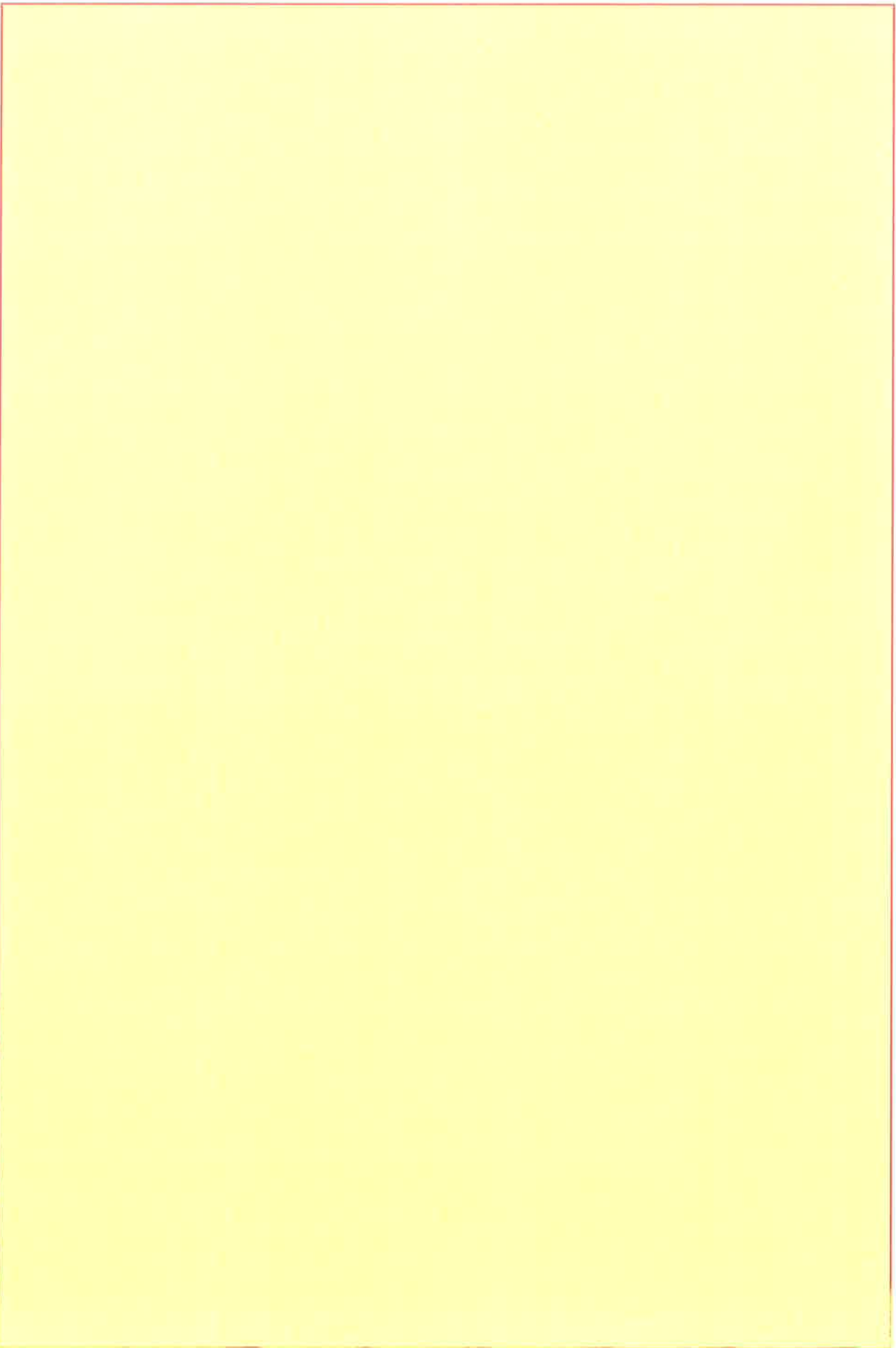


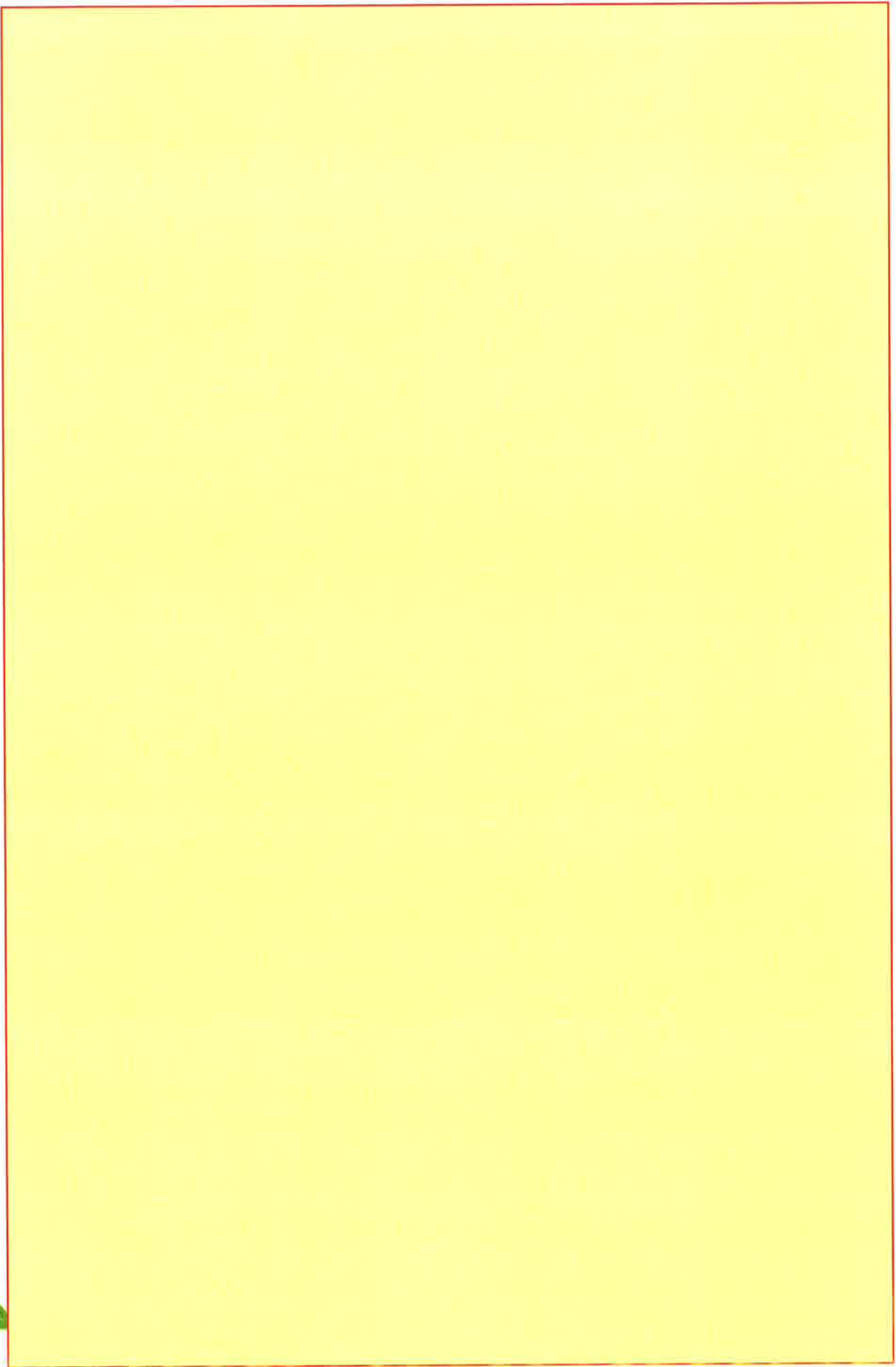
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Communications- Key Messages

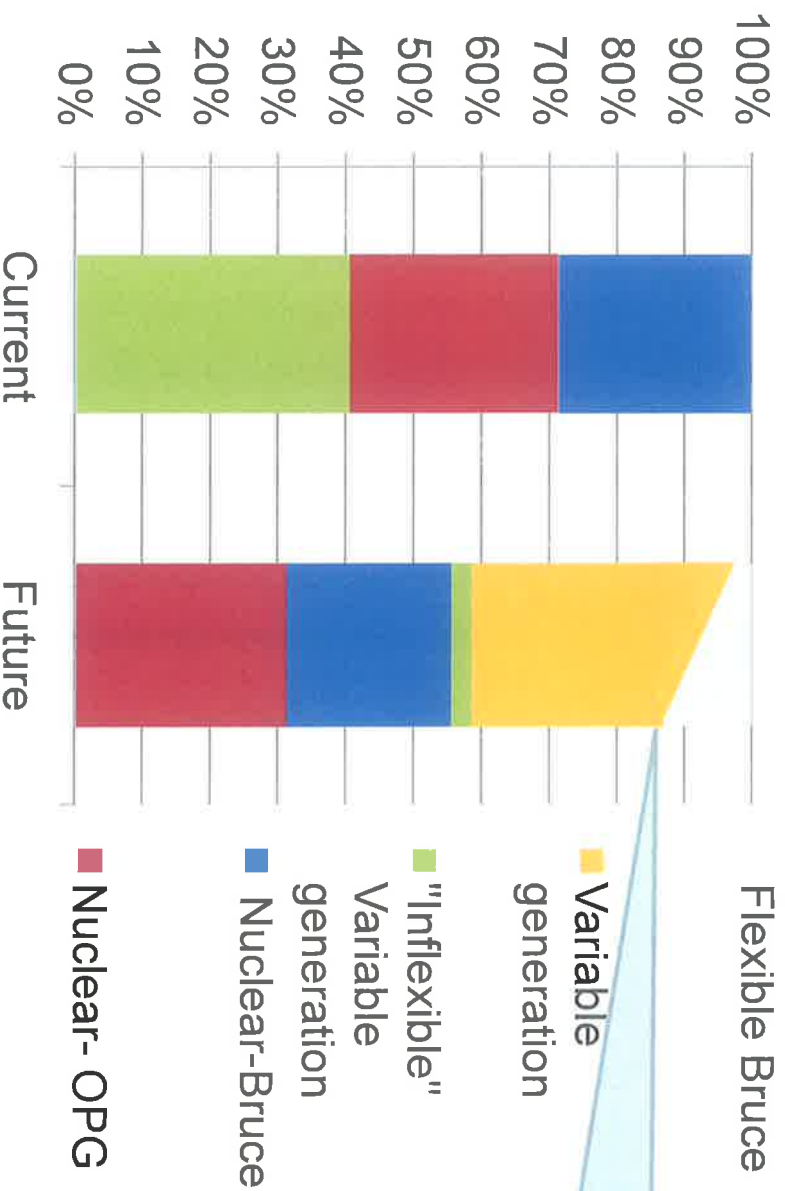
- Over the last nine years we've rebuilt and strengthened Ontario's electricity system- and gone from a period of electricity shortage to a strong and robust supply
- A number of factors have affected electricity demand over the last several years- global recession, conservation programs and a reduction in peak electricity use
- We are always looking to maximize the efficiency of Ontario's electricity system in order to reduce costs and increase reliability- Important that the IESO has the tools to best manage the system
- Wind energy will play an increasingly important role in our supply mix- In 2003, Ontario had only 10 wind turbines, producing only 15MW of power. We now have over 1,100 turbines producing almost 2,000MW of clean, renewable electricity
- We are working with our partners to take steps to better integrate wind and solar energy into Ontario's electricity grid to meet demand and keep the lights on in homes and businesses across the province
- This will an important step to help better match generation to demand when electricity use quickly ramps up and down
- This is about maximizing the efficiency of Ontario's electricity sector and ensuring the best value for ratepayers

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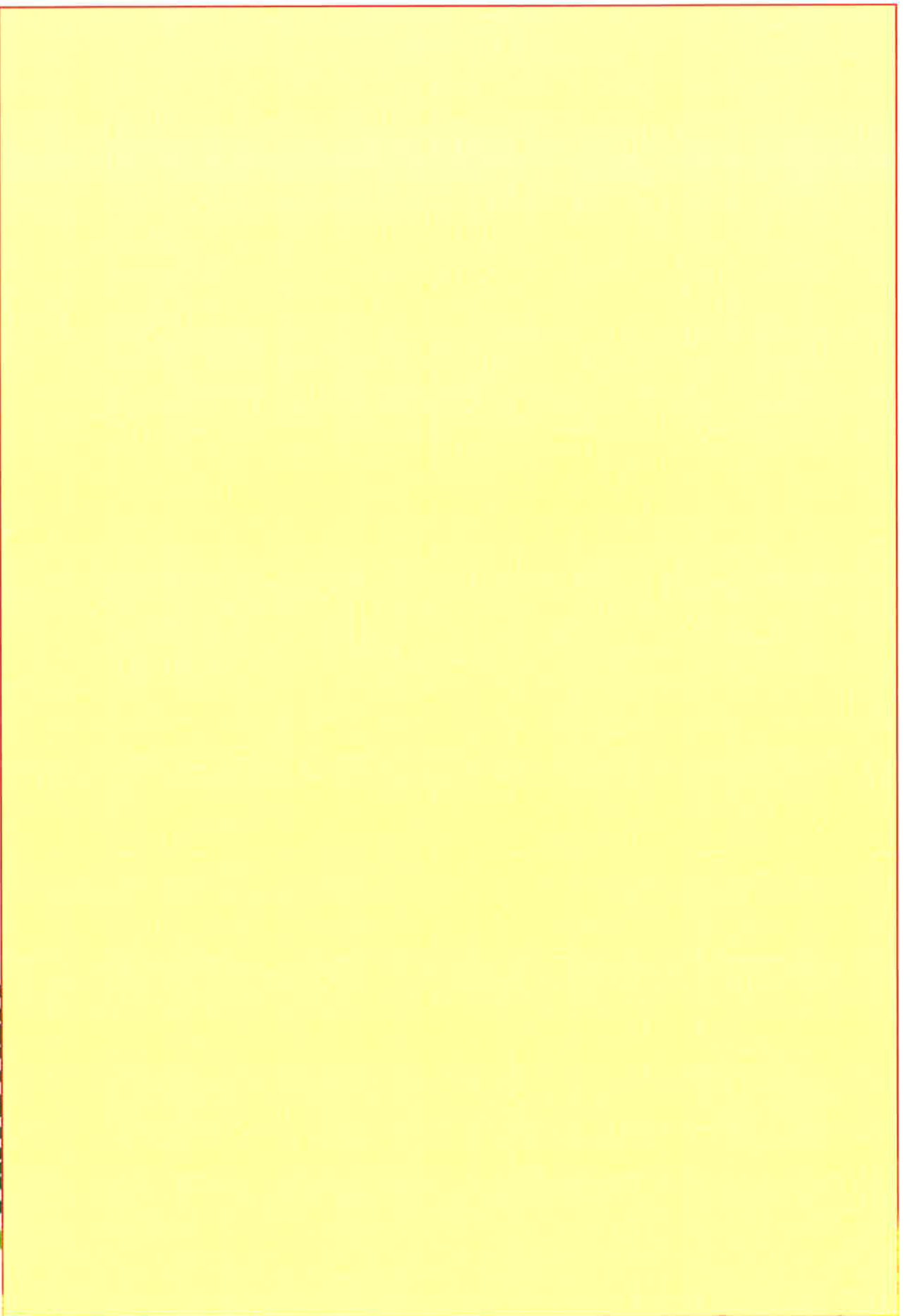


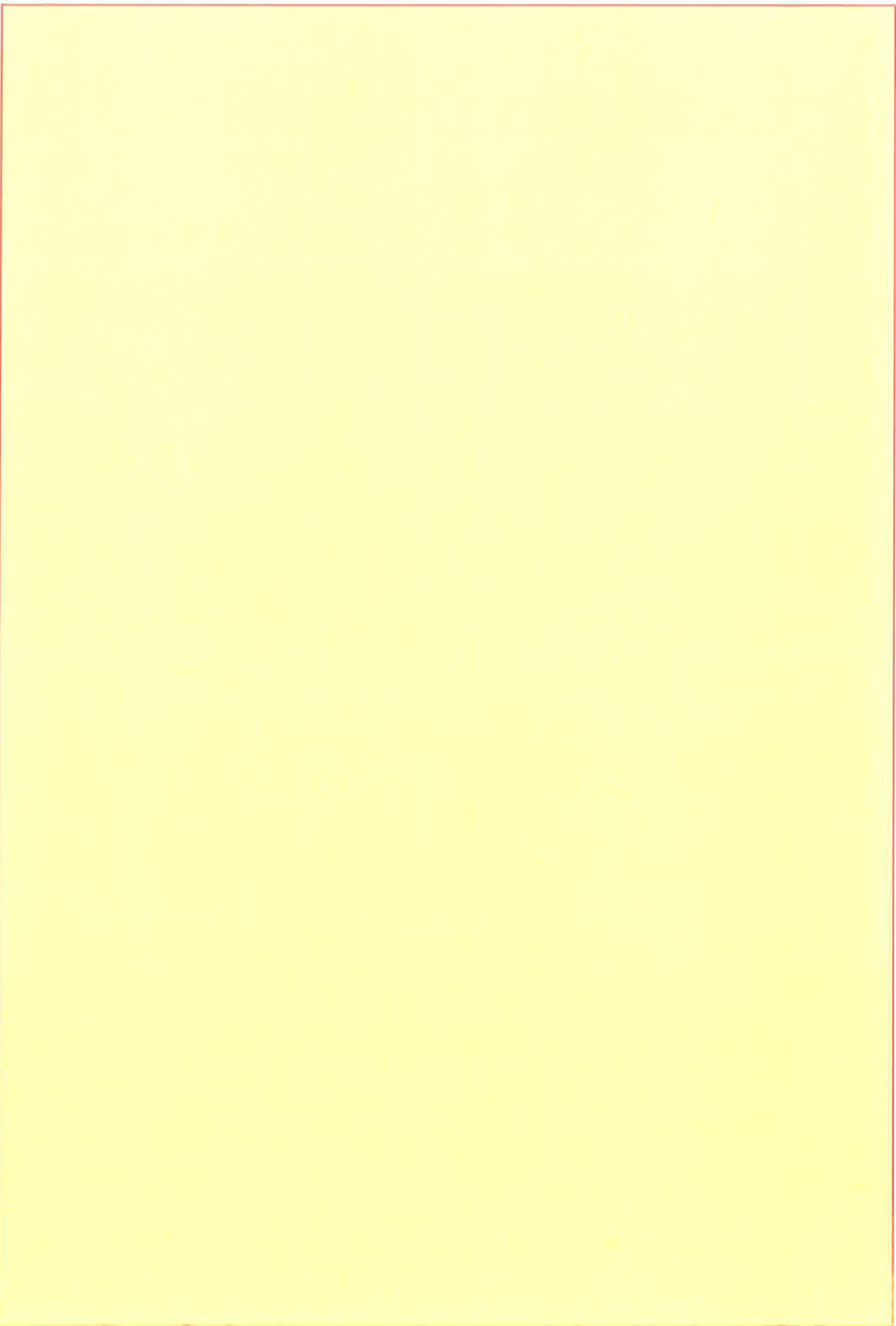
Appendix

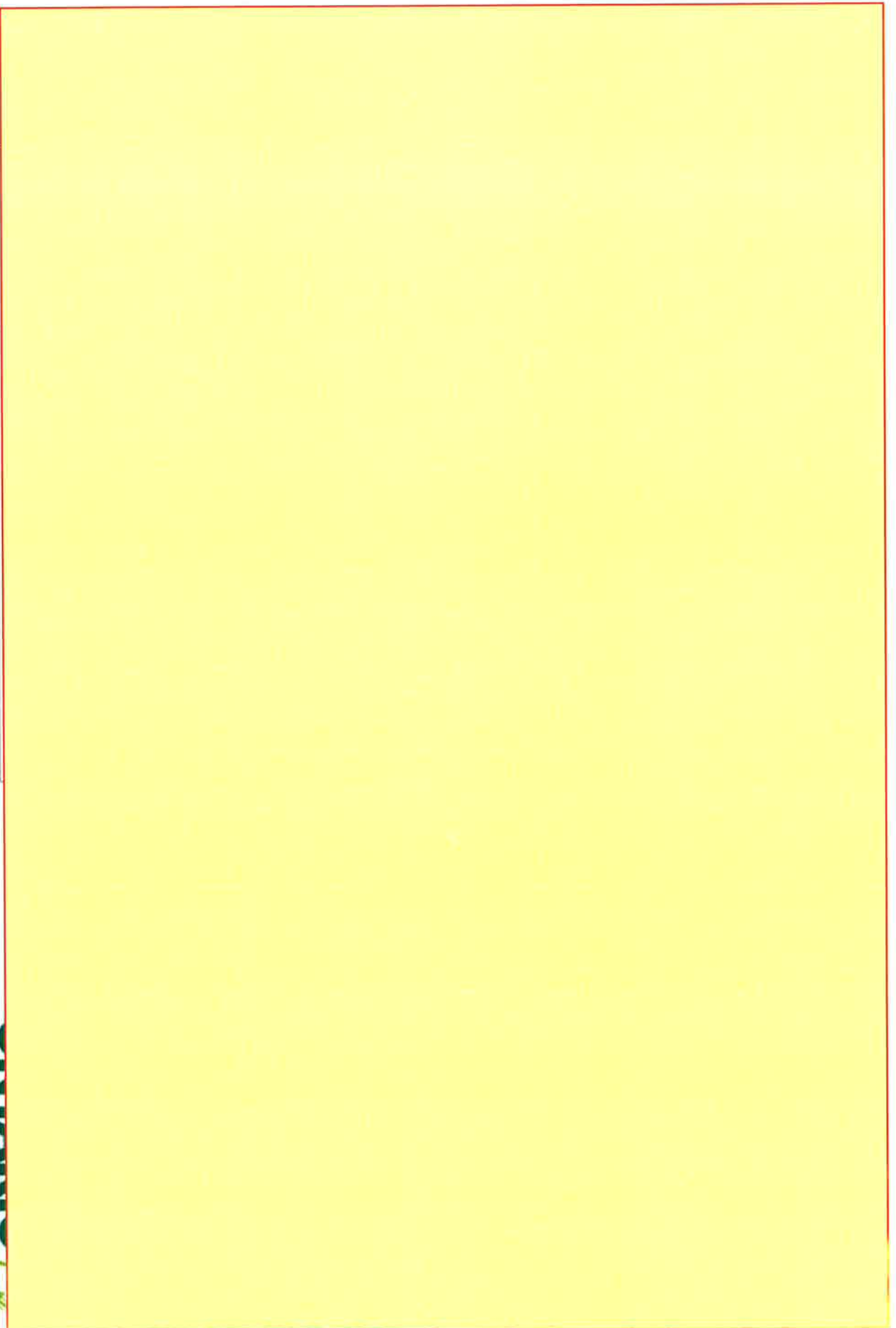
Changes to Dispatch Order resulting from SE-91

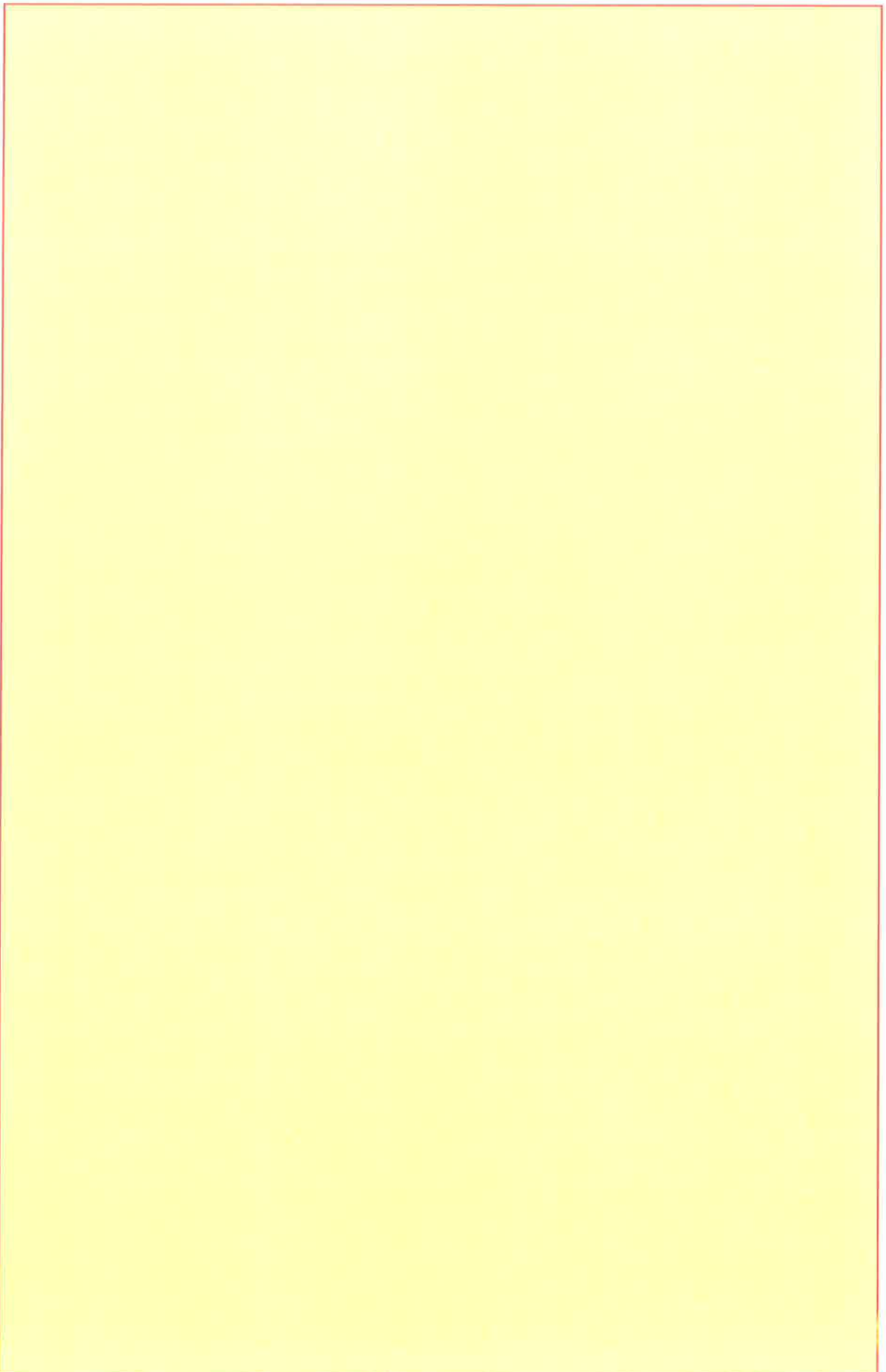


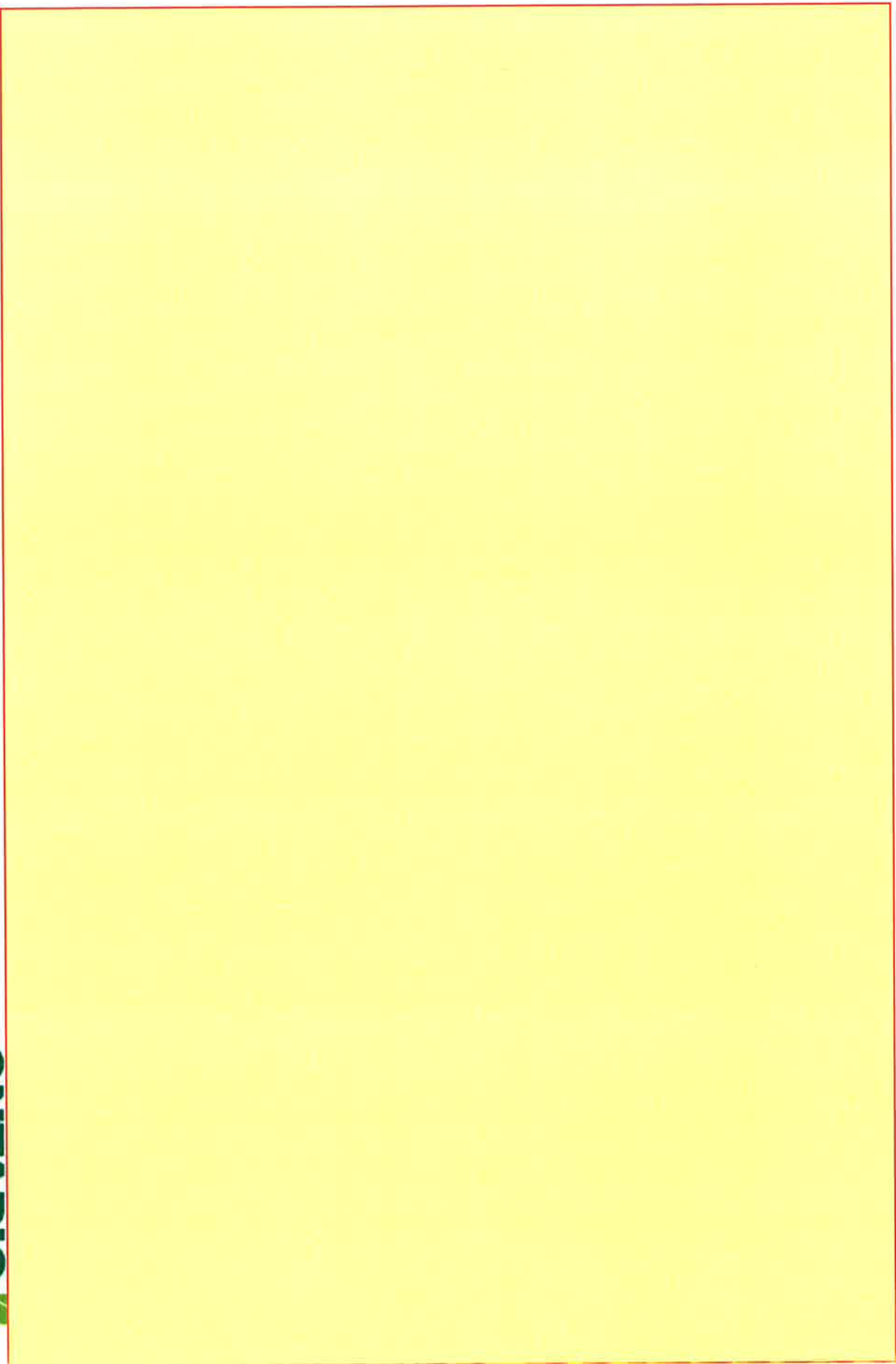
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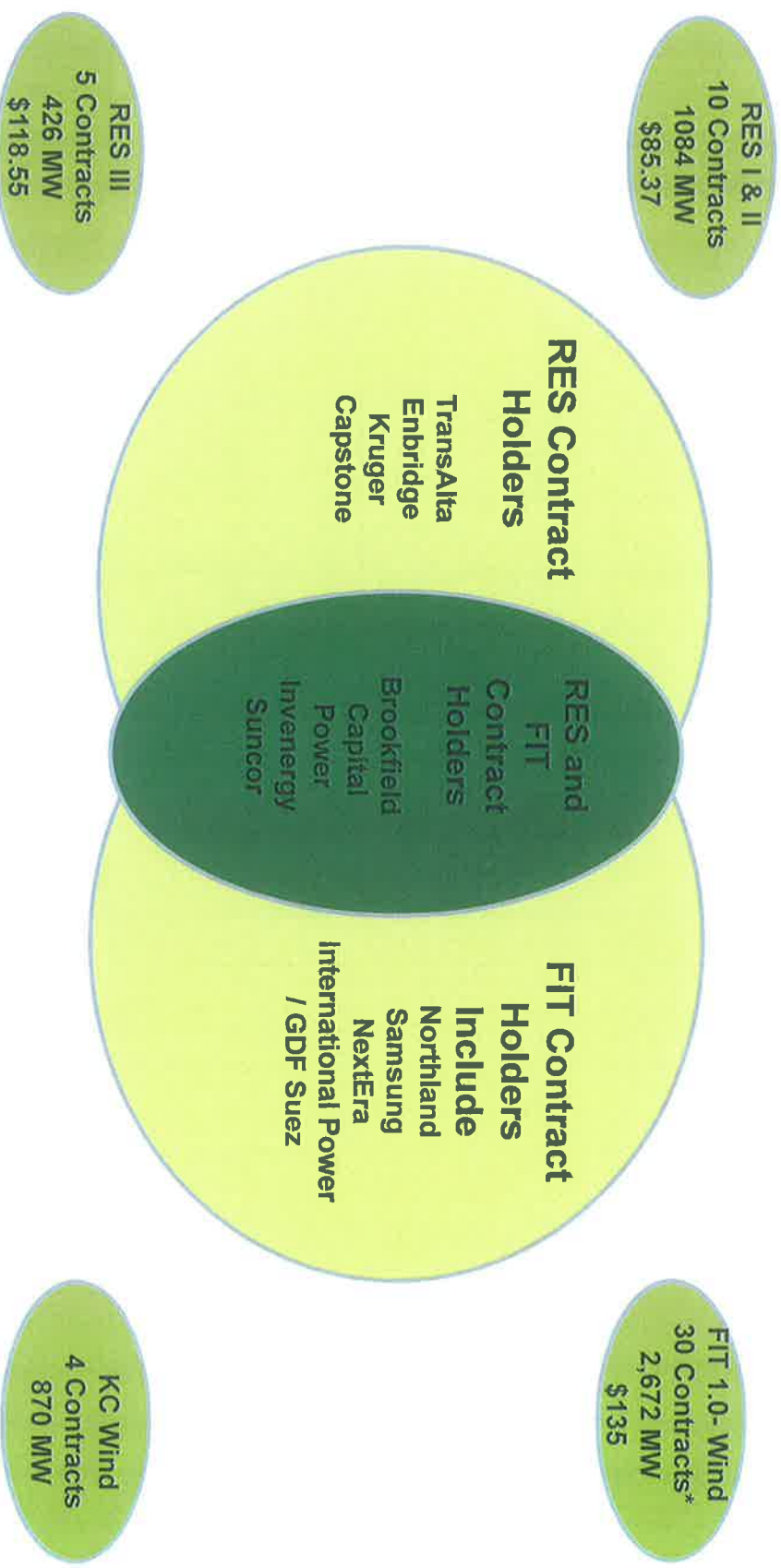








Contract Counterparties



*Includes transmission connected facilities only. Data accurate as of June 30th, 2012.

Existing OPA Wind/Solar Contracts (1)

Contract Type	Affected Fuel Type	# of Contracts	# of MW	
RES I/II 2004-2005 Competitive Procurement	Wind	10 (39.6 to 197.8 MW)	1084 MW	
RES III 2009 Competitive Procurement	Wind	5 (50.6 to 99.4MW)	426 MW	

Notes

- Prices subject to escalation
- Places limit on how low a generator may offer energy into the wholesale market where the lowest allowable offer is -2000(\$/MWh). In periods of low demand, generators with the lowest offers would be the last to be dispatched off, as they are the most economic resource. For instance, of two generators offering at -1 (\$/MWh) and -2,000 (\$/MWh), the one offering -\$1 would be dispatched off first as it is the more expensive resource.
- In addition to their Contract Price, RES I,II and III generators who have contract prices <\$120/MWh also receive \$10/MWh from the Federal ecoEnergy program. The ecoEnergy credit is provided for 10 years of production.
- 2011 dollars

Existing OPA Wind/Solar Contracts (2)

Contract Type	Fuel Type	# of Contracts	Total MW	
FIT 1.0 2010-2011 Standard Offer	Wind	75 (61 are >5MW)	2813 MW	
	Solar ³	1590 (94 > 5MW)	1196 MW	
	Wind	4 (2- Phase I and 2- Phase II)	870 MW	
Korean Consortium 2010-2011	Solar	2 (1- Phase I and 1- Phase II)	200MW	

Notes:

1. Based on 2009 Price schedule, subject to escalation
2. Places limit on how low a generator may offer energy into the wholesale market where the lowest allowable offer is -2,000(\$/MWh). In periods of low demand, generators with the lowest offers would be the last to be dispatched off, as they are the most economic resource. For instance, of two generators offering at -1 (\$/MWh) and -2,000 (\$/MWh), the one offering -1 (\$/MWh) would be dispatched off first as it is the more expensive resource.
3. Most FIT solar facilities are not IESO market participants, so they would not be subject to Dispatch Management.