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# Cargo Por Confiabilidad and Sistema Electronico De Contratos Estandarizados Conclusions

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# Existing CxC System

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- A primary goal of the CxC is to provide a long term price signal to the system. CREG considers reliability to be a public good.
- There second goal is that the generators use the CxC as a financial risk management tool.
- The current system pays US\$5.25 per KW needed to obtain a maximum load equivalent to 105% of the future demand, in a critical hydrology scenario. Currently, the allocation among generators is accomplished using a two-step process:
- An optimization model is solved to indicate which generation plants will supply, at a minimum cost and under critical hydrology, the average projected demand.
- In order to meet the corresponding “peak load”, a plant’s allocation (in KW) is altered based on the net available capacity.

# Major Benefits of the Existing CxC System

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- The current process is a repeatable one.
  - That is, once the major input parameters have been set, one can run the model and see what the results are.
  - Historically, many disagreements among the agents have been focused on this process.
  - The primary reasons for these disagreements stem from the modelling assumptions, scaling factors, calibration issues, and from the model's limitations in representing the real world.
- The current system distributes around \$500 million USD each year to the industry.
- The generators use this system as a risk management tool. Since the annual payments are relatively stable, in effect, they mitigate the volatility in earnings of the spot market.

# CREG Proposal to Revise CxC

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- First, the CxC is to be modified to utilize a model to establish an allocation of a “reliability charge” (CrC).
- Since the first portion utilizes a model approach, it is somewhat similar to the current method. However, some changes are proposed in the methodology that means that the actual money distributed under this program may be smaller than currently distributed under the existing program. This portion of the payment is generally thought of and targeted as compensation for *firm energy* to be provided to the system.
- Second, the CxC is to be modified to utilize an auction process with a single-buyer model for super-peak power (a four-hour product). This new process is generally thought of (by CREG) and targeted as compensation for *firm capacity* provided to the system.

# Industry Views of The CrC Proposal

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- After the first meeting with the industry, it was clear that all portions of the electricity sector had issues with the CREG proposals for the CxC revision.
- The Generators, the Distributors, the large consumers, and the Commercializers do not support the CREG proposal in its current form.
- The Generators stated that, in their opinion, the current proposal is fatally flawed and CREG should withdraw it.
- Several sectors believe that the problem must be solved in a cooperative fashion through a revised process.

# Consultant's Goals For CrC Proposal

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- To have a long term price signal to facilitate new generation development result.
- To have allocative efficiency from the new mechanism between regulated demand, unregulated demand, hydro generators, and thermal generators.
- To have financial risk management features in a revised proposal that allows generators and consumers to each hedge effectively.
- Final design and implementation of a revised proposal is CREG's decision.

# Consultant's View of the CrC Proposal

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- Substantial revision of the CrC proposal is needed. It may be better to establish a new proposal and development process.
- The new proposal is overly complicated, especially in its two part nature.
- The process proposed is a hybrid one – part administrative and part market oriented. The proposal would be strengthened by reliance on a single philosophy.
- A transition path from administrative to market solution may be desired, but has not been made clear.

# Consultant's View of the CrC Proposal

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- The firm energy portion may be workable with substantial model revision.
  - More stringent guidance on assumptions is needed from CREG.
  - Industry-provided water versus price function has theoretical issues in a global optimization model.
    - It also has practical issues with accuracy and strategic behavior.
    - Linking to spot market caps is also difficult conceptually.
    - A better approach may be a mean-variance stochastic approach with multi-attribute utility function.
  - Additional details (such as fuel data) are needed to make model representation of the real world more effective.

# Consultant's View of the CrC Proposal

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- Issues associated with actual optimization process (e.g. piece-wise monthly optimization vs. 17 period global) need addressed.
- Quality of service indicators beyond availability status are needed to assure reliability, including more stringent penalties.
- Issues associated with Minimos Operativos and rationing compensation are not clear, but need to be addressed.
- A back-testing process is needed to insure that the model comports with real conditions.
- CREG should consider features that facilitate a transition to a more market oriented solution if this is truly the ultimate goal.

# Consultant's View of the CrC Proposal

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- The firm capacity portion does not theoretically provide an effective long term development signal.
  - It is too short – 3 to 5 years is needed to build a new plant, and the proposal only pays for one year in the future.
  - The proposal does not easily provide for financial risk management.
  - The interaction between the firm capacity and firm energy markets may be greater than is thought. Providing the generators with a relatively predictable income stream from the firm energy process means that there could be incentives to engage in more risk-seeking behavior in the capacity process.
  - International experience indicates that the single buyer model has practical limitations.

# Consultant's View of the CrC Proposal

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- The Administrator will have complex and substantial oversight and monitoring activities.
- The outcome of the auction is not predictable for the generators. Therefore, risk management tools are needed.
- A secondary market is proposed to facilitate risk management, but there is insufficient detail regarding its operation.
  - Since CREG facilitates the main auction, it follows that it will also need to facilitate the secondary market to ensure that generators can to manage risk. This implies a role in risk management for the demand that was not discussed in the proposal.
  - No rules are clearly defined for the secondary market leading to uncertainty as to its operation.

# Conclusions on CrC Proposal.

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- The two-part proposal is overly complex.
- Certain features of the SEC proposal overlap with these the CrC proposal.
- Governance needs to be carefully considered.
- Market operator and participant roles for CREG need to be carefully considered.
- A revised process that facilitates collaboration and active listening with the industry actors in a series of technical workshops is suggested.
- Consider a more rapid migration to a market-based approach.

# Existing Contracting System

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- Currently, long-term energy market transactions are carried out by retailing and generating agents (whether they are integrated or act alone) in the existing Wholesale Energy Market.
- Prevailing regulations exist for bilateral contract transactions, and these determine the procedure to be followed for the contracting. Regulated and non-regulated users each behave according to guidelines identified in Law 142 and 143.
- For regulated users, a retailer begins a contracting process with the aim of acquiring energy according to the procedure established in CREG 020 Resolution of 1996, which establishes a first price sealed envelope auction mechanism.

# Existing Contracting System

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- When a retailer begins an energy purchase process through bilateral contracts with the aim of serving a non-regulated market, there is no established procedure for procurement. The retailer freely decides on the mechanism to use and the only condition is that the contract signed by the parties comply with the requirements established in the prevailing regulation.
- In general, an absolute requirement of the procurement process for the contracts is to define prices, quantities and the way the time and the place of delivery in such a way that they can be registered at the ASIC and settled through it, according to prevailing regulation.

# Major Benefits of Existing Contracting System

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- Straightforward, non-complex.
- Flexible.
- Ability to negotiate interactively with counter-party.
- Ability to set commercial terms freely.

# CREG Proposal to Revise Existing Contract System

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- Last year, CREG submitted a regulatory proposal (SEC) on the subject of the standardization of long-term contracts and transactions via Internet and using anonymous auction mechanisms.
- The goal of the program is to help prices be more transparent and retailing to become more dynamic.
- The primary stimulus for this program was the fact that regulated user prices are higher than unregulated user prices. It is not clear why this exists.
- CREG believes that “...a mechanism [like the SEC]... prevents anti-competitive behavior when market power can be exercised because of concentration, horizontal or vertical integration or because of discriminatory conditions in contracting.”

# CREG Proposal to Revise Existing Contract System

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- CREG's also believes that "...flexibility in the types of contracting increases the risk that such tools are turned into an instrument of abuse in the market..." when market power is present.
- CREG further argues that "...to the extent to which competitive conditions are guaranteed in the bilateral contracts market, the development of complementary mechanisms of risk management is viable and desirable."
- During the consultation process, workshops were carried out with wholesale market agents and several explanatory and consultative meetings were held in compliance with regulations and to gain greater understanding of the project.

# CREG Proposal to Revise Existing Contract System

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- In a subsequent document, a revised version of the regulatory proposal was put forward, based on the analyses carried out within the Commission that incorporates the response and includes many of the suggestions received during this consultation period.
- The CREG proposal takes the point of view that contracts for duration of 0-3 years would be migrated to electronic trading. Contracts with duration of 3-5 years could be concluded based on bilateral or electronic trading, at the company's request. Contracts longer than five years duration would be concluded based on bilateral trading.

# Industry Views of the SEC Proposal

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- In general, the industry supports the current SEC proposal.
- In particular, there are several unresolved issues. These primarily focus on the following areas:
  - Governance
  - Market Power
  - Voluntary vs. Mandatory Participation in SEC
  - Need for, Costs of, and Timing for a Clearinghouse
  - Auction Design – Double Ended vs. Single Ended
  - Handling of Taxes
  - Treatment of Costs – Pass Through or Under Current Tariff?

# Consultant's Goals for the SEC Proposal.

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- To have financial risk management features in a revised proposal that allows generators and consumers to each hedge effectively.
- Final design and implementation of a revised proposal is CREG's decision.

# Consultant's View of the SEC Proposal

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- Governance
  - Objective and action oriented oversight is needed.
  - The Consultant observes that several agents had expressed the concern that CREG appears to be quite involved in market design processes today. Several agents indicated that it might be acceptable for CREG to “jump start” the process, but it needed to be clear how they would relinquish control as revised institutions develop.
  - The Consultant has been advised by certain participants that CND/MEM was the best vehicle to initiate the market operator.
  - Under this view, CND/MEM might be separated from ISA as a separate operating company, but a subsidiary of ISA. Some believe that this might happen within 1 to 3 months.

# Consultant's View of the SEC Proposal

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- Governance
  - The international experience would suggest something like the following as a starting point for discussions.
  - First, Board candidates might be identified by an Executive Search Firm.
  - The Consultant suggests five or seven board members be selected.
  - Second, Board candidates might be drawn from outside ISA. Prominent and experienced Colombian citizens might be chosen for a majority of the positions (for example 2 persons) with experience and knowledge of the sector, regulatory, or business processes.

# Consultant's View of the SEC Proposal

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- Governance
  - Potential conflicts of interest need to be resolved through a variety of mechanisms such as blind stock holdings and “revolving door” limitations (restrictions on moving directly from certain industry jobs to the market operator in positions of responsibility, and restrictions from serving in certain dual roles in industry posts concurrently).
  - The Board members are typically paid an honorarium plus expenses.
  - In addition, perhaps 2 positions might include people who have experience and knowledge of international electricity markets, finance, and risk management. These outside members are typically knowledgeable in the sector. They are selected as “independent” board members.

# Consultant's View of the SEC Proposal

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- Governance
  - All members would be appointed by the ISA Board and/or the Energy Minister.
  - A full-time salaried executive officer (manager) with strong industry credentials would be appointed by the Board. For the first appointment, the Minister or the ISA Board in cooperation with an executive search firm might make the selection. The Executive Officer may also be the fifth member of the Board
  - The term of the Board members needs to be determined. The Consultant feels that periodic rotation of Board members (perhaps a 3 year term with a possible second 3 year term, or one 5 year non renewable term) would be appropriate.

# Consultant's View of the SEC Proposal

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- Governance
  - One approach to obtain constant industry input might be to have a group of advisory committees.
  - For example, a Technical Advisory Committee might be appointed with members from within the MEM, ISA, CNO, the Commercializers, the Generators, and the Distributors.
  - Then, Working Committees could be formed that rely on members of the sectors, as well as CNO, MEM and ISA. These could include offering comments and ideas on things like rules, operations, managing margins and guarantees, compliance, surveillance, and others.
  - The actual functions would be carried out by MEM/ASIC/Market Operations staff.

# Consultant's View of the SEC Proposal

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- Market Power
  - There are various beliefs regarding the market power of the generator community. There is also disagreement as to the sources of any market power.
  - The belief that market power (if it exists) can be mitigated using the SEC proposal is conceivable, but not the most direct way to deal with such an issue.
  - If generator market power is considered to be an issue, the SEC proposal may help to the extent that consumers embrace the notion of relying on forward markets for hedging and the spot market becomes a “disposal” or balancing market.

# Consultant's View of the SEC Proposal

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- Voluntary vs. Mandatory Participation
  - From the perspective of market development, the Consultant is of the view that mandatory SEC participation is desirable.
  - However, this ignores the reality of bilateral contracting and some participants desire for customization and “one stop shopping”.
  - The real question is what does mandatory mean? To this end, bilateral contracting might be allowed, but with some limitations.

# Consultant's View of the SEC Proposal

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- Voluntary vs. Mandatory Participation
  - In general, the Consultant believes that this argument is centered on the desire of certain industry participants to require stringent credit guidelines for smaller, more poorly capitalized participants and retaining the ability to not impose the additional administrative burden of these requirements on all.
  - The Consultant believes that effective design of credit and clearing mechanisms is a better way to handle these issues, removing the issue from the participation debate
  - The Consultant believes that it is in the interest of efficient pricing to have as many transactions as possible offered through the SEC.

# Consultant's View of the SEC Proposal

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- Voluntary vs. Mandatory Participation
  - To this end, bilateral transactions might be restricted by size and type (e.g. custom balancing/full requirements transactions for 20% of a generator's portfolio)
  - The auction design might be modified to allow certain counter-parties to be matched after certain activities have taken place. ICE and NYMEX each have specific features that facilitate these types of transactions that might be adopted in the Colombian context.

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# Consultant's View of the SEC Proposal

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- Need for, cost of, and timing for a clearinghouse.
  - In general, it seems possible that the SEC could be started without a clearinghouse. However, the Consultant believes that early adoption would be a better course.
  - The transition costs associated with a clearinghouse can be real and substantial. The Consultant suggests that provisions need to be made to aid this transition.
  - On-going costs for a Clearinghouse can actually be lower than bilateral alternatives. In this case, the benefits are hidden because of the current commercial terms that the sector employs.
  - The margin and guarantee proposals are generally in line with the international experience.
  - The use of unconventional margin sources should be explored.

# Consultant's View of the SEC Proposal

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- Need for, cost of, and timing for a clearinghouse.
  - However, they could be enhanced by including some of the features used in ISDA agreements and by international exchanges to increase flexibility and reduce on-going costs. (e.g. master agreements/credit change events)
  - The Consultant believes that Clearinghouse development is a complicated, long term process. To facilitate this development, one suggestion is to partner with another exchange such as the Bolsa de Valores de Colombia and/or NYMEX.
  - The Consultant believes that substantial legal and administrative work remains to craft a final credit and clearing process.

# Consultant's View of the SEC Proposal

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- Auction design – Double vs. Single Ended
  - For standardized products, the Consultant suggests that Double-ended auctions may be more appropriate.
  - These are consistent with the international experience as well, allowing more of the features of “negotiation” to be included in the process.

# Conclusions on the SEC Proposal

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- Product design complexity can be reduced.
- Certain features of the SEC proposal overlap with these the CrC proposal. Consider features to link these two proposals to facilitate more rapid SEC adoption (e.g. conversion of contracts into standardized ones)
- Governance needs to be carefully considered. Utilize a program similar to that outlined.
- Voluntary participation may be possible, but design details are critical to market success. Adhere to mandatory participation for certain features of the market.
- A revised process that facilitates collaboration and active listening with the industry actors in a series of technical workshops is suggested.

# Conclusions on the SEC Proposal

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- Consider a transition to a market-based approach. 10 years is too long but 2 to 5 years seems reasonable.
- Consider revisions to credit and administration process.
- Carefully consider tax issues in designing clearinghouse and transaction administration.
- Adhere to the principal of allowing cost pass-through to customers of new costs associated with market revisions.
- Consider use of double-ended auctions for SEC process.
- Consider early establishment of an independent CND/MEM.
- Consider selecting partners early for clearing-house establishment. Early focus on legal and tax issues associated with a clearinghouse is highly desirable. Use of unconventional margin/guarantee sources is worthy of consideration.