Comment No. 1

Ref No.: ID002
Title: Project of Introducing High Efficiency Refrigerator to a Food Industry Cold Storage in Indonesia

Name: Thomas Grammig
Affiliated Organization: independent
E-mail: trgram@compuserve.com
Country: Germany
Part of the document (A/B/C/etc):
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Dear Madame, Sir,

Your methodology AM003 vers 1 mentions that the reference refrigerators have various refrigerants and impose that the old refrigerator's refrigerant is not emitted to the atmosphere. In section D criterion 7 on page 3:
"In the case of replacing the existing refrigerator with the project refrigerator, refrigerant used for the existing refrigerator is not released to the air."

Neither of the 2 JCM projects with industrial refrigerators in Indonesia mention what has been done to prevent that the old refrigerant was released.
Furthermore it would be necessary to identify what the old refrigerant has been, because if it was CFC-11 or CFC-12
it is necessary to ascertain that the old refrigerant is destroyed, and Japanese regulation for the destruction of these substances were used (there are no certified CFC destruction facilities in Indonesia)

Or if the old refrigerant was HCFC-22 or HFC-404 whether it has been recycled.

In comparison to the treatment of the old refrigerant, it is rather non-material what happens to the refrigerant in the project case because the small leaks possible don't involve significant volumes and furthermore because of the low GWP. The clause imposing monitoring the new refrigerant's possible release could be an unnecessary burden for the project.

sincerely
Thomas Grammig

Comment No. 2
(Same stakeholder as comment No. 1)

Dear Madame, Sir:

I understand that my comment regarding the fate of refrigerant in the reference case is more relevant to ID003, because ID002 is a new plant. So you might deal with this comment as only relating to ID003.

Still, if I may, I would like to comment on both ID002 and ID003, as well as AM003, and address the difference between replacement and new equipment.

Comment:

ID002 and ID003 apply the methodology AM003. For ID002 the methodology is correctly applied while for ID003, the criterion 7 is stated but not fully addressed since nothing is said about the fate of the old refrigerant.

Underlying Context and Main Comment Issue:

Probably the old replaced refrigerator in ID003 did contain CFC12. UNEP Montreal Protocol's Report of the TEAP Chiller Task Force May 2004 (page 23), states that 1300 chillers using CFC were in operation in Indonesia. Since there is no new CFC available (since 2008), these old chillers are replaced when they run out of CFC to fill up the refrigerant that leaked. The better maintained chillers run a few years more than the less maintained ones. Certainly by now, the number of CFC using chillers in Indonesia has declined substantially.

The same applies to AM002 and the JCM project ID001. In AM002 the criterion 5 is the same as criterion 7 in AM003. The JCM feasibility Study
"Strategic Promotion of recovery and destruction of fluorocarbons in Indonesia, Thailand and Malaysia"
undertaken by E&E Solutions Inc. has probably addressed the supply and demand for CFC in Indonesia.
Experts from Japan have played a prominent role in the CFC destruction efforts under the Montreal Protocol.
Furthermore, there are efforts underway to include HFC into the Montreal Protocol and the JCM might have particular goals whether this should be encouraged or not, or anticipated into AM003 using JCM projects.

Comments on Methodology:

In light of this context, I would like to comment that the methodology AM003 is incomplete because the criterion 7 states that the old refrigerant "is not released to the air", thus allowing for the old refrigerant to be reused in other equipment instead and thereby prolonging the usage of the other equipment. (one could also comment that there is well documented evidence from UNEP about CFC smuggling)

Since AM003 as a methodology is specific to Indonesia (page I-2), more Indonesian conditions could be used in the methodology to make it more effective in the Indonesian context.

The methodology states that for conservativeness the refrigerant emission reductions are excluded. This is a sound choice.
Even so the emission reduction credited excludes it, the methodology addresses that refrigerant emissions can affect the environmental integrity with its criterion 7. And this can be reflected in ID002 and ID003 if the PP includes information on what the PP did with the refrigerants (perhaps also in all of the plants it operates).

So my comment for AM003 is that is fails to address what in the Kyoto context is called "leakage", emissions outside of the project boundary. Criterion 7 is incomplete.
And significantly so because if the old CFC is recovered and used in other equipment, it can leak there and then end up in the atmosphere. With CFC's high GWP, these emission are higher than the electricity related CO2 savings credited.

AM003 states that the new secondary refrigerant must be CO2 and that a plan for not releasing the new primary refrigerant is prepared.
Furthermore, AM003 states that there are four different alternative systems of which the 2 with secondary loops are HFC/brine and NH3/brine. This seems insufficient in a number of issues.
The new primary refrigerant can still be HFC and while a plan is required, it does not state what level of HFC leakage is tolerable. HFC leakage is suitable as a default value definition similar to the treatment of required COP in AM003.
Another form of improving AM003 could be to allow only NH3 as primary refrigerant since this would accelerate the introduction of top efficiency cascades to Indonesia which are already used in the Asia region.

Comment on Relations Between Regimes:

I don't want to abuse your attention, but I would like to point out that the interactions between different climate regimes can be taken into account. Regarding ID002 and ID003, there are interactions and overlapping effects with the Montreal Protocol, with the Californian emission trading because of its CFC destruction projects, and with the Kyoto Protocol CDM with its methodologies AM0060 and AMS-III.X.
Perhaps these interactions can be encouraged or be prevented, reflecting what policy goals are important to JCM.

And the encouragement or discouragement of the relations between AM003 and Montreal Protocol projects, the Californian "Compliance Offset Protocol Ozone Depleting Substances", and CDM might be adequately defined at the methodology level because thereby a precedent is set for fruitful co-existence between various national and regional emissions trading systems.
The case of refrigerants could be suitable for this also because the interactions can be defined in physical quantities (kg of CFC or HFC), rather than interactions via prices and markets.

Thank you for your kind attention to this public comment.
best wishes
Thomas Grammig