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Report of the administrator of the international transaction log under the Kyoto Protocol

## Annual report of the administrator of the international transaction log under the Kyoto Protocol

Note by the secretariat \*

### *Summary*

This second annual report of the administrator of the international transaction log (ITL) provides information to the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP) on progress in implementing the ITL from November 2005 to October 2006.

The report provides information on progress in the development of the ITL software, establishment of the ITL infrastructure and facilitation of cooperation with registry system administrators.

The COP/MOP, by its decision 12/CMP.1, requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, the annual reports of the administrator of the ITL. The SBI may wish to take note of the information contained in this report and provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

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\* This document has been submitted late in order to include information on the latest progress in this work.

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## **I. Introduction**

### **A. Mandate**

1. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP), by its decision 13/CMP.1, requested the secretariat to establish and maintain the international transaction log (ITL) in order to verify the validity of transactions undertaken by registries established under decisions 3/CMP.1 and 13/CMP.1.
2. By its decision 12/CMP.1, the COP/MOP requested the secretariat, as administrator of the ITL, to report annually to the COP/MOP on organizational arrangements, activities and resource requirements and to make any necessary recommendations to enhance the operation of registry systems. It further requested the Subsidiary Body for Implementation (SBI) to consider, at its future sessions, these annual reports of the administrator of the ITL, with a view to it requesting the COP/MOP to provide guidance, as necessary, in relation to the operation of registry systems.

### **B. Scope of the note**

3. This second annual report of the administrator of the ITL provides information to the COP/MOP on progress made in implementing the ITL. It covers the reporting period from 18 November 2005 to 27 October 2006. In particular, the report provides information on progress in the development of the ITL software, establishment of the ITL infrastructure and facilitation of cooperation with registry system administrators (RSAs) through the activities of the RSA Forum.

### **C. Possible action by the Subsidiary Body for Implementation**

4. The SBI may wish to take note of the information contained in this report and provide guidance to the secretariat and Parties, as necessary, concerning the implementation of registry systems.

## **II. Summary of challenges and work undertaken**

5. Substantial work has been undertaken to implement the ITL and cooperate with RSAs during the 2006 reporting period. Although the bulk of the ITL design was completed in 2004, it was only in 2005 that contributions to the UNFCCC Trust Fund for Supplementary Activities in relation to this work reached the level required to allow the procurement of external service providers to proceed.
6. Two external service providers were selected and contracted to the secretariat during 2006, in accordance with United Nations financial rules and procedures, to implement the ITL and conduct its day-to-day operation through the first commitment period under the Kyoto Protocol. Trasys, an IT company based in Belgium, has been contracted to develop and maintain the software. LogicaCMG has been contracted to deploy and operate the ITL software from two data centres located in London, United Kingdom of Great Britain and Northern Ireland, and to establish a service desk in Wales from which it will provide support to registries.
7. These providers, hereinafter referred to as the developer and operator of the ITL, have made rapid progress in their work during 2006. The first version of the ITL software has been completed and has been deployed and tested in its infrastructure at the primary data centre. This is an important milestone in the implementation of the ITL and promotes confidence in the quality and appropriateness of the software. Pilot testing of this software is now under way in conjunction with several registries. The full version of the ITL software is to be deployed at both data centres in December 2006, allowing other registry systems to complete the process of initializing their connections to the ITL by April 2007.

8. With the operational phase of registry systems under the Kyoto Protocol rapidly approaching, the ITL administrator established the RSA Forum in 2006 as an informal setting in which technical and management issues relating to registry systems may be discussed and coordinated among RSAs. This forum has met twice during the reporting period. In accordance with decision 12/CMP.1, its work has focused on the preparation of common procedures to coordinate the operational activities of all registry systems. An extranet has been established to enhance the communication among RSAs in relation to their systems and operations and to meetings and other forum activities.

9. The ITL administrator has also used the RSA Forum to share information and receive feedback on the implementation of the ITL and the initialization of registry system connections to it. The forum will continue to play this role as registry systems undertake the initialization process. The RSA Forum has further provided a means for all developers of registry system software to coordinate technical and scheduling issues for the development of their systems.

10. The activities of the ITL administrator have been intense during the reporting period. As a result of these efforts, the implementation of the ITL is on track to allow registry systems to connect to the ITL and become fully operational by April 2007, in accordance with the timing specified in decision 12/CMP.1. It is expected that the first registries will have already completed their initialization testing and entered the operational phase by early in the first quarter of 2007.

### **III. Technical activities**

#### **A. Development activities**

11. The ITL is being developed to be fully consistent with the same data exchange standards as are being implemented in all other registry systems under the Kyoto Protocol. This universal standard is required to enable all such registry systems to operate together in a compatible and efficient manner. The specification of the ITL software was developed in parallel with the data exchange standards in 2004 and is now complemented by ITL operational requirements elaborated during 2005.

12. As reported to the Subsidiary Body for Scientific and Technological Advice (SBSTA) at its twenty-first session, the European Commission has undertaken to provide the secretariat, as an in kind contribution, with the programme code for elements of the Community Independent Transaction Log (CITL) which are common to the ITL (see document FCCC/SBSTA/2004/12). This is part of an agreement under which the specification of the ITL software was provided to the European Commission in 2004 as the basis for its development of the CITL. This agreement has reduced the development costs of the ITL, thus responding to the request of the SBSTA, at its nineteenth session, that the secretariat pursue means to reduce the resource requirements associated with the ITL development. The agreement has also helped to ensure the technical compatibility of the CITL with the ITL.

13. On the basis of the substantial technical work previously undertaken, the development of the ITL software is proceeding at a quick pace and may be summarized as follows:

- (a) The ITL developer has practically concluded the review of the software specification to ensure its completeness, coherency and consistency. Only minor changes have been identified as being necessary, although some components were not fully defined and are still undergoing elaboration, in particular those relating to the administrator application and interfaces with other secretariat data systems;
- (b) Some corrections and clarifications of the data exchange standards have been identified and are being included in a revised version of their technical specification;

- (c) The pilot version of the ITL software is complete and has been deployed and tested within its operational environment at the primary data centre of the ITL. This marks the most significant milestone to date in the implementation of the ITL;
- (d) The pilot software contains all functions to allow the ITL to support and verify the following transactions undertaken by registries: the initial issuance of units; conversion of units under joint implementation (JI); unit cancellation; unit retirement for purposes of demonstrating compliance with commitments under Article 3 of the Kyoto Protocol; external transfers of units between registries; the carry-over of units to the next commitment period; and the change of expiry dates for units generated by afforestation and reforestation projects under the clean development mechanism (CDM). Functions and checks for replacement transactions are under development but are not yet complete;
- (e) The pilot software contains several completed administrative processes and provides for the routing of messages between the ITL and the CITL;
- (f) The development of the ITL administrator application, through which the ITL will be monitored and controlled, has commenced and basic functions have been completed.

14. The current version of the ITL software is presently undergoing pilot testing against several registries, in particular those established for the CDM, and for Japan and New Zealand. This pilot testing is intended primarily to verify and improve the ITL software, although it is also useful for registry developers in verifying their systems against the ITL. For this reason, once it has passed its pilot testing, a test version of the ITL is to be made available to all registries.

15. The full version of the ITL software, taking into account the results of the pilot testing, is to be completed in December 2006 and will be subject at that stage to detailed acceptance testing by the operator and the secretariat. This version will include all functions necessary for the initialization of the links between other registry systems and the ITL, thus allowing all registries and the CITL to successfully connect to the ITL by April 2007, as was requested by the COP/MOP (decision 12/CMP.1).

16. Further development of the ITL will be required during 2007 to complete the functionality of the ITL administrator application and connect other secretariat data systems as they become ready. These systems include the CDM information system, which is to be connected in parallel with the initialization of the CDM registry, and the compilation and accounting database and JI information system.

17. The ITL developer is about to commence its training of personnel for the ITL service desk being established by the operator. Once the service desk is fully established, the developer will continue to assist it through the provision of technical support and maintenance of the software.

## **B. Operational activities**

18. The verification of registry transactions by the ITL is to occur in real time. Where transactions conform to the rules established by the COP/MOP, the checking by the ITL should not affect the operation of registries or the settlement of transactions that they undertake. For this reason, the ITL is being implemented as a high-availability and business-critical system. The secondary data centre is intended to allow the ITL to continue operation if a significant problem arises on the primary site.

19. The work to establish the infrastructure and operational environment of the ITL is proceeding in parallel with the development of the software. Progress may be summarized as follows:

- (a) The ITL infrastructure at the primary data centre has been put in place and the pilot version of the ITL software has been deployed and tested within it. This infrastructure includes configuration of all the necessary hardware and software licences for the

reliable and secure operation of the ITL. The construction of the ITL database has been completed and work on the secondary data centre has commenced;

- (b) Systems for the monitoring of the ITL operation are being established. These systems will provide the basis for assessing whether the target system performance is achieved;
- (c) The network end at the primary data centre, including the required authentication and security features, has been completed and is ready to link to registries and the CITL. The network link between the primary and secondary data centres is installed. A leased network line direct to the secretariat is being installed in order to ensure the robust connection of secretariat systems and reliable access to the administrator application;
- (d) The service desk of the ITL operator has begun work, in limited form, in support of the pilot testing. Its personnel is undergoing further training in the business and technical features of the ITL and other registry systems. The system tools for its use are nearing completion and work has commenced on the procedures for the operation of the desk.

20. Further versions of the ITL software will be deployed at the data centres of the operator. The full initialization version will be deployed in December 2006 and will be the version with which registries and the CITL undergo initialization testing. Once these systems are approved by the ITL administrator, the links of these registry systems to the live ITL production environment will be activated. In addition, a number of test environments will be made available for use by test instances of registry systems.

21. The full service desk is to be established in time for the initialization of registries and the CITL. Once in place, it is to act as a focal point of all support provided to RSAs in relation to the operation of the ITL. It will receive support requests by telephone and e-mail and coordinate the resolution of problems that are identified, including their escalation, as appropriate, to more detailed technical support by the ITL developer or higher levels of support provided by the secretariat.

### **C. Initialization activities**

22. Before being approved for use with the live operational environment of the ITL, each registry and the CITL must meet the requirements set in the specification of the data exchange standards. The process of assessing the operation of a registry or CITL, and activating it where the assessment is positive, is referred to as the initialization process and is to occur in three stages:

- (g) Documentation review: the operation of the registry or CITL is assessed by reviewing its technical and operational documentation, as specified in the data exchange standards;
- (h) Connectivity testing: the ability of the registry or CITL to connect to the ITL is assessed by verifying that it can undertake basic communication steps with the ITL in the manner specified in the data exchange standards;
- (i) Functional testing: the ability of the registry or CITL to carry out required functions is assessed by verifying that it can undertake transaction, reconciliation and administrative processes, including for notifications, as specified in the data exchange standards.

23. The ITL administrator will be ready to receive the technical and operational documentation for review from November 2006. In order to facilitate this process, further information on the criteria for assessing this documentation is being distributed to RSAs.

24. The connectivity and functional testing of registries and the CITL will be undertaken by using the initialization version of the ITL software, which is to be deployed in the initialization environment of

the ITL by the end of December 2006. Test cases for use during the initialization process are currently under development and will be circulated to registry developers and RSAs in November 2006. The specific timing with which registry systems undergo initialization testing will depend on their implementation schedules. Further clarification of registry readiness is being sought in order that the ITL service desk may manage the schedule for the connectivity and functional testing of each system.

25. Terms for the use of the ITL by registry systems are currently being considered, with a view to clarifying issues relating to their connection and operation. It is anticipated that a variety of issues will be addressed, such as service descriptions, appropriate standards to be used, security, data protection and confidentiality, in a manner that provides for the equal treatment of registry systems.

#### **D. Schedule summary**

26. The current schedule for the development and operation of the ITL, and the initialization of registries and the CITL with the ITL, is set out in the following table.

##### **Schedule summary for registry system implementation**

<b>Date</b>	<b>Description of activity</b>
Mid-October 2006	Deployment of pilot version of ITL software in its operational infrastructure
November 2006	ITL pilot testing with registries
November 2006	ITL administrator ready to receive registry and CITL documentation
End-December 2006	Deployment of initialization version of ITL software in both data centres
January–February 2007	Initialization of CDM registry and commencement of live ITL operations; additional initialization of national registries as they become ready
End-February 2007	Completion and deployment of the full ITL administrator application
March–April 2007	Initialization testing of further registries with the ITL as they become ready
April–May 2007	Initialization of CITL with the ITL and full end-to-end initialization testing of registries belonging to European Union Parties

### **IV. Activities of the Registry System Administrators Forum**

#### **A. Forum facilitation**

27. In accordance with decision 12/CMP.1, the primary objective of the ITL administrator in convening the RSA Forum is to provide an effective medium for cooperation with RSAs as input to the development of common procedures, recommended practices and information-sharing measures. In addressing these issues, the forum is to provide a broad channel for the coordination of technical and management activities of administrators.

28. Two meetings of the RSA Forum were held during 2006. The inaugural meeting took place on 10–11 April 2006 and was aimed at setting the direction and priorities for the work of the forum and establishing the process by which this work is to continue. The second meeting took place on 9–10 October 2006 and was primarily aimed at sharing more information on the ITL implementation and giving guidance to the working groups which are to undertake detailed work for the development of the common procedures. Both meetings took place in Bonn, Germany, and included the involvement of appropriate experts from Parties not included in Annex I to the Convention.

29. Priority in the work of the forum has been given to the development of common procedures to be implemented by all registry systems, in particular in relation to data reconciliation between the ITL and registries, the management of change in standards and procedures implemented by registry systems, and the preparation of independent assessment reports for registry systems.

30. In line with the priority given to the development of common procedures, which are to be implemented by all RSAs, three working groups have been established to prepare draft procedures for consideration in the wider RSA Forum. Agreed procedures are to be in place in time for the operation of registry systems with the ITL. The working groups are made up of six to eight specific individuals, made available by their RSAs, who are expected to contribute as individual members and act in the common interest of all RSAs. The results of the work of the groups is to be reported back to the RSA Forum at key points in order to obtain feedback from participants and, where appropriate, be agreed by the forum.

31. The ITL administrator, in its role as administrator of the ITL, has convened the RSA Forum in an informal manner and hopes that the forum will conduct its work in a transparent, cooperative and consensus-building manner. The meetings of the RSA Forum were chaired by a representative of the secretariat. The meetings were supported and serviced by staff of the secretariat.

32. Participation in the RSA Forum is open to all administrators of national registries and the CDM registry under the Kyoto Protocol and supplementary transaction logs (such as the CITL). RSAs send participants appropriate to the specific items to be addressed at meetings. The ITL administrator also invites a number of participants from Parties not included in Annex I to the Convention that are Parties to the Kyoto Protocol. Although these Parties have no requirement under the Kyoto Protocol to implement registry systems, the participation of such experts is intended to increase the transparency of the RSA Forum and allow experience with registry systems under the Kyoto Protocol to be shared with experts implementing similar systems for environmental policy purposes in non-Annex I Parties.

33. It is envisaged that, once the intensive implementation phase of registry systems is complete, there will generally be two RSA Forum meetings per year. A third forum meeting for 2006 is planned for 11–12 December and will focus primarily on the processes for initializing registry and CITL links with the ITL. The European Commission has kindly offered to host this meeting of the RSA Forum at its facilities in Brussels, Belgium.

34. The ITL administrator has established an extranet in order to provide a central location for the sharing of all technical information required by RSAs for the implementation of the ITL. It will also provide access to technical collaboration tools and the exchange of technical information between RSAs.

## **B. Working group activities**

35. The following three working groups have been established to prepare draft common procedures for consideration by the RSA Forum:

- (a) The **reconciliation** working group is to develop a procedure to periodically compare and, where necessary, adjust data on assigned amount holdings between the ITL, registries and, where appropriate, the CITL. The focus is on the procedural aspects (scheduling, timing, determination of adjustments), based on technical functions for reconciliation being implemented in the ITL and other registry systems;
- (b) The **change management** working group is to develop a procedure for proposing, evaluating, agreeing and implementing changes in the technical and operational aspects of registry systems. The major subject of change management is the data exchange standards being implemented by all registry systems. The procedure will also apply to changes in some operational aspects of registry systems;



- (c) The working group on **independent assessment reporting** is to develop a procedure and format for consolidating assessment and test results for each registry system on an annual basis. Most of the results will come from the process of assessing and testing registries prior to the initialization of their links to the ITL. Other results will emerge during the operation of registries and through any required re-initialization of functions after substantial changes in registry systems have been made. The annual independent assessment report will be made available to the public and to review teams under Article 8 of the Kyoto Protocol. It is expected that the review teams will rely heavily on the independent assessment reports in their review of each Party to the Kyoto Protocol with a commitment inscribed in Annex B to the Kyoto Protocol (Annex B Party).

36. Possible elements to be addressed during the preparation of the draft common procedures were discussed by the RSA Forum. These elements provide guidance to the working groups in their work.

37. The reconciliation working group was the first to begin its work and has met twice during the reporting period. It has reviewed the technical processes of data reconciliation between the ITL and registries, as defined in the data exchange standards, and given feedback on drafts of the reconciliation procedure prepared by the ITL administrator. The working group will meet again in November 2006 and early 2007 in order to continue its work and report back at subsequent RSA Forum meetings.

38. Owing to difficulties in identifying a time suitable to all members, the working group on change management has had to postpone its first meeting until after COP/MOP 2. Nominations for the working group on the independent assessment reporting of registry systems are currently being sought and the group is also to begin its work after COP/MOP 2.

#### **C. Registry system developers group**

39. In order to provide for enhanced coordination of technical and scheduling issues for the development of the ITL and other registry systems, an informal group of developers has been convened under the RSA Forum. This group brings together all developers of software for the registries (many of which share their software with other registry administrators) and the CITL.

40. The group has met twice so far and has focused on sharing information on development schedules and clarifying questions on the manner in which the data exchange standards are to be implemented. Questions raised by participants in relation to these data exchange standards have been compiled and written responses from the secretariat were distributed to participants. This process is continuing through issue-tracking software tools established for the group by the European Commission.

41. The group has proved very useful in sharing information required by the developers of the ITL and other registry systems. It is envisaged that the group will continue to meet periodically through the initial implementation and initialization of registries and the CITL.

#### **V. Organizational arrangements and resources**

42. The functions of the ITL administrator are performed by the Reporting, Data and Analysis programme of the secretariat. This programme is also responsible for the substantive work of the secretariat relating to other aspects of emissions trading and the accounting of assigned amounts under the Kyoto Protocol, as well as that relating to the submission, analysis and review of information submitted by Parties under the UNFCCC and the Kyoto Protocol and the intergovernmental negotiations on national communications, inventories, assigned amounts, registry systems and policy instruments.

43. The resource requirements for the implementation of the ITL are being provided through contributions to the UNFCCC Trust Fund for Supplementary Activities. These requirements for the

implementation of the ITL amount to approximately USD 4 million during the biennium 2006–2007 budget. As at the end of the reporting period, the contributions made by Parties to the Trust Fund totalled approximately USD 3.2 million, leaving a shortfall of approximately USD 0.8 million.

44. Resources required for the operation of the ITL, including the support for the RSA Forum and other ITL-related activities, amount to approximately USD 2.5 million during the 2006–2007 biennium. There is currently a shortfall of approximately USD 1.7 million of this amount which needs to be provided through contributions to the UNFCCC Trust Fund for Supplementary Activities.

45. The total outstanding resource requirements for the implementation and operation of the ITL during 2006–2007, including the other areas of secretariat support for this work, therefore stands at approximately USD 2.5 million.

46. In view of the delays and insufficiency of funding for the ITL development, the COP, by its decision 16/CP.10, requested the secretariat to explore options in the 2006–2007 budget for the predictable and sufficient provision of resources for the operational activities of the ITL administrator. A number of options were considered by the COP/MOP, at its first session, in the context of the Programme Budget, including connection and transaction fees. The COP/MOP, by its decision 34/CMP.1, authorized the Executive Secretary to collect fees from users of the ITL as an additional income to the Trust Fund for Supplementary Activities in 2006–2007.

47. In view of this mandate, the Executive Secretary intends to notify Parties which plan to operate registry systems in connection with the ITL of respective contributions to the Trust Fund to cover the shortfall in resources. It is proposed that the distribution among these Parties follow the indicative scale of contributions from Parties to the Kyoto Protocol for the biennium 2006–2007, as contained in decision 34/CMP.1, taking into account appropriate adjustments to include only Annex B Parties.

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