

NUMO International Technical Advisory Committee

Short Record of the ITAC-12 Meeting Tokyo, 28-29 October 2008

Introduction

This note summarises the main points arising from ITAC-12. Reported ITAC comments for each topic include both those from discussions in the open sessions and those arising from the closed session and subsequent discussion. The closed session comments were presented by Charles McCombie in the final wrap-up session of this meeting. A special aspect of this meeting was an associated field trip to the JNFL facilities at Rokkasho. A short record of this trip is included as Appendix 1.

General Remarks

The programme was preceded by an overview of manpower changes at NUMO by M. Takeuchi.

Charles McCombie outlined the programme for this final ITAC meeting and thanked NUMO on behalf of ITAC for organising the interesting Rokkasho visit.

T. Kawata, on behalf of President Yamaji, initiated the meeting by welcoming ITAC and thanking ITAC for input over the years. He emphasised that NUMO will continue to ensure that international experience is incorporated into their programme.

The meeting agenda was well structured, with more time than usual for discussions and a special focus on the role of advisory and review groups. The standard (style, presentation and content) of the NUMO presentations continues to be extremely good and the level of preparation was greatly appreciated. Despite some staff changes, teams continue to gain experience and appear to work well together. Once again, however, ITAC noted that it would be advantageous if key staff could remain at NUMO as permanent staff members.

Block 1: Current status of R&D (H. Tsuchi)

Important background is provided by the regulatory developments that led to designation of NUMO as the implementer of geological disposal for TRU waste and to a report of the AEC on radioactive waste disposal (not yet available in English: conclusions will be translated). On a technical level, progress on vitrification and the L1 repository at Rokkasho (and associated regulations) is leading to building of stronger links between NUMO and JNFL, which should be beneficial to both organisations.

The R&D forum in Jan 2008 (with input from the international experts) was a success and might be considered as a regular feature in the future.

Geological disposal concept of TRU waste: a brochure has been produced and an integrated information package is under development. ITAC suggested that it may be useful to have this carefully reviewed to assure that it does not confuse the public (possibly develop an explicit, integrated communication strategy for TRU and HLW). The same siting factors as for HLW are used; this approach is probably appropriate for exclusion factors, but may need to be reassessed for favourable factors. The basis is the 2nd TRU report. Diagrams have now been amended to include MOX fabrication as source of TRU – this leads to a need to, at least, discuss management of spent MOX, which could be coupled to discussion of advanced fuel cycles.

Closer cooperation on R&D between Japanese organisations is planned and a formal process of setting R&D needs for specific milestones is being defined. The influence of NUMO still, however, seems to be less than optimal – especially in terms of definition of R&D goals, projects and budgets.

Establishing and maintaining required human resources is now receiving attention – which has led to plans for developing a training policy, for attaching key staff from other organisations and for structured recruiting. ITAC finds this a very positive development as it is a critical requirement for developing a viable programme. Efforts to increase the number of permanent staff or increase the length of staff attachment should be intensified. The possibility of attaching or employing international expert staff may also be worth considering. The option of establishing special radwaste training in universities (either in special groups or as sponsored research) also seems worthwhile. Internal training is primarily on-the-job, coupled to formal Knowledge Management and topical courses – which may be usefully complemented by externally provided courses, such as those of ITC. An overall assessment of the resources required for different training options may help to optimise this challenging issue.

The background to problems at the JNFL reprocessing plant was outlined. A report should be published at the end of the month.

Based on their visit to the Rokkasho site, ITAC members recommended that NUMO maintain close contacts to JNFL since there are many issues that affect both organisations.

Horonobe tests are being carried out, which are of relevance to NUMO: it is very important that NUMO is strongly involved in the coordination and planning of such resource intensive work, as the applicability of the results of proposed experiments to geological disposal projects must be assured. The virtual repository work by MRI may be useful for PR, which again needs coordination with both technical and PR groups at NUMO.

R&D to test site characterisation technology is ongoing and will complement documentation of ITM work. The RMS is moving towards practical application – which would be of interest to ITAC given the problems with RMS applicability in other countries. A new 3D code for ground water and nuclide migration analysis development was also

outlined – the work is based on simple conceptual ideas and must be used with great care (especially reporting output for extremely long timescales). Some further development of the codes is certainly needed – particularly to take into account time-variation of parameters and boundary conditions. Wherever possible, however, existing codes should be considered before new codes are developed.

On the public communication side, methodologies are under development (e.g. text mining) and a further forum is planned in 2010. Further PR round-table activities are also planned and a new TV commercial has been developed. Two new PR exhibition centres in Tokyo are now implemented in collaboration with utilities: these could sensibly be extended further around the country.

Overall, the time allocated to the interesting and relevant R&D achievements was very restricted – which greatly limited the extent to which these topics could be commented on or assessed in the context of an integrated R&D programme. This is definitely something to be considered when planning future review groups. Indeed, an overall assessment of the R&D plan is an area where ITAC input could have been valuable, but has not been solicited.

A final question involved waste classification/terminology: this is clear only for HLW, other “LLW” is classified with a mixture of characteristics and origin. A rationalised description and inventory would be a useful future goal – especially defining what is meant by “TRU” in the Japanese context. This could be complemented by better categorising disposal concepts at different depths for different types of waste. When there is an aim for consistent regulatory treatment of different repositories, it would be worth considering developing a complete national inventory and an associated, clear terminology (NB discussion will arise soon related to medicine, industry and research wastes). NUMO could benefit from taking a lead here.

Block 2: Special Topic – advisory & review groups

Introduction (A. Deguchi)

Aims and background were explained in terms of NUMO’s new Japanese advisory body and three existing review groups and the general aims of such bodies. The roles of such groups are seen to have changed since NUMO was established. This situation has also to be reconsidered on the basis of the recommendations of the AEC sub-committee, which emphasises the need for advisory and independent review groups for regulators, implementers and key R&D organisations.

NUMO would like to examine the international history and status of use of support groups in order to develop ideas for the next generation of advisory & review bodies.

In response to a question on government use of such bodies, it was noted that these are used only irregularly, but are an important part of developing consensus on to support decision making in relevant areas.

National sections

US (E. Webb and M. Apted):

The WIPP case illustrated some positive advantages of intensive use of advisors, particularly in the light of surprises that always happen. The example was the EEG (about \$3M/year), which supported local government for 18 years (independent of, but funded by, implementer). This group had full access to all implementer data and facilities and regular interaction with regulators. EEG had a very important role of ensuring implementer was completely open and transparent and improved technical quality and credibility. Although there were written terms of reference, these were very vague and the actual details of how this group was set up are unclear (Subsequent to the meeting, in response to a question from T. Kawata, Erik Webb provided more details of the terms of reference of the EEG, which is attached to this record as Appendix 2). The EEG was considered to have contributed significantly to the success of licensing.

Other review and advisory groups included NAS, NRC, Defence nuclear facilities safety board, NM DOE oversight board, DOE environmental management site advisory boards, Pecos management services and DOE office of the Inspector General. A general problem, however, is maintaining continuity of experience – which is critical to success of these groups (although there advantages to rotating leadership). General messages were that the groups must be large enough – hence budgets must be sufficient – and must intensively communicate with implementer (even if this is annoying) and the general public. Negative experiences were particularly associated by manipulation of such groups for political purposes.

The HLW programme has a wide range of review groups – probably the most extensively reviewed programme in the world. With the example of the implementer, some of the most important public reviews involved 1983 siting guidelines, 1986 Environmental Assessment, 1998 Viability Assessment, etc. There have also been many NAS review panels over the last 25 years. A special review group is the NWTRB, which includes presidential appointments and reports to Congress. There have also been review panels for key project decisions – e.g. YM viability assessment. International reviews include groups set up by the NEA, EPRI and the implementer for special topics (e.g. PSHA). It is not evident, however, that the DOE has ever decided to set up any specific group – there are already so many required by the system.

From the regulator side, both the EPA and NRC solicit open comments on proposed regulations and organise judicial reviews and have a range of advisory panels.

In addition to repository programmes, a range of other expert groups review and advise on the overall nuclear and backend programme (dating back to 1957). The programme has also been reviewed at a political level, required by law.

Lessons learned include advantages of early solicitation of public comment and quality output from well selected and organised panels. Less positive experience involves lack of ability of reviewers to focus on system-level key issues (rather than sub-system details),

interference with regulatory independence and sometimes, loss of “institutional memory” regarding previous technical reviews.

Finland (J. Vira):

Advisory and review groups have been set up on an ad hoc basis since the late ‘80s, but the first standing group providing strategic support to top managers was the International Advisory Group for Olkiluoto Investigations (INAGO) – a small group established in 2004. The working structure of the group was based on ITAC. Summaries of the meetings are available on web in English. The group held its last meeting in November 2008.

Another group was the International Safety Committee, set up in 2005 with mixed Finnish and foreign experts, based on specific technical concerns. This will be replaced by an official review committee based on requirements of the regulator: it will have an "official" status in matters related to nuclear or radiation safety (part of QM programme) and its recommendations may only be overruled by the Managing Director of Posiva

An international review group will be established soon with the main purpose of reviewing the safety case reports before their publication (described in SAFCA plan). All review comments must be documented and responses provided: the safety committee will check that the responses are sufficient.

In effect, much of the review input for Posiva is provided by the regulators and their advisory and review groups. There may be in future also advisory groups – but established ad hoc to meet specific needs.

Canada (K. Nuttall):

During 1978-1998, AECL’s R&D Programme culminated in a major review of the resulting EIS. Over this period, an independent Technical Advisory Committee (TAC), funded by AECL (12-16 members) reviewed the overall R&D programme. TAC members were nominated by scientific/engineering associations in Canada. TAC published annual public reports, including comments and responses: also reported at conferences. TAC provided high quality advice, strong support for the R&D Program and excellent value for the investment. Regular contact with AECL, although time-consuming, led to highly constructive dialogue and in-depth review and recommendations: responding to these sometimes required reallocation of resources, e.g., microbiology. Continuity of membership was also beneficial. This group did not consider social issues to the same depth, which reflected the non-site specific nature of the programme at that time.

Also, ad hoc specialist reviewers and review groups were set up as needed – e.g. to review specific technical concerns or major experiments. These reviews were invariably cost effective and contributed to the quality, openness and credibility of the work. They also provided additional assurance/verification for management decision making.

Concurrent with the formation of NWMO (2002), an Advisory Council (generally non-technical) was set up, as required by law: members are selected and funded by NWMO. In 2008, an International Technical Review Group was formed by NWMO, which will

provide technical advice in the context of international practices, and also comment on required resources as NWMO move into the implementation phase.

The Seaborne panel (technical and non-technical members) was a government appointed panel that reviewed AECL's EIS, consistent with the process defined in law for the environmental assessment of major projects. A similar process will be followed for a potential site when a site-specific EIS is submitted by NWMO.

Germany (K. Kühn):

After positive examples, the negative example in Germany indicates some potential problems. Here, government advisory commissions are politically appointed and were influenced greatly by an anti-nuclear government coalition. Particularly important now is the new waste management commission ESK – Entsorgungskommission (12 members) established in June 2008. This commission is likely to enforce the policy that has caused loss of Germany's past nuclear infrastructure and opposed implementation of disposal projects.

AkEnd was a special committee set up to define a site selection process, despite the existence of sites in Germany. This proposed a long-term process and a further "control committee". Nevertheless, since publication of its report in December 2002, nothing has happened.

There has never been an international advisory committee or an international peer review in the German programme. The Gorleben moratorium was noted to run out in two years (October 2010)– but there is presently no indication how to proceed afterwards.

Sweden (J. Andersson):

At the national level, the Swedish National Council for Nuclear Waste (former KASAM) (with technical and non-technical members) provides top-level advice and review. They have a lot of flexibility in the specific topics that they investigate.

For SKB, at the start of the surface based site investigations a key advisory & review group (SIERG; 9-10 members) was formed, including national and foreign experts. It puts work in an international context, assesses quality and completeness of work and identifies critical open issues. A main role now is review of draft reports, which is very resource intensive (typically 1-2 man-months / year). It has been seen that report reviewers were ideally suited to providing useful overall advice. In addition, the active role of the regulators, and their external expert groups, provides a lot of advice & review comments for SKB.

It has been noted that SIERG members may be involved in other SKB work – the review process requires only that experts don't review work that they are directly involved with. The close relationship between Posiva & SKB facilitates establishing groups in both countries. In terms of the use of ex-regulators: these can be used – or even recruited into SKB.

UK (N. Chapman):

Many advisory committees exist for national and local government, implementers and regulators. The RWMAC has been the longest-lived and most consistently influential. Some specific issues have resulted in highly focussed advisory groups – e.g. on Dounreay spent fuel particle releases; on the management of decommissioned nuclear submarines. The Nuclear Legacy Advisory Forum (NuLEAF) for nuclear communities is a special example that could be of interest to NUMO.

RWMAC (1978 – 2004) was an independent review group that produced high profile recommendations – sometimes causing discomfort to the government. The 20 members covered a very wide technical range and included representatives of stakeholder groups.

Nirex had limited formally established external advisory input. Today, a number of groups providing advice and review have been set up by the NDA. The WMAC includes NDA + 3 experts and advises generally on concepts and documents. GeoCAP includes geoscientists and specifically advises on the planned site characterisation programme. The DSSC is specifically set up to advise on safety case development.

Observations: both technical and “social” experts can work usefully together. Advice can usefully be published along with formal responses. Internal and independent groups can both be useful, but their roles need to be carefully defined. A requirement for wide representation can, however, lead to conflicts with the desire for efficiency of operation.

Although from another field, the general principles of using scientific advice in government are well summarised in a recent publication by Oxford Economic Research Associates Ltd. (report available from Neil).

France (B. Faucher):

The current institutional regulatory body is the ASN (Nuclear Safety Authority, resulting from a past merger of the former Nuclear Safety Directorate and the Radioprotection Office), which is independent since the June 2006 TSN Act on transparency and security in the nuclear field. The IRSN, with a public body status (making it independent from the radioactive waste producer) provides the technical and scientific support of the ASN. However, because of the behaviour of the past safety authorities (notably the radioprotection office claiming that there was no fallout in France during the Chernobyl accident), public lost confidence in such bodies.

To restore and achieve public confidence in a new siting process to be launched in the beginning of the 90’s (following the total failure of the siting attempt 1987-1989), the Bataille December 1991 Waste Act established the CNE (National Review Board), a consultative reviewing body, but one whose recommendations have been so far followed by government. One could consider that its role was, somehow, to compensate for the lack of public confidence in the institutional reviewing bodies. CNE reporting is yearly and

made public. It is also the official advisory body of the URL Local Information and Oversight Committee (CLIS).

Nevertheless, it must be noticed that the ASN has been recovering credibility during the past years through its new status and its transparency policy.

A scientific council has been established for Andra by decree (following the Bataille December 1991 Waste Act), as the case for any scientific public body in France. It reviews and advises on Andra policy.

Ad hoc peer reviews have been used by governmental authorities: e.g. IAEA (surface repository of the Aube district) and NEA (twice for the geological disposal feasibility studies Dossier 2001 and Dossier 2005) – the latter being considered as very useful for decision making on major projects. Andra also sets up its specific review and advisory groups. For example:

- The COESDIC (since 2007) to advise Andra on social and information issues;
- The COS (since 2000), chaired by a member of the Andra Scientific council, to review the URL experimental programme.

The CNE (upon legal provisions), the Andra scientific council, the COESDIC and the COS include foreign members. Also on a more general level, this also applies to the ASN advisory standing group on waste (GP Dechets) and the High Committee on Transparency prescribed by the June 2006 TSN Act

From 1994 until 1999, the URL siting process also involved specific non-technical siting strategy committees, involving the so-called “follow-up from Bataille mission” delegate (a former regional prefect reporting to the government) and Andra (CEO, head-office directors, local siting directors). At the local level and in the same period, but only in the Meuse district, a very specific steering committee was set up, including the Meuse district council Vice-President, the State Representative (District Prefect), the so-called “follow-up from Bataille mission” delegate and Andra (CEO, Communication Director, local siting Director). Meetings of these 2 bodies were very intensive (twice a month for the first one, and nearly monthly for the second one) and reporting was not made public.

Switzerland (I. McKinley):

In Switzerland, in the early days of the programme, a major limitation in the use of experts was the lack of general expertise in geological disposal. Although national and international advisors and reviewers were used by the government, regulators and Nagra, there was also a policy of identifying key international experts and either attaching them for certain periods or recruiting them directly (especially to Nagra and the national R&D institute (EIR/PSI), which have higher proportions of foreign staff than any equivalents worldwide).

Nagra established advisory groups for special topics (e.g. geology/hydrogeology, overpack corrosion – mainly Swiss professors) or specific projects (e.g. the radionuclide migration experiment – mainly experts from the Swiss and partner programmes). At this time there was also intensive and often informal collaboration between partner organisations. Expert

review or advisory groups could be established easily and quickly for particular topics on an ad hoc basis.

Presently Nagra has 2 main technical review / advisory groups with national and international experts – the advisory group on science and technology (which is being reconsidered after formally ending at their last meeting) and ISCO, which reviews and coordinates work at Grimsel. In addition, there is an internal technical review group (TA) which is composed of experts delegated from the members of the cooperative that established Nagra.

The regulators use individual experts (and companies) to support their review of major projects. Some of these have caused considerable controversy when they diverged from their remit (e.g. Bill Fyfe), or have advocated complete programme restructuring (e.g. EKRA).

On a question on the use of attachment, very positive experience in Switzerland suggests that this could be considered more by NUMO. However, the problems caused by the language barrier need to be considered and any such attachments should be focused on specific issues to maximise the benefits of experience transfer to NUMO staff.

Japan (Y. Takahashi):

The review of advisory bodies focused on DTAC, with only mention of government advisory bodies and other international collaborations that now provide advice and discussion partners for NUMO. The key initial role of DTAC (and ITAC) was the definition of the information package for open solicitation and supporting “level 3” technical reports. Since then, DTAC has been rationalised, to integrate discipline-specific sub-committees and develop a flatter structure that effectively provides an advisor support resource (which could potentially be integrated also with ITAC). This is intended to increase focus and effectiveness of committees and their activities.

The intention would be to allow the domestic experts to be built into topic-specific teams that can intensively work to meet tight deadlines. The lead and integration will be provided by the chairman, Prof. Ohe. Already a list of topics have been outlined – which include both very technical topics (e.g. on scenarios) and more strategic issues (e.g. human resource requirements and training). At present, there are no plans to hold further meeting of the entire DTAC team.

Block 3

Future of ITAC (C. McCombie & I. McKinley)

The background, aims, roles, membership and meeting format of ITAC were briefly summarised along with an outline of the evolution of the areas examined over the 12 meetings. These topical areas were then outlined:

- Support of call for volunteers
- Production of “level 3 documents”
- Site selection & characterisation

- QA
- Communication
- Working standards
- Operational logistics
- Safety Case and advanced PA
- NSA / RMS
- TRU

The areas where ITAC has not provided input were also mentioned. The notable developments of NUMO and what NUMO has gained over this period were summarised. This provided background to the NUMO decision to end the current phase of ITAC and led into a valuable discussion on how future advisory committees (both for NUMO and other organisations) could be enhanced. There then followed a brainstorming on this topic.

Some relevant discussion issues were:

- Situation at government level – the present METI sub-committee on HLW disposal plays a key advisory role (including technical & non-technical members: with NUMO as observer). The AEC has also advisory groups, but these are not specific to waste disposal.
- A. Deguchi's graphic shows independent advisory & review groups at different levels – to what extent is there (or should there be) communication between them?
- A very wide spectrum of options is possible and it will be challenging to develop an optimised solution; ITAC ideas on possible options for NUMO will be documented, but it will be clear that these are illustrative only and need to be re-evaluated in view of Japanese boundary conditions.

ITAC members understand the reasons for finishing this phase of the committee but can see reasons for considering how best in the future to use international advisors, in order to:

- Respond to upcoming challenges,
- Efficiently access international state of the art
- Help focus efforts of NUMO staff
- Transfer international expertise and overview to domestic experts

Desirable features of future use of international experts might include:

- Separating review / advise and assist roles to the extent that is practical, taking into account efficiency of use of limited resources
- Independent review actions may be integrated within the QMS, which clearly identifies roles and requirements to ensure no conflicts of interest
- Requirements for advice should be well defined and focused and could be extended to include direct assistance
- Integration of national and international experts may be valuable in small targeted groups (although the language barrier could be problematic in some cases)
- Interaction between various NUMO advisory groups could be valuable
- There may also be advantages of considering use of advisory groups to support NUMO contacts with other organisations (and their advisors), including regulators and R&D organisations
- NUMO advisory groups may expand from technical to include non-technical experts

- Review of overall Japanese radwaste technical programme and evaluation of NUMO strategy in this context
- Ensuring the quality of English language documentation, which will be needed to solicit external input

A more extensive list of issues associated with the general use and formation of advisory and review groups are included in the summary presentation.

Conclusions

C. McCombie briefly summarised the gains to both NUMO and to the members from the ITAC programme, who have greatly enjoyed this work. He thanked NUMO for their investment in ITAC over the years and also for the social programme, which has fostered valuable interaction between ITAC and NUMO staff. H. Tsuchi in turn thanked ITAC for their valuable contributions over the years, emphasising his personal gains over this time and the strong feedback on his various presentations. He confirmed that NUMO will carefully consider the recommendation for future review bodies. This was confirmed by T. Kawata, who hoped that NUMO's decision on this would be communicated to ITAC in the near future. He also extended his thanks to ITAC and its chairman and re-emphasised the value to NUMO of this committee and the summary report that will be produced.

Finally, President Yamaji added his own personal thanks to ITAC and C. McCombie for all the critical support for NUMO.

Appendix 1: ITAC Field Trip – JNFL Rokkasho 27 Oct 2008

General

ITAC appreciates NUMO providing the opportunity for this interesting trip, which provided a valuable perspective on Japanese back-end work. Special thanks to Y. Murakami and M. Inamura for acting as efficient guides despite the complex logistics of this intensive 1-day visit and to President Kojima and the JNFL staff who provided informative responses to ITAC questions.

L1

The test cavern for a LLW sub-surface disposal facility (L1 facility) was the main focus of the visit, as this repository is inherently closely coupled to any TRU disposal. It was also an interesting location as it might be representative of the type of coastal site that might volunteer to host a geological disposal repository. ITAC recognises this area has clear advantages in terms of acceptance and extensive nuclear infrastructure, but the latter may need careful consideration when baseline monitoring is planned – as may also be the case in any HLW “nuclear” volunteer community. The coastal location also highlights particular scenarios that may be generally relevant in Japan, associated with changes in climate / sea level and coupling of this to uplift/erosion.

ITAC were impressed by the large-scale testing work, which may also be of interest to NUMO – particularly with regard to the practicality of concepts presented in the TRU-2 report..

HLW storage & reprocessing facilities

These large-scale engineering projects were very impressive and, compared to older facilities like Sellafield and La Hague, present a very positive image of the nuclear industry. JNFL was open about problems with the vitrification plant – which seem to be typical of those experienced around the world during scale-up of this technology to industrial throughput.

Appendix 2: Terms of reference for the EEG

The Environmental Evaluation Group (EEG) is established “... to provide a full-time, independent technical assessment of the WIPP Project”. Although funded entirely by the DOE through Cooperative Agreement No. DE-AC04-79AL10752, the EEG is made a part of the Environmental Improvement Division of the N.M. Health and Environment Department. The purpose of the New Mexico Environmental Evaluation Group (EEG) is to conduct an independent technical evaluation of the Waste Isolation Pilot Plant (WIPP) Project to ensure the protection of the public health and safety and the environment. The WIPP Project, located in southeastern New Mexico, is being constructed as a repository for the disposal of transuranic (TRU) radioactive wastes generated by the national defense programs. The EEG was established in 1978 with funds provided by the U.S. Department of Energy (DOE) to the State of New Mexico. Public Law 100-456, the National Defense Authorization Act, Fiscal Year 1989, Section 1433, assigned EEG to the New Mexico Institute of Mining and Technology and continued the original contract DE- AC04-

79AL10752 through DOE contract DE-AC04-89AL58309. The National Defense Authorization Act for Fiscal Year 1994, Public Law 103-160, continues the authorization.

EEG performs independent technical analyses of the suitability of the proposed site; the design of the repository, its planned operation, and its long-term integrity; suitability and safety of the transportation systems; suitability of the Waste Acceptance Criteria and the generator sites' compliance with them; and related subjects. These analyses include assessments of reports issued by the DOE and its contractors, other federal agencies and organizations, as they relate to the potential health, safety and environmental impacts from WIPP. Another important function of EEG is the independent environmental monitoring of background radioactivity in air, water, and soil, both on-site and off-site."

PL 103-160 Sec 3152

SEC. 3152. EXTENSION OF REVIEW OF WASTE ISOLATION PILOT PLANT IN NEW MEXICO.

Section 1433(a) of the National Defense Authorization Act, Fiscal Year 1989 (Public Law 100-456; 102 Stat. 2073) is amended in the second sentence by striking out "four additional one-year periods" and inserting in lieu thereof "nine additional one-year periods".

DOE was assigned in law to provide open access to information to EEG:

PL 104-201 Land Withdrawal Act SEC. 17. ACCESS TO INFORMATION.

(a) **IN GENERAL.** The Secretary shall

(1) provide the State, the National Academy of Sciences, and the EEG with free and timely access to data relating to health, safety, or environmental issues at WIPP;

(2) provide the State and the EEG with preliminary reports relating to health, safety, or environmental issues at WIPP; and

(3) to the extent practicable, permit the State and the EEG to attend meetings relating to health, safety, or environmental issues at WIPP with expert panels and peer review groups.

(b) **EVALUATION AND PUBLICATION.** The State, the National Academy of Sciences, and the EEG may evaluate and publish analyses of the Secretary's plans for test phase activities, monitoring, transportation, operations, decontamination, retrieval, performance assessment, compliance with Environmental Protection Agency regulations, decommissioning, safety analyses, and other activities relating to WIPP.

(c) **CONSULTATION AND COOPERATION.** The Secretary shall consult and cooperate with the EEG under the terms of Contract No. DE-AC04-89AL53309 in the performance of its responsibility to conduct an independent technical review and evaluation of WIPP under section 1433 of the National Defense Authorization Act, Fiscal Year 1989 (102 Stat. 2073).