ANNEX 8

"Conclusions of the Melk Process and Follow-up" (Brussels Agreement)
Annex I, Item No. 1, **Steam and Feed Water piping at 28.8m level,** Workshop, 13 March, 2008, Nuclear Research Institute, Řež near Prague.

Summary

Based on an initiative by the Prime Minister of the Czech Republic and the Federal Chancellor of the Republic of Austria a Joint Czech-Austrian Parliamentary Commission has been set up to deal with the implementation of the "Conclusions of the Melk Process and Follow-up" (Brussels Agreement). This Joint Commission asked for an expert workshop to take place upon invitation of the Czech side to deal with NPP Temelín Steam and Feed Water piping at 28.8m level.

Hosted by the Nuclear Research Institute in Řež, this Workshop took place on 13, March 2008.

The experts of the Czech side presented and explained the present status of Steam and Feed Water Piping at the 28.8 m level of the NPP Temelín units. During the workshop, documents were presented that included information as per "wish list" sent by the Austrian side. The presentations included design changes leading to the vibration reduction. Design basis accident analyses and EOPs strategies were also presented as well as an assessment of dynamic loads due to steam and water hammer, and also due to the pipe breaks outside the 28.8 m level. The NBZ Concept application including all above inputs was presented with use of the allowable stresses according to the code. In support for this assessment the ISI results and material database status were presented. The NBZ Concept application includes also the "bubliks" piping.

The Austrian experts appreciated the wealth of information concerning the present status of the steam and feedwater piping at the 28.8 m level and adjacent areas at the Temelín NPP units, which included many recent developments. The considerable amount of information, which was provided, brought the Austrian experts an up-to-date overview regarding all issues.

Final conclusions:

1. The workshop provided answers to all questions posed, including the questions from the "wish list".
2. Requested reports were available, a list of their numbers and titles is provided in the annex to this Summary.
3. The Austrian experts expressed need for:
   - list of load cases treated;
   - details regarding selection of pipe break locations;
   - details of the methodology and results of performed new calculations;
   - detailed information and justification of the application of the No Break Zone concept for the whole pipe system, including "bubliks".
4. Due to the nature of the subject the pertinent Bilateral Agreement is the appropriate framework for information exchange in the future.

Read and signed
On 13 March, 2008, at NRI Řež

Mr. Andreas Molin

Mr. Jiří Žďárek

Appendix I.

Titles of presentations

1. **Overview of the safety philosophy concept**
   Žďárek / NRI

2. **Design Basis accident analysis**
   Macek / NRI

3. **Temelín EOPs Strategies for SLB and PRISE events**
   Sýkora / ETE

4. **Design changes of the piping systems leading to the vibration reduction**
   Junek / UAM and Hledík / ETE

5. **Dynamic Loads (Steam, Water, Hammer) on the Main Steam Line and Feed water System**
   Krhounek / Žďárek / NRI

6. **Application of No Break Zone concept on high-energy piping at the 28.8 m level after performing modifications of the piping system, including the effect of steam hammer**
   Jarolímek, Lauerová / NRI

7. **Pipe breaks outside the 28.8m level and integrity assessment of piping considering dynamic loads (specifically on Flowserve valve and main pipe support)**
   Fetter, Jarolímek / NRI

8. **Allowable stress values used for the calculation assessment**
   Lauerová, Žďárek / NRI

9. **Steam and feed water piping system at the NPP Temelín, Non-destructive testing qualification and results**
   Horáček/Buldra/ Čapek / NRI

10. **Evaluation of MSSV and BRU-A piping ("bubliks) by the Russian expert firm. CKTI - VIBROSEISM**
    Lauerová / Jarolímek / Žďárek / NRI

11. **Summary of the Meeting**
    All experts

Appendix II.

Titles of the Reports Presented

Report No.	Title	Author
Steam and Feed Water piping at the 28.8m level		
DITI 301/458/R1	Přehodnocení hlavního parovodu a stanovení míst postulovaných roztržení na hlavním parovodu trasy 2TX60Z01 v místnostech A820, 826/2 ETE	Václav Jarolímek
DITI 301/457/R1	Přehodnocení hlavního parovodu trasy 2TX60Z01 v místnostech A820, 826/2 ETE podle RCC-M, článek C 3650	Václav Jarolímek
DITI 301/449/R2	Parametry a charakteristiky pro tvorbu výpočtových modelů potrubí hlavních parovodů a připojovacích potrubí k HPV S03, S04 a PSA S05 tras TX50, 60, 70, 80Z01 bloku č. 1 a 2 v místnostech A820, 826/1, 2 JE Temelín	Václav Jarolímek
ÚJV 9919 A	Program LEAKH Teoretická a uživatelská příručka	Vladimír Krhounek
ÚJV Z768T	Proudění v potrubí páry PG1 v místnostech A820, 826/1, 2 po roztržení primárního kolektoru parogenerátoru	Jelena Krhounková
DITI 301/452/R1	Přehodnocení přívodních potrubí k HPV S03, S04 a PSA S05 trasy 2TX60Z01 v místnostech A820, 826/1, 2 ETE podle RCC-M, článek C 3650	Václav Jarolímek Jiří Anděl, Dana Lauerová, Ladislav Pečínka
DITI 301/453/R1	Přehodnocení přívodních potrubí a stanovení míst postulovaných roztržení na přívodních potrubích k HPV S03, S04 a PSA S05 trasy 2TX60Z01 v místnostech A 820, 826/1, 2 ETE	Václav Jarolímek Jiří Anděl, Dana Lauerová, Ladislav Pečínka
ÚJV 4.10.84	Zpřesnění databáze lomově-mechanických vlastností materiálů II.O. JE Temelín	Miloš Kytka Michael Rapp
Ho. 01.18-06	Расчет на статическую прочность, циклическую прочность и расчет на сейсмическое воздействие паропровода 2TX50 в помещении A 820 блока 2 АЭС Темелин. Определение возможных мест постулированных разрывов по методике SUPERPIPE	

Report No.	Title	Author
Steam and Feed Water piping at the 28.8m level		
	Régles applicables aux procédés des centrales nucléaires a eau légére sous pression de 900 MWe RCC-P	
	Design and Construction Rules for Mechanical Components of PWR Nuclear Islands RCC-M; section I: subsection Z, technical appendices	
MP 14 617 Složka dokumentů	Technická zpráva 22. dodatek PPt – DPS 1.20R vyvolaný změnou Z5917	složka obsahuje: celková zpráva 14 617 Osvědčení o jakosti a kompletnosti Prohlášení OTK o kvalitě Protokol o zkoušce – kontrole 63/01 Protokol o zkoušce – kontrole 98A/01 Protokol o zkoušce – kontrole 99A/01 Protokol č. 100/01 výkres 3 POT 25506 výkres 3 POT 25507 výkres 3 POT 25508 výkres VCL 0056 výkres VCL 0057
MP 14 996 Složka dokumentů	Technická zpráva 24. dodatek PPt – DPS 1.20R vyvolaný změnou Z6414	složka obsahuje: celková zpráva schématické umístění poj. ventilů výkres ventilu 1150-25-0A dopis – popis funkce elektromagnetů ventilu fax – seřizování ventilu v rámci PKV technolog. postup montáže hrdel DN25 specif. kont: 08 0021/777, 781 výkresy: 3 POT 25514; 2 POT 12827; 2 POT 12828; 2 POT 12829; 2 POT 12830; 2 POT 12831; 2 POT 12832; 2 POT 12833; 2 POT 12834; 1 POT 7950B
MP Složka dokumentů	Podklady pro seismické inspekce Systém TX – 50, 60, 70, 80	seznam výkresů: 1 POT 7948/B; 1 POT 7950/A; 1 POT 7951/A; 1 POT 7964/A; 1 POT 7965; 1 POT 7966/A; 1 POT 7967; 1 POT 7968/B; 1 POT 7969; 1 POT 7970/A; 1 POT 7971; 1 POT 7972; 1 POT 7973; 1 POT 7974; 1 POT 7982; 1 POT 7983; 2 POT 11772; 2 POT 11773; 2 POT 11774; 2 POT 11775; 2 POT 11776; 2 POT 11777; 2 POT 11778; 2 POT 11779; 2 POT 17770; 3 POT 25491; 3 POT 24592; 2 POT 12769; 3 POT 25433; 3 POT 25434; 3 POT 25435; 3 POT 25436